

Report of the Royal Commission appointed to inquire into the administrative procedures for controlling danger to man through the use as food of the meat and milk of tuberculous animals.

Contributors

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London School of Hygiene and Tropical Medicine

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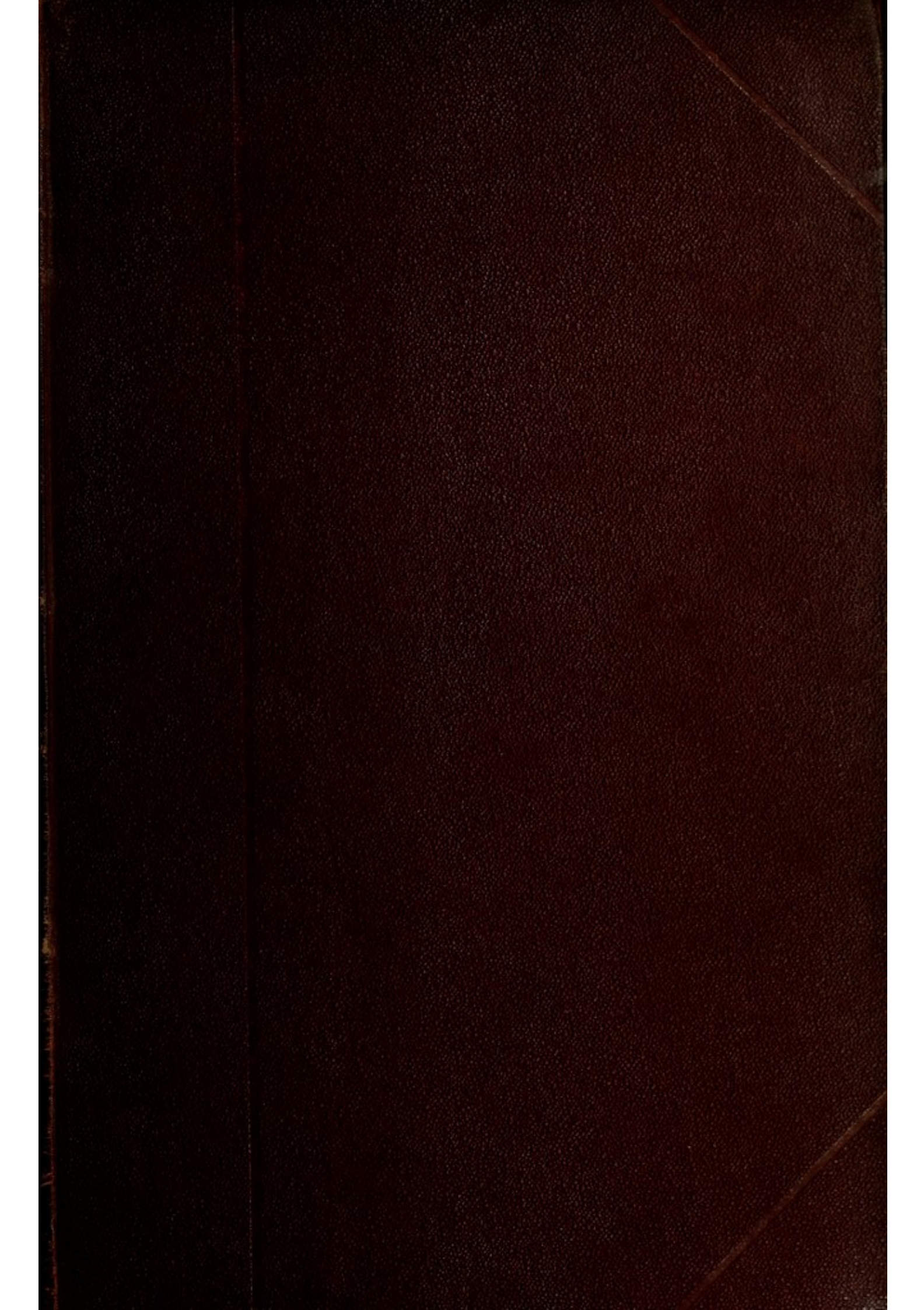
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ROYAL COMMISSION ON TUBERCULOSIS.

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Richard Reece

REPORT

OF THE

ROYAL COMMISSION

APPOINTED TO INQUIRE INTO THE

ADMINISTRATIVE PROCEDURES FOR CONTROLLING DANGER TO MAN THROUGH THE USE AS FOOD OF THE MEAT AND MILK OF TUBERCULOUS ANIMALS.

PART I.

REPORT.

Presented to Parliament by Command of Her Majesty.
1898.



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1898.

Enlighten by the Grace of God of the United Kingdom of Great Britain and
Ireland Queen, Defender of the Faith.

Our trusty and well-beloved Sir Herbert Maxwell, Bart., Her Majesty's
trusty and well-beloved Richard Thomas Esquire, Companion of Our most
Honourable Order of the Bath, Medical Officer of the Local Government Board; Our
trusty and well-beloved George Thomas Esquire, Esquire, Companion of Our most
Honourable Order of the Bath; Our trusty and well-beloved Herbert Esquire, Esquire,
Esquire; Our trusty and well-beloved Esquire Esquire, Esquire, Member of the
Royal College of Surgeons; Our trusty and well-beloved John Esquire, Esquire; and
Our trusty and well-beloved Thomas Esquire, Esquire, Esquire.

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THE ROYAL COMMISSION.

Victoria, by the Grace of God of the United Kingdom of Great Britain and Ireland Queen, Defender of the Faith.

To Our trusty and well-beloved Sir Herbert Eustace Maxwell, Baronet; Our trusty and well-beloved Richard Thorne Thorne, Esquire, Companion of Our most Honourable Order of the Bath, Medical Officer of the Local Government Board; Our trusty and well-beloved George Thomas Brown, Esquire, Companion of Our most Honourable Order of the Bath; Our trusty and well-beloved Harcourt Everard Clare, Esquire; Our trusty and well-beloved Shirley Forster Murphy, Esquire, Member of the Royal College of Surgeons; Our trusty and well-beloved John Speir, Esquire; and Our trusty and well beloved Thomas Cooke-Trench, Esquire, greeting.

Whereas We have deemed it expedient that a Commission should forthwith issue to inquire and report what administrative procedures are available and would be desirable for controlling the danger to man through the use as food of the meat and milk of tuberculous animals; and what are the considerations which should govern the action of the responsible authorities in condemning for the purposes of food supplies, animals, carcasses, or meat exhibiting any stage of tuberculosis.

Now know ye, that We, reposing great trust and confidence in your knowledge and ability, have authorized and appointed, and do by these Presents authorize and appoint you, the said Herbert Eustace Maxwell, Richard Thorne Thorne, George Thomas Brown, Harcourt Everard Clare, Shirley Forster Murphy, John Speir, and Thomas Cooke-Trench; to be Our Commissioners for the purposes of the said Inquiry.

And for the better effecting the purposes of this Our Commission, We do by these Presents give and grant unto you, or any three or more of you, full power to call before you such persons as you shall judge likely to afford you any information upon the subject of this Our Commission; and also to call for, have access to, and examine all such books, documents, registers, and records as may afford you the fullest information on the subject; and to inquire of and concerning the premises by all other lawful ways and means whatsoever.

And We do by these Presents authorize and empower you, or any three or more of you, to visit and personally inspect such places as you may deem it expedient so to inspect for the more effectual carrying out of the purposes aforesaid.

And We do further by these Presents will and ordain that this Our Commission shall continue in full force and virtue, and that you, Our said Commissioners, or any three or more of you, may from time to time proceed in the execution thereof, and of every matter and thing therein contained, although the same be not continued from time to time by adjournment.

And We do further ordain that you, or any three or more of you, have liberty to report your proceedings under this Our Commission from time to time, if you shall judge it expedient so to do.

And Our further will and pleasure is, that you do with as little delay as possible report to Us under your hands and seals, or under the hands and seals of any three or more of you, your opinion upon the matters herein submitted for your consideration.

And for the purpose of aiding you in such matters, We hereby appoint Our trusty and well-beloved Thomas Morison Legge, Esquire, Master of Arts, to be Secretary to this Our Commission.

Given at Our Court at St. James's the sixth day of July one thousand eight hundred and ninety-six, in the sixtieth year of Our Reign.

By Her Majesty's Command.

M. W. RIDLEY.

Royal Commission to inquire into the
Administrative Procedures for
Controlling Danger to Man
through the use of Meat and
Milk of Tuberculous Animals.

REPORT OF THE COMMISSION.

TO THE QUEEN'S MOST EXCELLENT MAJESTY.

MAY IT PLEASE YOUR MAJESTY,

1. We, the undersigned Commissioners appointed by Your Majesty to inquire "what administrative procedures are available and would be desirable for controlling the danger to man through the use as food of the meat and milk of tuberculous animals; and what are the considerations which should govern the action of the responsible authorities in condemning for the purpose of food supplies, animals, carcasses, or meat exhibiting any stage of tuberculosis," do humbly submit to Your Majesty the following Report, together with the Minutes of Evidence and other documents relating to our Inquiry.

2. Following the terms of our reference, we found it necessary to take evidence relating (a) to the prevalence of tuberculosis among dairy stock and cattle, and certain other animals destined for food, in the United Kingdom; (b) to the sanitary conditions under which such animals are kept; (c) to the various practices governing the inspection of meat and the control of milk offered for sale, the method under which, and the extent to which, these are adopted in various districts; and (d) to the alteration in the existing laws, or their administration, advocated by the representatives of various interests affected.

3. In order to acquaint ourselves with the different laws regarding public health, the inspection of meat, and the regulation of dairies and milkshops in force in the metropolis and elsewhere in the United Kingdom, we summoned before us the Secretary of the Board of Agriculture, one of the Assistant Secretaries of the Local Government Board, the legal member of the Scottish Local Government Board, and the medical inspector of the Local Government Board, Ireland.

4. To ascertain the practice in administering these laws we received evidence from the medical officers of health of the City of London, of the County of London, of Dublin, Glasgow, Liverpool, Birkenhead, Manchester, Sheffield, Holborn, Swansea, West Hartlepool, Brighton, St. Helens, the County of Chester, and the medical officer of the Naas dispensary district in Ireland; from the executive sanitary officer of Belfast; from the veterinary inspector to the Irish Privy Council; and from the veterinary inspectors of the cities of Manchester and Newcastle, of Islington Cattle Market, and the Deptford division of Kent; and the senior meat inspectors at Smithfield, Birkenhead, and Holborn.

5. Desirous to obtain the views of the principal agricultural bodies in the United Kingdom we invited the Royal Agricultural Society, the Central and Associated Chambers of Agriculture, the Highland and Agricultural Society, the Scottish Chamber of Agriculture, and the Royal Dublin Society, to depute witnesses to appear on their behalf, and we heard the evidence of nine witnesses so appointed.

6. Having been given to understand that butchers and meat traders entertained grounds for complaint against the existing law of meat inspection and its administration, especially as it affects the carcasses of tuberculous animals, we were careful to invite full representation of their interest. Accordingly, we heard evidence on behalf of the National Federation of Butchers and Meat Traders' Associations, the meat and cattle section of the London Chamber of Commerce, the Butchers' Associations of London, Carlisle, Bradford and Shipley, St. Helens, Sheffield, Swansea, Paisley, Manchester and Salford, and West Hartlepool.

7. In order that we might obtain a comparative view of the cattle and meat trades, and the conditions under which they are conducted in various parts of the United Kingdom, we personally inspected the dead meat market at Smithfield, the cattle market and slaughter-houses at Islington, the foreign cattle market at Deptford, and the public slaughter-houses in Edinburgh, Glasgow, Belfast, and Dublin.

8. Important evidence was given in respect of the dairy trade by representatives of the agricultural societies, and we heard one other witness specially connected with this industry. We, however, availed ourselves of the invitation of the Welford

Dairy Company in London and the Glynde Dairy Company in Sussex to inspect their establishments. We also visited cowsheds, dairies, and milkshops in Edinburgh, Glasgow, Belfast, and Dublin.

9. In order, further, to compare continental practice with that prevailing in this country, three of Your Majesty's Commissioners, accompanied by the Secretary and by Professor J. McFadyean, Principal of the Royal Veterinary College, Camden Town, visited various towns and farms in Belgium, Germany, and Denmark. In every instance the utmost desire was displayed by the officials, both of the various States and of the municipalities, to facilitate our observations.

Appendix A. The report of this tour and the information collected therein will be found printed in the Appendix to the evidence.

10. The subject of our inquiry naturally divides itself into two main branches, namely, the prevention of infection of human beings (*a*) from the consumption of meat affected with tuberculosis, and (*b*) from the consumption of milk drawn from tuberculous cows.

Report, par.
22.
Ib., par. 24.
Ib., par. 36.

11. We have had before us the unanimous finding of the Royal Commission on Tuberculosis which reported in 1895, to the effect that tuberculous disease in bovine and other animals is identical with that in the human subject, and that it is communicable from one to the other, though the manifestation of the disease differs in some respects in the human subject from that in the lower animals. We have also considered their finding, that "any person who takes tuberculous matter into the body as food incurs risk of acquiring tuberculous disease." Nothing that has come before us in the course of our inquiry has raised any doubt in our minds as to the accuracy of this opinion. At the same time, we think that there has been a tendency in some minds to exaggerate the extent of the risk arising from meat.

Appendix C.
pp. 355-64.

12. Dr. Tatham, Superintendent of Statistics in the General Register Office, placed before us some very valuable statistics, showing the rates of mortality in England and Wales from tuberculosis in its various forms at different periods between 1851 and 1895, the several rates being calculated for both sexes and at different age-periods. We felt that, were it possible to derive any definite opinion from these statistics, it would have a special significance in view of the large increase which is known to have taken place during the last 30 years, at least, in the consumption of meat and milk per head of the population. Generally speaking, these statistics show that during the 45 years referred to there has been a substantial and steady diminution in the mortality attributed to tuberculosis; but at the same time, the true significance of the alteration of the rates of mortality as time has gone on is to an important extent obscured by increasing accuracy of diagnosis, by changes in nomenclature, and by the different extent to which deaths have been medically certified during the 45 years in question. These circumstances notably affect two periods of life which have important interest in relation to our inquiry. Thus, tubercular affection of the lungs, which has been a much more frequent cause of death in the adult than in any other period of life, is now less conspicuous than formerly as a cause of death largely by reason of the disuse of such terms as 'consumption' and 'decline' in registering deaths from different wasting diseases. So, too, the number of deaths due to the tuberculosis of infancy, especially tubercular affection of the digestive tract and of the membranes of the brain, has diminished. But, here again, there has been ambiguity of nomenclature. Thus the term 'tabes mesenterica' has been made to include diseases other than tuberculosis, when these diseases have been accompanied with wasting, and notably with diarrhoea, during infancy and childhood; and much that was formerly referred vaguely to tuberculosis or scrofula is now registered as either hydrocephalus or tubercular meningitis. Furthermore, a steady and real diminution of death from tubercular diseases in general, which has been in progress at both periods of life referred to as a result of the improved conditions of life which have been brought about by measures tending to promote public health, goes largely to mask any increase of mortality due to special causes of tuberculosis affecting one or another age-period. For these reasons no really accurate and trustworthy statistical data are available as to the influence of the meat or milk of tuberculous animals when used as food for adults or for infants and young children respectively.

Whilst, however, this is the case, Dr. Tatham stated to us that in his judgment the value of the vital statistics which he laid before us is not entirely destroyed for the purposes of comparing one term of years with another. We note, therefore, with satisfaction, that death from tubercular disease, in all its forms and at all

ages, has steadily fallen from 3,483 per million during 1851-60 to 2,122 during 1891-95—a diminution of 39·1 per cent.—and also that at every age-period for which statistics are available there has likewise been a decrease, sometimes of a very substantial character. Further, taking the age-period 15-45 years as the period of life when meat forms a very prominent article of food, and dividing that term into five-yearly or ten-yearly periods, we find that the diminution of death from tubercular disease has ranged from 52·8 per cent. at the age-period 15 to 20 years, to 30·8 per cent. at the age-period 35-45 years. In recording this enormous reduction in the amount of death from this cause, we must recall the fact that during this age-period phthisis is the form of registered death which altogether overwhelms all other forms of fatal tubercular affections, and that phthisis may be considered as due to the reception of tubercular infection rather by the respiratory than by the digestive tract.

For the age-period 0-5 years, there has also been a reduction in death from tubercular disease in all forms from 5,764 per million living at that age in 1851-60 to 4,155 in 1891-95, a diminution of 27·9 per cent. This reduction is, however, but little more than half that which has taken place at the age-periods 15-20 years and 20-25 years; and when we come to examine that form of tubercular disease, namely *tabes mesenterica*, which is believed to be mainly due to infection received by the digestive tract, we find that whilst at the age-period 0-5 years, when milk forms so important an article of diet, the rate of death per million living has shown, first increase, then decrease, yet the rate which stood at 1,625 during 1851-60 had only fallen to 1,577 for the period 1891-95, a diminution of but 3·0 per cent. In this connection we feel it necessary to recall the fact that the term *tabes mesenterica*, as used in our death records, is very indefinite, and that it has comprised, and doubtless still comprises, a considerable amount of death from certain diarrhoeal affections which are not really tubercular. But whilst this is so, it must also be remembered that the rate of mortality from *tabes mesenterica* which, more than any other, represents tuberculosis in infancy, has signally failed to undergo any noteworthy diminution during the very period of sanitary progress which has been associated with such substantial diminution of death from tubercular affections at all ages in England and Wales, and that this result has coincided in point of time with a large increase in the consumption of milk.

13. In reference to the comment made in the Report of the former Commission on Professor McFadyean's admission of the untrustworthy indications obtained from tuberculin when used as a test for ascertaining the presence or absence of tuberculosis in the bovine race, we think it right to draw attention to the evidence given by him before ourselves. We have felt that the value of our Report, and any recommendations which we can base upon it, must depend, in very large measure, on the degree in which accumulated experience has justified confidence in the tuberculin test, not only among veterinary experts, but among stock owners and persons engaged in the milk trade. We have therefore directed very special and searching inquiry into this matter. Only one witness, a Yorkshire dairy farmer, expressed any doubts on the matter, and even he, while thinking that it "was not altogether reliable," believed it to be "fairly accurate." In Berlin, in Copenhagen, in London, and other places where the action of tuberculin has been made a special subject of study, we found a general consensus of opinion as to the efficacy of the test. Perhaps we may best render our own impressions by quoting the evidence of Professor McFadyean, given before us, showing that all doubt on the subject had been removed from his mind since his experiments were carried out at the request of the former Commission:—

"No person, whether he were a layman or a veterinary surgeon, when summoned to look at an animal suspected of showing symptoms of tuberculosis, could give an opinion that was really of much value in the great majority of cases unless he used tuberculin. We have all recognised that within recent years. If the animal is in the very last stage of the disease one may make a diagnosis that has little chance of error, but in the great majority of cases it is only a guess. With tuberculin it is practically a certainty. I should like, if I am not going too fully into that, to give evidence regarding the reliability of tuberculin as a test. I made a number of experiments on that, and reported them to the previous Royal Commission. These, however, were not entirely favourable to the use of tuberculin, because in a considerable proportion of cases the indication afforded by the tuberculin was wrong. But since that, experiments and observations made in somewhat different circumstances have yielded entirely different results, and I have the most implicit faith in tuberculin as a test for tuberculosis, when it is used on animals standing in their own premises,

Report, par.
34.

McFadyean,
1259.

Middleton,
6612, 6663.

McFadyean,
1259.

and undisturbed. It is not a reliable test when used on cattle in a market, or on any cattle that have been shipped, or trained, or otherwise excited. That has been found out since I made my report. Other observers have had similar results under similar circumstances. Unfortunately, the Royal Commission set apart a very small sum to test this question of diagnosis; I think it was 100*l*. Tuberculin was only newly introduced then, and I could not get anybody who would submit his cows to the test. It was only through the kindness of Professor Brown, who allowed me to use the test on animals condemned under the Pleuro-Pneumonia Slaughter Order, that I was able to make the test. I got these animals in slaughter-houses, and, after they had been trained, or otherwise brought there, tested them. Then they were killed next day, and a considerable proportion of errors were found. But since that, using it on animals in their own premises, I have found that it is practically infallible. I have notes here of one particular case that I might put in, where in a dairy 25 animals in all were tested, and afterwards they were all slaughtered. There was only one animal that did not react, and it was the only animal not tuberculous when they were killed."

We entirely accept these conclusions, and entertain no doubt as to the value of tuberculin, provided the test is applied by a competent veterinary surgeon, and that the tuberculin is of a trustworthy quality.

PREVALENCE OF TUBERCULOSIS AMONG BRITISH AND IRISH AGRICULTURAL STOCK.

14. Of all the animals slaughtered for food in Great Britain and Ireland, those of the bovine race seem to be more largely affected with tuberculosis than any other. It is true that the Chief Inspector of the Veterinary Department of the Irish Privy Council said that he had recently formed the opinion, from his own observations during the slaughter of swine for swine fever, that tuberculosis was more prevalent among swine than among cattle in Ireland. But against this may be set the returns from continental abattoirs, where meat inspection is far more effective and uniform than in this country. For instance, the following is a return of the animals slaughtered at Leipzig in 1895, showing the number in which tuberculosis was detected :—

Kind of Animal.	Number of Slaughtered.	Of which were Tuberculous.	
		No.	Per cent.
Oxen - - - - -	8,454	2,379	28·14
Heifers - - - - -	1,071	217	20·35
Cows - - - - -	9,303	4,048	43·51
Bulls - - - - -	4,090	975	23·83
Total cattle over one year old -	22,918	7,619	33·24
Calves - - - - -	57,427	107	0·18
Sheep - - - - -	44,154	13	0·02
Goats - - - - -	207	—	—
Pigs - - - - -	111,077	3,041	2·73
Horses - - - - -	961	1	0·10
Dogs - - - - -	24	—	—
Total - - - - -	236,768	10,780	—

In connexion with this, it is important to note that this disease can be readily communicated to swine by giving them uncooked milk containing tuberculous matter. Should the herd become infected from this source, contagion might spread rapidly. But, inasmuch as the disease is much more liable to be communicated from cattle to pigs, than from pigs to cattle, we consider that preventive and remedial measures should be applied in the first instance to the bovine race. In sheep, tuberculosis has never been found to prevail to any serious extent.

15. The question as to the extent to which the herds of the United Kingdom have become infected with tuberculosis is one not easy to determine. Animals perceptibly suffering from it, and betraying clinical symptoms of the disease, undoubtedly form a very small percentage of the whole. But of the number affected by the disease in

Hedley,
7950.

Sessions,
6809.

Middleton,
6613, 6618,
6752.

its earlier stages it is impossible to form any opinion, owing to the absence of any satisfactory means of diagnosis other than the tuberculin test.

The use of tuberculin reveals how greatly more prevalent is the disease in certain herds and districts than it is in others. Thus, the application of the test to a dairy of 90 cows in Cheshire resulted in no less than 70 reactions, showing that all but 20 (above 77 per cent.) of these animals were suffering from tubercular disease. Of six herds in the same neighbourhood, 63 per cent. were found affected. On the other hand, a herd of 100 Jersey cows (a breed considered by some peculiarly susceptible of tuberculosis) in Sussex was tested without obtaining a single reaction.

Overwhelming evidence proved the greater prevalence of tuberculosis among dairy stock than among bullocks or heifers, owing, no doubt, to the close confinement of cows during a great part of the year, sometimes throughout the year, to their greater average age, and to the severe drain on them caused by milking. It is a common practice with cowkeepers to maintain a high temperature in the byres, which is rarely found associated with efficient ventilation.

16. One very serious feature in the distribution of this disease is its prevalence among high class pedigree stock. This does not appear to arise from any greater predisposition to the disease among highly-bred animals, but partly because that, owing to the high value of certain strains, cows are retained for breeding purposes much longer than would be the case in ordinary stock, and partly because, when young, they are commonly subjected to more artificial treatment than less valuable stock. The result of Sir Thomas Gibson Carmichael's experiments upon pedigree stock, and of those conducted over a period of five years in Denmark under superintendence of Professor Bang, shows how much can be done towards eliminating the disease from any herd kept under good sanitary conditions, by isolating such animals as react to the tuberculin test.

17. Several witnesses (both veterinary surgeons and others) expressed the opinion that some breeds of cattle, such as Shorthorns, Jerseys, and Ayrshires, are more susceptible of tuberculosis than others, such as the Welsh breeds, Herefords, and Highland cattle. No doubt they were speaking accurately from the result of their observations, but a careful comparison of the facts collected during our inquiry, over a very wide and varied field, has convinced us that the chief element in immunity from tuberculosis is to be found in the conditions under which cattle are reared and kept. Shorthorns, Jerseys, and Ayrshires are the principal dairy breeds in this country; dairy cows, as a rule, are kept more in houses than is the case with cattle meant for slaughter; such houses are often ill-ventilated, ill-lighted, ill-drained, and ill-cleaned. It is not surprising, therefore, if tuberculosis prevails to a very large extent among that class of stock.

This view is confirmed by the experience of numerous veterinary surgeons and meat inspectors. To take three instances:—In the five years 1892–96 there were slaughtered at the Tranmere abattoirs, in Birkenhead, 3,098 British and Irish cattle. Of these, 71 carcasses were condemned for tuberculosis, no less than 64 of them being cows. Between 15th February 1895 and 17th March 1897, 48 animals were condemned on account of tuberculosis in the Carlisle public slaughter-house; of these, 41 were cows and heifers, 4 were bullocks, and 3 were bulls. In Glasgow, between 1st October 1895 and 1st October 1897, 1,286 carcasses were condemned for the presence of tuberculosis, viz.:—

Bulls	-	-	-	-	-	-	13
Bullocks	-	-	-	-	-	-	4
Calves	-	-	-	-	-	-	2
Cows	-	-	-	-	-	-	1,260
Pigs	-	-	-	-	-	-	7

It is true that the above figures are not so conclusive as they might have proved had a record been kept in each case of the total number of each of the different classes of animals slaughtered, as is usually done in continental abattoirs, the data being tabulated in the annual reports; this, however, is not the practice in Great Britain, though it is clear that any attempt to deal with disease would be greatly facilitated by the knowledge acquired from such returns. We have been obliged to rely on the general statement by medical officers of health and inspectors that tuberculosis is detected far more frequently in the carcasses of cows than in those of any other animal slaughtered for sale.

Vacher,
4039.

Id., 4041.
Sessions,
6851–2.

Field, 328.
Hope, 1031.
Marsden,
2122, &c.

Hopkin,
7449.

Carmichael,
6921–7052.
Appendix A.,
pp. 350–353.

Sessions,
6806–8.
Hopkin,
7442.
Marsden,
2124, &c.
Stephenson,
6328.
Field, 329.
McFadyean,
1302.

Marsden,
2122.

Appendix G.
pp. 562–9.

Appendix A.
p. 345.

In Germany the proportion of cows affected with tuberculosis does not appear so greatly in excess of other classes, owing, perhaps, partly to the rigidity and uniformity of inspection, which might deter the owners of worn-out cows from exposing them for sale, and partly to the advanced age to which oxen are kept for draught purposes. Nevertheless, the above quoted returns from Leipzig slaughter-house for 1895 exhibit a considerable excess of the disease in cows. Out of 80,345 cattle and calves slaughtered, 7,726 were found to be affected with tuberculosis in the following proportions:—calves, 0·18 per cent.; heifers, 20·35 per cent.; bulls, 23·83; oxen, 28·14; cows, 43·51.

18. While we do not share the opinion that the breed or race has much to do with liability to tubercular disease, neither do we gather from the mere preponderance of tuberculous cows that there is a greater inherent liability to infection in the female than in the male sex. This is exceedingly important in view of the organised attempt which we trust may be made to get rid of the disease. Tuberculosis is almost unknown among those cows which are kept chiefly in the open air. In Jersey and Finland the native cattle are reported to be almost wholly free from tuberculosis, though they are just as susceptible as others to be attacked when brought within reach of infection.

Ackers,
4649.

19. The question has often been discussed whether tuberculosis is ever congenital or hereditary. Mr. St. John Ackers stated very clearly before us the practical farmers' view, namely, that "if not congenital, it is at least hereditary, in so far as animals from tuberculous dams are far more likely to develop tuberculosis." All doubt in our minds as to tuberculosis being sometimes congenital was set at rest by the exhibition before us, by Professor Bang at Copenhagen, of the foetus of a cow showing distinct tubercles in the internal organs. But although he had directed more attention to this problem of congenital tuberculosis in calves than other specialists have, he has only found it in a very limited number of cases. Most of these came from a slaughter-house in Jutland, where the inspector detected them to the extent of 0·3 to 0·4 per cent of the animals examined. Such a very small proportion of congenital tuberculosis might be disregarded, but subsequent to birth the risk of transmission of the disease from tuberculous dams to their offspring should be obviated by boiling the milk before giving it to the calves. Practically, however, and especially in the absence of this precaution, it comes to this, that there is a risk in breeding from cows known to be tuberculous.

INSPECTION OF MEAT.

Appendix J.
p. 374.
Provis, 4.

20. The provisions of the general law with respect to the inspection of meat in England and Wales outside the Administrative County of London are contained in the Public Health Act, 1875, and the Acts incorporated with it. Sections 116 to 119 of the Act of 1875 enable any medical officer of health or inspector of nuisances to inspect and examine any animal, carcase, or meat exposed for sale, or deposited in any place for the purpose of sale or of preparation for sale, and intended for the food of man. If it appears to him to be unfit for human food, he may take it away to have it dealt with by a justice. The justice may condemn it and order it to be destroyed or so disposed of as to prevent it from being exposed for sale or used for human food, and penalties may be imposed on the person to whom the condemned article belonged, or in whose possession or on whose premises it was found. A search warrant may be granted to any officer of a district council to enter any building in which he has reason to believe that there is kept or concealed any animal, carcase, or meat which is intended for sale for human food, and which is unfit for the purpose.

Provis, 27.

In addition to the above provisions section 131 of the Towns Improvement Clauses Act, 1847, which is incorporated with the Public Health Act, 1875, empowers the medical officer of health, the inspector of nuisances, or any other officer appointed by the district council for that purpose, to enter and examine any place in the district used for the sale of butchers' meat, or the slaughtering of cattle, and examine as to the deposit there of any cattle or the carcase of any cattle. If he finds any cattle or carcase which appear unfit for the food of man, he may seize the same to be dealt with by a justice. This enactment is in force in all urban districts, and may be extended to the whole or any part of any rural district by the Local Government Board on due application.

The Public Health Act, 1875, does not apply to the Administrative County of Provis, 13. London, and the provisions of the general law with regard to meat inspection are contained in the Public Health (London) Act, 1891. They are similar to those contained in sections 116 to 119 of the Act of 1875.

In Ireland the law is practically identical with that in England, with certain administrative differences. Stafford, 2499.

It is clear, however, both from witnesses and from the Parliamentary Return showing, for the years 1894 and 1895, "the Number of Carcasses seized by Medical Officers of Health and Inspectors of Nuisances in England and Wales and of the Number of such Carcasses condemned by Justices," that the great majority of carcasses are destroyed by voluntary arrangement between the medical officer of health or the inspector and the butcher, without the intervention of a justice. Thus, from the Return referred to, of 9,823 carcasses seized for one or another cause in 1895 only 383 were condemned on the order of a justice. Parliamentary Return, H.C. 435.

The medical officer of health of Birkenhead, for example, on finding a carcass affected with disease obtains an order signed by the butcher authorising him to destroy the carcass, and only on his refusal to sign the order would the case be taken into court. In other instances the butcher, when in doubt about a carcass, shows it to the inspector in order to have the benefit of his opinion before exposing the meat for sale. Marsden, 2259.
Cooper, 1910.

In Scotland the Public Health Act, 1897, which only came into operation on 1st January 1898, contains some provisions similar to those in the English Act, and others again in which important differences are to be noted.

In the first place, in addition to "the medical officer or sanitary inspector, a veterinary surgeon approved for the purposes of this section" may act as meat inspector; and it is further provided that "in the case of any proceeding under this section with regard to a living animal the medical officer or sanitary inspector, unless he is himself a qualified veterinary surgeon, shall be accompanied by a veterinary surgeon." Appendix K. p. 385.

Further, the Act provides that if the owner can prove "that the animal or part thereof condemned was, within a reasonable time prior to the seizure, examined upon the premises where the animal was slaughtered, and passed by a veterinary surgeon called in for the purpose, and who shall have granted a certificate of passing he shall be exempt from penalty or imprisonment under this section for such offence." To facilitate the obtaining of such a certificate from a veterinary surgeon every local authority or two or more may, if they think fit, appoint a place and fix a time at which a veterinary surgeon shall attend for the purpose of examining any animal, alive or dead, and passing or condemning it in whole or in part. If the veterinary surgeon passes the animal a certificate setting forth such particulars as are necessary for its subsequent identification is to be given.

21. There is a total absence of uniformity in the special qualifications required of the persons employed as meat inspectors by the sanitary authorities in different places, as may be seen by a Return presented to the House of Commons in 1896, showing the previous vocations of those acting in that capacity. In Battersea, for instance, four plumbers and three carpenters discharge the office of meat inspector; in Hackney the duties have been committed to two plumbers, one carpenter, one compositor, one bricklayer, one florist, one builder, one surveyor, and one stonemason. In Portsmouth a solitary butcher has received as colleagues three school teachers, one medical dispenser, one carpenter, and one tram-conductor. Parliamentary Return, H.C. 74, 1896.

In Manchester the public slaughter-houses are under supervision of a veterinary surgeon; in Glasgow inspection is carried out by the police, assisted by three butchers, and in Liverpool the staff of inspectors have been "butchers by trade and training." Niven, 3662.
Chalmers, 3478.
Hope, 1011.

We may add that in the Edinburgh public slaughter-house we witnessed meat inspection carried on more nearly on the enlightened system of the best continental abattoirs than it was our fortune to see in any other part of the United Kingdom. Here there are six meat inspectors, of whom four are veterinary surgeons, one has been a butcher, and one a cattle salesman. We were very favourably impressed with the organisation, though the standard by which the meat of tuberculous carcasses was judged appeared to us unnecessarily severe.

In many districts meat inspection is made part of the duty of ordinary sanitary inspectors, without any special training.

A number of witnesses expressed the opinion that veterinary inspectors alone should be employed. On this question we are satisfied that some pathological training is the proper basis upon which to build the knowledge required by a meat inspector, and that, wherever practicable, veterinary surgeons, thus educated, should be employed as meat inspectors. In large towns, where a staff of inspectors is maintained, we do not think it necessary that all of these should be veterinary surgeons, but all meat inspectors should pass an examination and receive a qualifying certificate from a central authority before appointment.

22. As to the amount and distribution of tubercular disease which justifies the seizure and condemnation of a carcass as unfit for human food, the widest discrepancy prevails in opinion and practice. Chaos is the only word to express the absence of system in the inspection and seizure of tuberculous meat, and it has, in our opinion, become necessary that regulations should be formulated for the guidance of those who are concerned in dealing with this subject.

In Belfast the presence of tuberculosis in any degree is held to be ground for seizure; on the other hand, in Islington the veterinary inspector of the Corporation of the city of London only seizes those carcasses wherein tuberculosis is generalised and the meat in poor condition. In Dublin the medical officer of health used to seize on the slightest evidence of tuberculosis, but he has recently modified his views and only seizes carcasses which are somewhat extensively affected. In Sheffield seizure is made of a carcass showing the slightest trace of tuberculosis; in Manchester, in cases where the disease is localised, the affected part is removed and destroyed, the remainder is passed.

Numerous instances of similar discrepancy will be found in the evidence; the above, taken almost at random, may be sufficient to illustrate the present condition of inspection applied to tuberculous carcasses.

23. The evils arising from this want of uniformity are manifold. The stringency of inspection in Belfast, for example, drives butchers away from the public slaughter-house within the city to the private ones without the city, where the inspection is lenient, or altogether wanting. The carcasses are afterwards brought into the town, the offal and any diseased organs having been removed, and thus the precautions which the corporation authorities consider it necessary to take against danger arising from the meat of even slightly tuberculous animals are frustrated.

Entertaining, as we do, the strongest opinion in favour of public over private slaughter-houses, we cannot but recognise in the present arbitrary system of seizure the surest discouragement to the use of public ones. Butchers will seek relief from inspection which they consider unduly strict by using private slaughter-houses where inspection is either more lenient, or, as in most cases, wanting altogether.

Very strong representations were laid before us on the part of butchers and meat traders, and also on behalf of the agriculturists who supply the butchers, as to the effect of this want of uniformity upon their business. It is obvious, we think, that these complaints are well founded. Producers and traders are making no unreasonable demand when they ask that a recognised standard should be observed, and that meat which, after effective inspection, is pronounced fit for sale in one market, should not be liable to seizure in another because the inspecting authority happens to differ in opinion as to the extent of tuberculosis which may be dangerous.

24. There is another objection to the present want of uniformity of meat inspection which has impressed itself forcibly on our minds in the course of our inquiry. Bovine tuberculosis is not confined to British animals. It prevails to at least an equal extent in certain parts of the continent of Europe. Nevertheless, the inspection of imported meat generally, whether landed as carcasses or slaughtered at the port of landing, is far from being as rigid as that to which much of the meat produced at home is subjected. The inspection of cattle slaughtered at Birkenhead, whether foreign or British, is very searching; but it is much more thorough in respect of British cattle, because the inspector sees the offal and internal organs attached to each animal. In the case of foreign cattle the offal and internal organs are removed, and the inspector has no means of identifying them.

At Deptford, where on an average about 2,700 cattle per week are slaughtered, there is practically no inspection of the carcasses. There is no staff adequate for the enormous numbers dealt with, therefore the meat undergoes no inspection till it arrives in Smithfield Meat Market, after the removal of the offal. Meat consigned to private traders elsewhere practically escapes inspection. In 1894, however, when the Board of Agriculture ordered the inspection of the lungs only of Canadian cattle slaughtered at

Rayment,
892.
Scott, 2897.
Cameron,
2625.
Littlejohn,
7623, 7637.
King, 7835.

Nuttall,
5698.

Field, 320-7.
Rayment,
979.
Haydon,
1619, &c.
Ackers,
1644.
Nuttall,
5698.

Marsden,
2113, 2114.

Helmans,
2091.

Deptford, for the detection of pleuro-pneumonia, Mr. Holmans detected tuberculosis in 32 cases out of a total of 7,255, although, as he admitted, he did not give much attention to that disease. Holmans,
2093, 2098.

Of the dead meat imported in such vast quantities, the greater part is not inspected till it reaches a public meat market, without the offal and internal organs; and that which is consigned to private establishments generally escapes inspection altogether.

In order to remedy this inequality, and the risk arising from it, we are of opinion that arrangements should be insisted on whereby each animal slaughtered at the port of landing shall be inspected *together with its own offal*; and further, that "stripping" the pleura of a carcase should be taken as evidence of unsoundness, and be followed by seizure.

We feel that we should be exceeding the limits of our reference were we to dwell on the manifest disadvantage which the home producer suffers in having to submit his carcasses to a more stringent and extensive inspection than the foreigner is exposed to. But this much is clear from the evidence, first, that tuberculosis exists among imported cattle and carcasses; second, that if the rigidity of inspection to which British meat is subjected in some places be justified by the existence of danger therefrom to the consumer, similar danger from imported meat is not provided against under the present unequal system.

25. The question then arises—Has such a stage of experience and knowledge been attained, as to the nature of tuberculosis and the effect of tuberculous meat upon the human consumer, as to enable a uniform standard to be prescribed for the guidance of meat inspectors?

We believe that such a stage has been attained.

Assuming that seizure of meat should be strictly confined to such as is dangerous to human health, we entertain no doubt that in certain places a great deal of meat is seized which is perfectly safe and wholesome food.

When, some years ago, tuberculosis in human beings and other animals was first proved to be interchangeable, we think that an exaggerated view was taken of the extent of the danger arising from meat, and that this view is still acted on in certain places. Undoubtedly we are not prepared to recommend that indiscriminate traffic in tuberculous meat should be permitted, or that inspection should be more lax than it is at present. On the contrary, we strongly urge that inspection should not only be more general and systematic, but that all inspectors should be qualified by special training. We hold, however, that it should be conducted on better defined principles, and that some limit should be observed in the latitude permitted to medical or veterinary officers in fixing independent standards of soundness in different places.

McFadyen,
1242.

The recommendation on this subject which we shall place at the close of this Report will be much on the lines of the resolutions passed at the International Veterinary Congress held at Berne in 1896. We bear in view the remarkable returns of the results of rigid but discriminating inspection in 29 towns in Saxony during the year 1895. Meat inspectors at the public abattoirs in these towns are all qualified veterinary surgeons. Tuberculosis was found to exist in 22,758 carcasses (being 27.48 per cent. of the whole number slaughtered). The whole of these, according to the practice of some authorities in this country, would have been confiscated and destroyed without compensation. But in Saxony they were dealt with as follows: of the total number of 22,758 carcasses showing tuberculous lesions 21,062, or 92½ per cent., were passed as fit for food; 1,256 carcasses, or about 5½ per cent., were disposed of in the Freibank as inferior meat, at a fixed cheap rate; and the remainder, 440 carcasses, or 2 per cent. of the whole number pronounced tuberculous in a greater or less degree, were condemned as unfit for food and destroyed.

"Journal of
Comparative
Pathology
and Thera-
peutics,"
1897, p. 233.

26. We have been favourably impressed with the value of the peculiar institution known in Germany as the Freibank, and alluded to in the last paragraph. It is a department of the slaughter-house where meat of carcasses affected by disease, but not to such an extent as to render it unfit for food, is exposed for sale. It is sold at about half the market rate in portions not exceeding 10 lbs. to each customer, either having been sterilized by exposure to steam for half an hour at a temperature of 100 C., or, where the quality of the meat is considered to warrant it, in a raw state. No butchers, meat salesmen, or restaurant keepers are allowed to purchase at the Freibank, but many poor people, who would otherwise have to go without meat altogether, are able to buy cheap, and not unwholesome meat at a very low rate, and the demand is usually found to exceed the supply. Under an efficient system of inspection, we

Appendix A.,
pp. 343-4.

regard the Freibank as a most desirable adjunct to a public slaughter-house, and one that would protect the poor from the unwholesome supplies at present obtained in some of our large towns from the lowest class of butchers.

PUBLIC SLAUGHTER-HOUSES.

Appendix J.
p. 376-7.

27. In regard to slaughter-houses, the difference between the English and Scottish law is even more pronounced than in that of meat inspection. In England and Wales, outside the Administrative County of London, urban authorities are governed by sections 169 and 170 of the Public Health Act, 1875, with which are incorporated sections 125 to 131 of the Towns Improvement Clauses Act, 1847, and sections 29 to 31 of the Public Health Acts (Amendment) Act, 1890.

Newsholme,
4207-8,
4290-7.

Urban authorities in England and Wales "may, if they think fit, provide slaughter-houses." But no power is given to a sanitary authority to close private slaughter-houses on the erection of public slaughter-houses, and there is this additional difficulty that, while a licensed slaughter-house can be closed permanently after two convictions of the occupier for non-compliance with the byelaws, or for having sold unsound or diseased meat on the premises, the same does not apply to registered slaughter-houses, the latter term including all those which were already in existence at the time of the application to the town or district of the Towns Improvement Clauses Act, 1847. In respect to these, a closing order cannot be obtained unless two convictions are obtained against the owner or proprietor, and, inasmuch as the owner or proprietor is hardly ever the occupier also, it follows that, however many convictions may be obtained against the occupier, there is no power of closing the slaughter-house.

In Brighton, for instance, all the 45 slaughter-houses are registered, and in no case is the owner or proprietor at the same time the occupier.

In the County of London the licenses are issued annually, subject to temporary or permanent refusal to license in cases of non-compliance with the byelaws, and this fact has enabled the council to reduce appreciably the number of slaughter-houses.

Appendix K.
p. 386-7.

In Scotland the Public Health Act, 1897, by section 33, requires that all slaughter-houses shall be annually licensed. There is no distinction such as exists in England between registered and licensed slaughter-houses.

Bell, 6071.
Wiley,
4400-2.

But the most important difference between the slaughter-house legislation of the two countries is that in burghs in Scotland, by the Burgh Police Act, 1892, when the commissioners have provided a public slaughter-house no other place within the burgh may be used for slaughtering. A similar result has been obtained in Edinburgh and Glasgow, where not a single private slaughter-house is permitted to exist. In Carlisle and West Hartlepool private slaughter-houses have been got rid of by withholding new licenses.

28. It is scarcely necessary to point out how greatly the exclusive use of public slaughter-houses contributes to efficiency and uniformity of inspection. Naturally, those who have vested interests in private slaughter-houses object to interference with their property. But instances might be given in which these objections have been satisfactorily overcome. The municipality of Glasgow, for example, erected public slaughter-houses more than 40 years ago, before they had obtained power to suppress the private establishments. They admitted owners of these establishments to the use of the public slaughter-houses, compensating them for the closing of their premises by charging them lighter dues than others who had lost nothing. There was no dissatisfaction, and the butchers now express a strong preference for the public slaughter-house over the old system. So long as private slaughter-houses are permitted to exist, so long butchers, from use and wont, will continue to use them, and so long must inspection be carried on under conditions incompatible with efficiency; besides other disadvantages and risks to health which lie beyond the scope of our reference.

29. Believing, as we do, that the use of public slaughter-houses in populous places, to the exclusion of all private ones, is a necessary preliminary to a uniform and equitable system of meat inspection, we desire to point out that we consider that power should be given to every local authority expending money in providing a public slaughter-house, to close, if they think fit, all or any of the registered slaughter-houses in the district.

30. In Belfast the corporation erected a very convenient public slaughter-house about 25 years ago, and the number of private slaughter-houses in the town was reduced from 30 to 5, by lapse and non-renewal of licenses, or because the owners did not comply with sanitary regulations. But only 61 of the butchers use the public slaughter-house.

Scott, 2904
et seq.

The others, rather than submit to inspection, which is considered more rigid in this town than in other places, have erected or use slaughter-houses outside the city boundary. Consequently, though the population of Belfast has increased by 75,000 since 1887, the number of animals dealt with in the public slaughter-house has diminished by 3,341—from 15,726 to 12,385. The consumption of meat has not diminished, but no doubt increased in proportion to the population; it is not affected, as in many other large towns, by the importation of foreign meat; the inevitable conclusion is that more animals are killed than formerly in the extra-urban slaughter-houses, where the inspection is under control of the Board of Guardians, and is much less efficient than that under the Corporation of Belfast. Scott, 2914.

The case of Dublin is still more unfortunate. Here the Corporation have expended 20,000*l.* on a well-equipped public slaughter-house, more nearly approaching in excellence of design and appliances to the best continental models than anything we have seen in the United Kingdom. Unfortunately, the site chosen was a few feet outside the municipal boundary, which prevented the Corporation dealing with 76 private slaughter-houses within the city. The public slaughter-house was brought within the municipal boundary by the Dublin Corporation Act, 1890, but the advantage of this was wholly neutralised by the insertion of a clause converting the existing temporary licenses of private slaughter-houses into permanent ones, thus rendering compensation necessary before they can be closed. In consequence of this, comparatively little use is made of the fine public slaughter-house, where inspection can be carried on regularly and efficiently; and the great majority of animals, amounting in one year to 17,760 of the bovine race, are killed in private slaughter-houses in the city, where, practically, the carcasses are not inspected, and could not be so without a very large staff of inspectors. Cameron, 2618.

31. In every district in which a public slaughter-house has been provided, it will be possible for the local authority to ensure the inspection of the carcasses of all animals killed within it. There will still remain the need for inspection of carcasses brought from other districts where the animals have been killed. We think that every local authority should be prepared to receive into its district, without further inspection, meat which, having been killed in the public slaughter-house of another authority, has already been subjected to inspection and approved, and which bears sufficient evidence of such approval. But every local authority should be empowered to provide in its district one or more stations, and to require meat to be brought there for inspection which has not been previously inspected elsewhere. Foreign meat should, we think, also be required to bear mark of inspection and approval at the time of killing, and steps should be taken through consular and other agencies to ascertain from time to time that there was efficient inspection at foreign slaughter-houses of meat intended for transmission to this country. Bond, 1529.

32. We desire to add that, in some public slaughter-houses in the United Kingdom, serious physical difficulties exist in the way of efficient inspection. The prevalent practice in the best continental abattoirs is to slaughter the animals in a common large, well-lighted, well-equipped hall. The inspector passes up and down, the offal is drawn out, close to the animal it belongs to, and exposed in full view. But in this country each butcher usually slaughters in a separate chamber, often extremely ill-lighted, and in some instances the offal of several animals may be seen thrown in a heap, so that it is impossible to distinguish the parts of one animal from those of others. Bond, 1532.

COMPENSATION TO OWNERS OF CONDEMNED CARCASSES.

33. A considerable number of witnesses, especially those representing different butchers' associations, have urged that compensation should be made to butchers for carcasses seized by the local authorities or their officers on account of tuberculosis. The majority of these witnesses considered that such compensation should be given out of Imperial funds, others would be content if they were provided out of local rates; but they were nearly all agreed that no compensation should be granted for the carcass of any animal that had been bought for less than a minimum sum of money, say 8*l.*, and that compensation should be limited to some maximum price, such as 30*l.* The contention in favour of compensation was largely based on the difficulty and even impossibility of ascertaining before slaughter whether an animal was tuberculous or not, and on the ground that the seizure was made in the interests of public health. Field, 393. Haydon, 1669. Pearson, 7601.

It was further alleged that the loss to butchers by reason of such seizure was very great, and that it involved an enormous waste of animal food. Field, 308. *Ib.*, 336.

34. Having given this question our careful consideration, we have arrived at the conclusion that we cannot on the merits of the case recommend compensation. The risk

Nuttall,
5771.
Ward, 7773.
Haydon,
1818.

McFadyean,
1245.
Tatham,
4326.

Stephenson,
6424, 6449.
Cooper,
1966.
Hopkin,
7374.
Field, 328,
389.
Scarlett,
5955.

Littlejohn,
7688.
Davies,
7490.

Wiley,
4384.
Scarlett,
5799.
Bell, 6055.
Stephenson,
3266.

Field, 585.

involved in the purchase of animals for slaughter, by reason of tuberculosis, is one that is fully recognised in the trade; and, as admitted by some witnesses, it cannot fail to affect the price. Under these circumstances we know of no ground on which a purchaser who, having bought at a risk with a view of placing the article purchased on sale, should receive the whole profit of his transaction if he has escaped loss, but should demand compensation from the public if his transaction has not been fortunate. Besides which, we are of opinion that the risk to the human subject of acquiring tuberculosis through meat has been very greatly over-estimated; we find no indications of it in the mortality returns dealing with the period of life during which meat has for years past been consumed in increasing quantity in this country; and the only evidence which we know of in the opposite sense, namely, the results of certain artificially contrived infections of meat made for the purposes of the previous Royal Commission on Tuberculosis, was the outcome of deliberately contrived laboratory experiments admittedly carried out under methods involving a risk greater than any that would probably arise in ordinary trade procedures. So also, the risk of loss to the butcher has in our opinion been greatly over-estimated. It should further be noted that by far the majority of seizures, whether under conditions of undue stringency or not, have related to the carcasses of milch cows, which animals had often been kept under conditions calculated to favour tuberculosis. Notwithstanding numerous requests to be supplied with evidence as to actual cases of substantial loss through seizure of tuberculous carcasses, nearly all the witnesses who came before us could only tell us at most of one, two, or three such seizures during long periods of business, and involving sales of hundreds and even thousands of carcasses. The exceptional cases were a few in which a stringency in the conditions deemed to justify seizure had been observed by medical officers of health and other local officers, which we consider to be unnecessary in the interests of public health; but it was very generally admitted by these officials that they would be quite willing, in the future, to abide by any authoritative regulations laid down as to this.

Having regard to these several considerations, we believe that in future seizures, being limited to those cases in which the public health is likely to be endangered, will be relatively fewer than before.

35. We received evidence as to systems of mutual insurance, under which the losses which are incurred by butchers by reason of the seizure of carcasses of animals which before slaughter appeared to be healthy have been met in different parts of the country, the ultimate cost of such insurance varying generally from a few pence to about one shilling per beast slaughtered. But the risk involved was not deemed by some butchers to be worth even this trifling expenditure. Other witnesses engaged in the meat trade expressed themselves as altogether opposed to the system of insurance, but in this connexion it must be remembered, as one important and representative witness admitted, that recognition of the insurance system would practically do away with the plea for compensation. We believe that all losses by reason of seizure owing to tuberculosis of the carcasses of animals for which a reasonable price has been paid can be best and easily met by the system of mutual insurance; and, with a view of promoting the use of public slaughter-houses, we are further of opinion that there would be advantage in districts where such establishments have been provided and are supervised by local authorities, in those bodies being empowered to contribute to the insurance funds.

MILK SUPPLY.

36. Whatever degree of danger may be incurred by the consumption of the flesh of tuberculous animals (and we have already stated our belief that the tendency in this country has been rather to exaggerate this than to underrate it), there can be little doubt that the corresponding danger in respect of milk supply is a far greater one.

On this point the opinion of the previous Royal Commission on Tuberculosis was emphatic. "No doubt the largest part of the tuberculosis which man obtains through his food is by means of milk containing tuberculous matter."

In Great Britain and Ireland, meat, as a rule, is cooked before it is eaten, to an extent which goes largely to destroy infective matter. Milk, on the other hand, is largely consumed in a raw state, especially by children, and there exists a general distaste for cooked milk as a beverage. Among most continental nations the practice is to some extent the opposite of this, and large quantities of meat, especially in the various forms of sausages, are consumed absolutely raw, while the greater proportion of the milk is cooked before consumption. It has been proved over and over again that

Report,
par. 80

milk from tuberculous udders, and even milk which has been purposely contaminated with tuberculous matter, can be rendered perfectly harmless by being boiled for one minute—a method of sterilization which we agree with the former Commission in preferring for general application to any of the other plans which have been employed.

37. We have already explained how unsatisfactory is the system of meat inspection in this country; but as regards milk, in relation to tuberculosis, inspection is still more so; indeed, it may be said not to exist. Even local authorities, who exert themselves to prevent the sale of tuberculous meat, are without sufficient powers to prevent the sale within their districts of milk drawn from diseased cows. It is true that in this respect the City of Glasgow possesses exceptional powers. Nevertheless, during the visit of some of Your Majesty's Commissioners to that city they were shown in the public slaughter-house the carcass of a well-nourished cow which had been seized for generalised tuberculosis. She had been yielding milk to the day of her slaughter, as shown by the milk flowing freely from her udder, and might have continued to do so had not her owner sold her to the butcher.

Chalmers,
3565-3569.

38. It has been proved to our satisfaction from the returns of medical officers of health and meat inspectors, that tuberculosis prevails to a larger extent among dairy stock than in any other class of animal. Considerable difference of opinion exists among experts as to the extent to which a cow may be affected with tuberculosis without rendering her milk dangerous. It was not proved to our satisfaction that tubercle bacilli had ever been detected in milk, unless drawn from a cow with tuberculosis of the mammary gland. In that case the disease generally, but not always, manifests itself by external signs, and the udder is suspected to be tuberculous. It is obvious, we think, that milk drawn from such a source ought to render him who exposes it for sale liable to heavy penalties. But there is no power at present to prevent such milk being sold. Professor McFadyean told us that, in a sample of milk from a diseased udder submitted to him for diagnosis, he had no difficulty in detecting tubercle bacilli, yet the milk from that cow continued to be sent in for sale in a neighbouring city. Unfortunately, tuberculosis of the udder can rarely be differentiated from other forms of udder disease by the ordinary stock owner or dairyman, and hence all udder diseases should be forthwith notified to the local authority.

Stafford, 2569.
Niven, 3701.
McFadyean, 1229.

39. The legislation in England and Scotland in the matter of milk does not show the same differences as have been noted in the case of meat.

In both countries the Dairies, Cowsheds, and Milkshops Order, 1885, as amended in 1886, is the chief measure whereby local authorities can take steps to safeguard the purity of the milk supply. The Order contains very drastic sections, which, if thoroughly carried out by the local authorities, ought to go far to render satisfactory the housing of animals in cowsheds, and to protect the consumer from the danger of milk, infected, through human agency, with such diseases as scarlet fever, or diphtheria. But from the evidence which we received the Order would seem in some places to be a dead letter, and in the districts where it is enforced no attempt is made to obtain uniformity of practice.

Smith, 4937.

The Order empowers the local authority to make regulations, amongst other things, (a) "for the inspection of cattle in dairies; (b) for prescribing and regulating the lighting, ventilation, cleansing, drainage, and water supply of dairies and cowsheds; in the occupation of persons following the trade of cowkeepers and dairymen; (c) for prescribing precautions to be taken by purveyors of milk and persons selling milk by retail against infection or contamination." Section 15 further states, "if at any time disease exists among the cattle in a dairy, or cowshed, or other building, or place, the milk of a diseased cow therein shall not be mixed with other milk; and (b) shall not be sold or used for human food."

But the term "disease" in the Order is strictly limited to those diseases included under the Contagious Diseases (Animals) Act, 1878, of which tuberculosis is not one. The evidence abundantly shows how this fact has precluded local authorities from any attempt to deal with tuberculosis in milch cows, although they may have shown themselves alive to the danger and anxious to provide a remedy.

Hamer, 1392, Mac-Dougall, 3311.

Hope, 1157.

Elliott, 211.

The suggestion has been made that the term "disease" should be extended by the Local Government Board, under which Department the administration of the Order falls, so as to include tuberculosis, and we have received representations from various bodies recommending this, or at least that the term should be made to include tuberculosis in the udder. While your Commissioners think that it is desirable that the Order should be made applicable to all diseases of the udder in cows of which the milk is offered for sale, we are of opinion that it would be best for this to be effected without a change in the nomenclature of the Diseases of Animals Act, an

Act which is concerned solely with the spread of disease from animal to animal, and not from animal to man.

There remains to be considered the power conferred on district councils by section 4 of the Infectious Disease (Prevention) Act, 1890, defining the duties of the medical officer of health. The section runs:—

“In case the medical officer of health is in possession of evidence that any person in the district is suffering from infectious disease attributable to milk supplied within the district from any dairy situate within or without the district, or that the consumption of milk from such dairy is likely to cause infectious disease to any person residing in the district, such medical officer shall, if authorised in that behalf by an order of a justice having jurisdiction in the place where such dairy is situate, have power to inspect such dairy, and if accompanied by a veterinary inspector or some other properly qualified veterinary surgeon to inspect the animals therein, and if on such inspection the medical officer of health shall be of opinion that infectious disease is caused from consumption of the milk supplied therefrom, he shall report thereon to the local authority, and his report shall be accompanied by any report furnished to him by the said veterinary inspector or veterinary surgeon, and the local authority may thereupon give notice to the dairyman to appear before them within such time, not less than twenty-four hours, as may be specified in the notice, to show cause why an order should not be made requiring him not to supply any milk therefrom, within the district until such order has been withdrawn by the local authority, and if, in the opinion of the local authority, he fails to show such cause, then the local authority may make such order as aforesaid.”

Marsden,
2401.

This is an adoptive Act, but we believe there are now very few districts where its clauses do not apply. It has been found, however, to be quite inapplicable to the purposes of tuberculosis or of udder disease generally in the milch cow.

Chalmers,
3566.

Ib., 3596.

Ib., 3574.

Ib., 3603.

40. In Glasgow, indeed, under the Local Act, the Police Commissioners, as mentioned above, have power to inspect all cows kept for supplying milk within their jurisdiction, and to proceed against the owner if he retains any cow which “suffers from tuberculosis or any disease which might render the use of such milk “dangerous or injurious to health.” Dr. Chalmers, one of the medical officers of health in Glasgow, holds that the use of the tuberculin test would be authorised by the powers of examination conferred under this Act, but it has not yet been employed without the consent of the owner. Only those animals visibly affected have been slaughtered, to the number of 23 in 1892 and 6 in 1896. The same powers of inspection are extended to all byres outside the city, whence milk is brought for sale within the city; but there are obvious difficulties in the way of exercising them, and, in fact, they have not yet been put in force.

41. It will be seen how futile are the restrictions on the sale of tuberculous milk produced within a city, in the absence of any safeguard against its introduction from outside. Clearly there is the most urgent necessity for powers being conferred on and exercised by local authorities to make periodical inspection of all cows of which the milk is offered for sale within their districts. Such inspection would obviously be best made by veterinary surgeons, but we see difficulty in proposing the employment of inspectors of this class at all stages of the necessary inspections. We are, however, of opinion that no action beyond a suspension of the milk supply from an individual cow, for a period not to exceed forty-eight hours, should be taken, unless authorised under the certificate of a veterinary inspector, and that power to order even this temporary suspension should be restricted to a medical officer of health, and should be based on a personal inspection of the cow in question.

Report,
par. 62.

42. We would recall the opinion quoted in their report by the Commission on Tuberculosis, 1894, to the effect that “the spread of tubercle in the udder” is apt to proceed with rapidity, that it may be manifested and become distinctly developed “between fortnightly inspections carried on along with a veterinary surgeon,” and that “the very absence of any definite sign in the earlier stage is one of the greatest dangers of this condition.” And, having regard to these circumstances, the Commission also report that both Dr. Martin and Dr. Woodhead, who carried out the experimental researches in this matter, “insist that no tuberculous animal of any kind should be allowed to remain in a dairy.”

We concur generally in the views expressed, but having regard to the extent to which tuberculosis exists amongst milch-cows, and to the absence of evidence that

danger of conveying tuberculosis arises from the use of milk as a food apart from the existence of tubercular disease of the udder, we are of opinion that direct action for the elimination of all tuberculous cows from dairies should proceed tentatively. There are, however, directions in which action should be taken at once. These are (1) systematic inspection of the cows in dairies and cowsheds by the officers of the local sanitary authorities within whose district the premises are situated; (2) inspection when desired of the cows in any dairy or cowshed, wherever situated, by the authorised officers of local authorities within whose districts milk from the premises in question is supplied, on lines somewhat similar to those of sections 24-27 of the Glasgow Police (Amendment) Act,* and of those embodied in the Infectious Disease (Prevention) Act, 1890, and the Public Health (Scotland) Act, 1897; (3) power for a medical officer of health to suspend the supply of milk from any suspected cow for a limited period pending veterinary inspection; (4) power to prohibit the sale of milk from any cow certified by a veterinary surgeon to be suffering from such disease of the udder as in his opinion renders the animal unfit for the supply of milk or exhibiting clinical symptoms of tuberculosis; (5) the provision of a penalty for supplying milk for sale from any cow having obvious udder disease, without the possession by the owner of a certificate to the effect that such disease is not tubercular.

43. The claim for compensation in case of confiscation will arise in this case as it has done in the case of other carcasses confiscated for tuberculosis, but we do not advise that it be entertained except under the circumstances specified below. Tubercular disease very seldom begins in the udder; frequently where the udder is affected extensive tuberculosis exists elsewhere. Indeed a tuberculous udder is usually an outward symptom of an advanced stage of the disease, and none but an unscrupulous cowkeeper would knowingly allow milk from such a source to be mixed for sale with the milk of his other cows.

McFadyean,
1256.

We are, therefore, of opinion that when, under the certificate of a veterinary surgeon, the sale of milk from a given cow is prohibited, the local authority should slaughter the same, and if, on post mortem examination it appears that the cow was not so affected, the local authority should pay compensation to the extent of the full value of the cow immediately before slaughter. If on the other hand the animal be found to have been so suffering, the carcass should be sold by the authority, and the owner thereof should receive the proceeds of the sale.

44. Bearing in mind that the insanitary conditions under which dairy stock are often kept constitute highly favourable circumstances for the encouragement of tubercular disease, and for its dissemination among sound animals, we are of opinion that urgent need exists for more rigorous inspection and control of cowsheds and byres. We have considered carefully the conditions as to cubic contents and ventilation which should be required in such cowsheds, and they will be found embodied in one of our recommendations. We are further convinced of the almost insuperable disadvantage arising from the presence of dairy stock in crowded streets, and we advocate the prohibition, in populous places of any cowsheds not at present registered. The resolute enforcement of sanitary regulations would lead to the compulsory closing of many town cowsheds now existing and registered, for the simple reason that in these compliance with sanitary requirements is physically out of the question.

Niven, 3682.
Stephenson,
6455.
Sessions,
6790.

45. One such cowshed some of Your Majesty's Commissioners visited in a densely populated district of Edinburgh. Here the back premises and offices (wash-house, scullery, and stable) of an ordinary dwelling-house had been stalled for cows, and the narrow court was noisome with manure and decaying food. The temperature of these makeshift cowsheds was exceedingly high; in one compartment the unfortunate animals were tethered within a few feet of a blazing fire under the boiler where their food was prepared. This was a place of which it would be absurd to estimate its fitness for cow-keeping by the cubic space available for each animal. Stagnant air, kept at a high temperature, and replenished from a narrow court full of malodorous impurity, is manifestly an improper atmosphere in which to keep animals for dairy purposes.

Niven, 3754.

In another cowhouse in the suburbs of Edinburgh there had been no unwillingness to spend money in erecting a large and spacious shed for about 60 cows; but all excellence in the design was neutralised by the position of the dungstead. At one end of the byre was an open door through which played a free current of air, loaded with exhalations from a perfect mountain of manure.

* These sections will be found in Appendix K., p. 389.

We consider that the presence of cowsheds in a city must almost inevitably cause a nuisance, especially where cows are kept in them throughout the summer. The proper place for the production of milk is in the country, whence its transport to the city is easy and rapid. There is this further consideration in support of our view, important, we think, in its bearing on any attempt to eliminate tuberculosis from British and Irish herds, namely, that isolation of an infected animal is generally impossible in a town cowshed.

46. It must not be supposed, however, that the chief danger from tuberculous milk exists in town cowsheds, shippens, or byres. On the contrary, city authorities are frequently more active in framing regulations and putting them in force than rural authorities. Dr. Hope, the medical officer of health of the city of Liverpool, has recorded the result of bacteriological examination of 144 samples of milk taken from sources within the city, and of 24 samples taken at the railway station of milk arriving from the country. Of the town samples, the tubercle bacillus was detected in four samples, or 2·8 per cent., while it was found present in no less than seven samples, or 29·1 per cent. of the country milk.

City of
Liverpool :
Report of
the Medical
Officer of
Health,
6th May
1897.

47. We desire to say that we have received the impression that public opinion is prepared to endorse measures taken to secure an uncontaminated milk supply. We have examined the establishments of two of the leading dairy firms supplying the metropolis, and have noted with satisfaction a number of systematic precautions taken in them against disease in the cows whence the milk is drawn, and against the presence of impurity in milk supplied to their customers.

There is also a growing tendency among the wealthier class of customers to purchase their milk from dairymen who can give some assurance as to the adoption of such precautions. But much remains to be done to protect the poorer classes in populous districts, who cannot afford to pay a higher price for a guaranteed article, and perhaps have not the degree of knowledge necessary to warn them against milk coming from dubious sources.

ELIMINATION OF BOVINE TUBERCULOSIS.

48. All precautions against the communication of tubercular disease to human beings by the consumption of the meat or milk of diseased animals must be regarded as temporary and uncertain palliatives, so long as no systematic attempt is made to reduce the prevalence of the disease among the animals themselves. We consider that by far the most important part of the inquiry committed to us, as to "what administrative procedures are available and would be desirable for controlling the danger to man through the use as food of the meat and milk of tuberculous animals," lies in the direction of eliminating the disease. To this part of the subject, therefore, we have directed most careful attention, and have used every means at our disposal of ascertaining the experience of foreign Governments.

49. We agree with the Committee of the Central and Associated Chambers of Agriculture, "that any proposal for stamping out tuberculosis by means of slaughter, on the lines adopted with marked success in the case of cattle plague, foot-and-mouth disease, and pleuro-pneumonia, is quite impracticable." Such an attempt, coupled with partial compensation to owners, was initiated by the Belgian Government in 1895, but, as will be seen from the Report of the Commissioners who visited that country in the spring of 1897, it was found impracticable, and the cost of it intolerable.

Ackers,
4628-9.

Appendix A.,
pp. 337-340.

50. But the attempt to grapple with and eliminate the disease undertaken by the Danish Government, based on the value of tuberculin as a means of diagnosis, has been attended with such a degree of success as to deserve the closest attention of the authorities in this country. We beg to quote from the Report of those of Your Majesty's Commissioners who visited the country :—

"The action taken by the Danish Government in combating tuberculosis amongst cattle is due to the result of experiments carried out by Professor Bang, of the Veterinary College, Copenhagen, for eliminating the disease from herds, based on the value of tuberculin as a means of diagnosis. By the law passed in April 1893, 50,000 crowns (nearly 3,000*l.*) a year for five years was placed at the disposal of the Minister of the Interior, to assist the owners of cattle who might be desirous of making use of

tuberculin in the detection and prevention of the disease. The grant of money was to be utilised by the farmer in inoculating young animals with tuberculin, and it was only to be given to such owners as promised to keep the healthy animals isolated from those that were tuberculous. Further, the Minister was to have the power of employing a part of the sum in aiding associations for the breeding of cattle that might wish to have the animals tested. In addition to furnishing tuberculin free of charge, the Government also gives the farmers the services of a veterinary surgeon to superintend the operations necessary in carrying out the test in a scientific manner.*

"The amount of the subvention has now been increased to 100,000 crowns (5,625*l.*) yearly.

"Although originally the intention of the law was only to test young animals, circumstances have brought it about now that usually the whole herd is tested, with the exception of such animals as are shortly to be slaughtered for the meat market.

"The views of Professor Bang on bovine tuberculosis are, briefly, that it is due to the ease with which the infection may spread by air, water, and food, owing to the common life of healthy and unhealthy animals when in confined, badly ventilated sheds. About 0.3 to 0.4 per cent. of all calves born, he thinks, are affected with hereditary tuberculosis, but the great majority of calves that become tuberculous are infected through the milk. Practically, then, if calves born of tuberculous mothers are isolated from diseased animals from and after birth and fed on boiled milk they will escape the disease. Tuberculin, he believes, gives trustworthy results in over 90 per cent. of the animals tested, and in the great majority of those which react the test reveals only *latent tuberculosis*.

"By merely separating, therefore, the sound from the reacting animals, feeding the calves born from the first day of life on boiled milk, submitting once or twice a year the healthy animals to a fresh test, placing such as react on the other side of a partition, and purchasing only animals that have stood the tuberculin test, he believes that in a few years a healthy herd may take the place of one that had been markedly affected.

"Professor Bang received us at the Veterinary College, and we are quite unable to express adequately our sense of the trouble he took to facilitate our inquiries, and to give us the latest results of his researches and experiments.

"We were shown here, in the experimental laboratory, the incubating room, where, at a temperature of 37° C., the tubercle bacilli are cultivated on bouillon, and the subsequent steps in the preparation of commercial tuberculin. All the tuberculin used in the country has, from the very first, been manufactured in this laboratory, which receives from the Government a subvention for the purpose, and so great has the demand been for it that sometimes difficulty has been experienced in furnishing enough.

"On the second day Professor Bang conducted us to two farms in Zeeland, from 25 to 30 miles from Copenhagen, on which a prolonged series of experiments have been in progress.

"The first of the places, Thurebylille, near Kjoerge, is a large dairy farm on the property of Count Moltke, leased by a company or syndicate, where a numerous and beautiful herd of red Zeeland cattle is kept. The cost, however, of testing with tuberculin, isolating reacting animals, &c., has been borne by the State, by consent of the syndicate. Nearly all the cows kept are bred on the farm, but a few animals are purchased from time to time.

"The process pursued has been as follows:—All the bulls, cows, and calves are kept under one roof, an extensive building stalled across its breadth, with roomy gangways before and behind each row of stalls. At the time of our visit (May 4) none of the animals had been out of the building since the preceding October, though the season was approaching when they would be turned out to pasture, day and night. It must

* The duties of the veterinary surgeon are to take the temperature of the animals shortly before the inoculation, and then, nine hours after at latest, he must be on the spot again to take the temperatures every two or three hours for about 24 hours. In payment he receives at least 16 kroner (1 kr. = 1*s.* 1½*d.*) and his travelling expenses. If the herd is at some distance from the dwelling of the veterinary surgeon he receives usually 25 kroner.

be admitted that, in spite of its large extent and scrupulous cleanliness, the ventilation of this great byre was far from exemplary. The temperature was kept very high, probably to induce the liberal secretion of milk; the cubic space to each animal seemed insufficient (it was stated to be about 300 cubic feet per animal), and swarms of common house flies on the side of the building furthest from the entrance doors seemed to indicate that a high temperature had been maintained throughout the winter. If this was the case on a spring morning, with the doors all open, the condition of things must be very much worse in winter. The stock, however, looked exceedingly well and blooming. Although, as we have said, they were all under one roof, the building was divided transversely by a movable wooden partition, without a door in it. This was put up to divide those animals which did not react from those which did. Each year as the proportion of sound animals has increased (as shown in the subjoined table) the partition has been moved further on, until, at present, the reacting animals occupy the smaller portion of the building.

"On the night previous to our visit the sound part of the herd had been injected with tuberculin, and when we arrived the staff, assisted by a number of schoolboys from the village, were taking and registering the temperatures, with the result that, out of 155 cattle and calves tested, only six reacted. These would be immediately removed and put in the quarantine compartment of the house.

"The following is a record of the tuberculin test at Thurebylille:—

	Reacting Section.	Sound Section.	Number reacting in Sound Section.
April 1892 - - - - -	131	77	—
October 1892 - - - - -	—	77	7
May 1893 - - - - -	90	103	10
October 1893 - - - - -	—	107	1
April 1894 - - - - -	81	122	2
October 1894 - - - - -	—	119	1 (?)
May 1895 - - - - -	69	136	2 + 1 ?
October 1895 - - - - -	—	132	2
April 1896 - - - - -	54	149	7
October 1896 - - - - -	48	147	7 ÷ 2 ?
May 1897 - - - - -	49	155	6

"In a letter dated 16th May 1897, Professor Bang writes, that of the six which reacted in May 1897 (some of which we saw), three, a young bull and two calves, had been slaughtered. All showed a very slight degree of tuberculosis, one or two lymphatic glands only being affected. The two calves had developed the disease by way of the digestive tract, one having a retro-pharyngeal gland affected, the other a mesenteric gland; the bull had two mediastinal glands affected.

"The results of the treatment at Rosendal were of equal interest, although in some respects the success has not been quite so good as at Thurebylille, attributed largely, by Professor Bang, to the fact that in the partition there was a door of communication between the sound and reacting sides. The routine is similar to that already described, though there are a few points of difference between the two farms worthy of remark. At Thurebylille they use the milk of their own cows only, and convert it into cheese; at Rosendal they receive the milk from other four large farms and make it into butter, sending large quantities of it to Paris, and even direct to Manchester. The cow-house at Rosendal, though similar in general design (except for the door in the partition) to that at Thurebylille, is far better ventilated. The stock, however, of red Zeelands has not been bred with the same attention to beauty and quality. In both farms the milk of the reacting animals is not given to the calves but is used in the dairy.

"On this farm there was an outbreak of foot-and-mouth disease in 1893, and after it, tuberculosis (which before had not apparently been very prevalent) made great headway, and Mr. Ulrik, the farmer, was obliged to sell 30 cows, many of them for a very low price. After 1894 no cow, even in the reacting section, showed clinical symptoms of tuberculosis, except perhaps one.

"Beyond erecting the partition Mr. Ulrik has had no expense whatever, and expressed himself in every way satisfied with the result of the experiment.

"Record of the Tuberculin Test at Rosendal.

Date.	Reacting Section.	Sound Section.	Number reacting in Sound Section.
October 1894 - -	67 + 35, which were not tested.	68	—
April 1895 - -	—	86	11 (2 newly purchased).
April 1896 - -	—	101	19.
April 1897 - -	80 — 100 now	108	5 (of these 3 were purchased cows, 2 of them only a few months previously. It was stated by the seller that they had been tested. The other 2 reacting animals were calves, both of which had been fed on milk from reacting cows.

"Professor Bang has kindly supplied the following further particulars as to the result of the work at Borupgaard in Jutland :—

Date.	Reacting Section.	Sound Section.	Number reacting in Sound Section.
January 1894 - - -	139	86	—
December 1894 - - -	—	114	8
May 1895 - - -	—	117	1 + 1?
November 1895 - - -	—	140	1
" 1896 - - -	—	—	10
May 1897 - - -	—	184	5

"The owner here has had no expense beyond erecting the partition. The herd consisted of dark Jutland cattle.

"Professor Bang has also furnished a table of results from the whole of Denmark :—

District.	Number of Herds.	Sound.	Reacting.	Percentage.		AGE.							
						Less than ½ year.		About 1 year.		About 2 years.		Over 2½ years.	
				Sound.	Reacting.	Sound.	Reacting.	Sound.	Reacting.	Sound.	Reacting.	Sound.	Reacting.
Jutland - - -	2,721	43,479	23,311	65.1	34.9	9,739	1,471	11,717	4,139	6,422	3,776	15,891	13,025
Fyen - - -	1,335	22,770	7,502	75.7	24.3	4,905	334	5,478	1,698	2,907	1,217	10,290	4,653
Zeeland - - -	692	13,026	9,503	56.8	43.2	3,159	610	3,382	1,589	1,988	1,419	4,497	6,285
Moen - - -	82	1,313	639	67.6	32.4	200	33	259	88	226	104	568	404
Lolland-Falster - - -	198	6,248	2,497	71.5	28.5	1,281	146	1,622	397	831	371	2,511	1,583
Bornholm - - -	588	12,045	2,257	84.2	15.8	1,664	87	2,763	385	1,864	408	5,774	1,377
Total - - -	5,306	98,901	45,899	68.3	31.7	19,751	2,681	25,221	7,606	14,398	7,205	39,631	28,227
		144,800	—	—	—	88.1%	11.9%	76.6%	23.4%	66.4%	33.6%	58.3%	41.6%

"Of these 5,306 herds, 1,132 were found completely free of the disease, no single animal reacting.

"Seeing that stress has been laid by certain witnesses before our Commission on the importance of preventing persons suffering from tuberculosis attending upon cattle, we inquired if this point had received notice in the quarantine regulations in force at Thurebylille and Rosendal. We were told it had not, nor did Professor Bang think that the risk of such contagion was appreciable. In Jersey and Finland, he observed, tuberculosis is almost unknown among the native cattle, though both are highly susceptible of it when taken among tuberculous stock; but he regarded it as probable that there is the same percentage of tuberculosis among the attendants on these cattle as in other countries."

Ackers,
4866.
Carmichael,
6989.

51. We do not believe that there would be any general disinclination on the part of farmers to avail themselves of facilities for testing their animals with tuberculin. It is true that there might be opposition to it at first on the part of some; but, undoubtedly, the more intelligent and enterprising agriculturists would gladly avail themselves of the assistance of the State in detecting the disease, and their example would very soon influence their neighbours.

The necessity of employing the test in their own interest has been brought home to the owners of expensive pedigree animals by the recent action of foreign States, who have prohibited the importation of any animal for breeding purposes which will not stand the test.

At present, it is true, the use of tuberculin is regarded with suspicion by many farmers. The nature of bovine tuberculosis has only lately come to be understood, even by men of science; any attempt to detect its presence is apt to be associated in the farmer's mind with confiscation. But when it is known that the object in view is to get rid of a destructive disease by rational methods, we cannot doubt that agriculturists, as a whole, will cheerfully co-operate and accept the assistance of the State.

The initial cost of fitting up a laboratory capable of turning out 100,000 doses of tuberculin annually would probably be about 500*l.*, and the cost of preparation, apart from the remuneration of a requisite staff, would be about 3*d.* per dose for any quantity over 50,000. Assuming that animals would be tested simultaneously in considerable numbers, the fees of veterinary surgeons for taking the temperatures could not be estimated at less than 2*s.* per animal. Assuming, therefore, that the State were to undertake the whole charge, as has been done in Denmark, and assuming that 50,000 animals were submitted to the test during the first year, the amount to be defrayed at 2*s.* 3*d.* per head would be 5,625*l.*

Elliott, 260.

52. It has been estimated that the cost of applying the tuberculin test to all the animals in the United Kingdom would exceed a million sterling; but there is not the slightest probability of anything like this demand, at first, on the Imperial funds, and after the system had been established for, say five years, it might come to be considered how far stockowners might be called on to contribute to this form of insurance.

53. The conclusions at which we have arrived, and on which we have founded our recommendations for the elimination of tuberculosis, must be regarded as subject to further developments of the culture of tuberculin. Professor Koch's latest researches bear upon the possible discovery of a protective or curative preparation.

But even failing the discovery of a protective or remedial substance which might render animals immune to tuberculosis, we believe it is a disease which may be rendered exceptional, instead of, as at present, widely prevalent. We further believe that by disseminating sound information as to the method of detection, and the measures to be taken for isolation, and by distributing tuberculin gratuitously, or at a low cost, tuberculosis may be considerably reduced, possibly to an extent which would prevent any serious loss to stockowners or any important interference with the cattle trade.

RECOMMENDATIONS.

MEAT.

A.—SLAUGHTER-HOUSES.

1. We recommend that in all towns and municipal boroughs in England and Wales, and in Ireland, powers be conferred on the authorities similar to those conferred on Scottish corporations and municipalities by the Burgh Police (Scotland) Act, 1892, viz. :—

(a.) When the local authority in any town or urban district in England and Wales and Ireland have provided a public slaughter-house, power be conferred on them to declare that no other place within the town or borough shall be used

for slaughtering, except that a period of *three* years be allowed to the owners of existing registered private slaughter-houses to apply their premises to other purposes. The term of *three* years to date, in those places where adequate public slaughter-houses already exist, from the public announcement by the local authority that the use of such public slaughter-houses is obligatory, or, in those places where public slaughter-houses have not been erected, from the public announcement by the local authority that tenders for their erection have been accepted.

- (b.) That local authorities be empowered to require all meat slaughtered elsewhere than in a public slaughter-house, and brought into the district for sale, to be taken to a place or places where such meat may be inspected; and that local authorities be empowered to make a charge to cover the reasonable expenses attendant on such inspection.
- (c.) That when a public slaughter-house has been established inspectors shall be engaged to inspect all animals immediately after slaughter, and stamp the joints of all carcases passed as sound.

2. It appears desirable that in London the provision of public in substitution for private slaughter-houses should be considered in respect to the needs of London as a whole, and in determining their positions regard must be had for the convenient conveyance of animals by railway from the markets beyond the limits of London, as well as from the Islington market, to the public slaughter-houses which should be provided. At the present time no administrative authority has statutory power authorising it to provide public slaughter-houses other than for the slaughter of foreign cattle at the port of debarkation.

3. With regard to slaughter-houses in rural districts, the case is not so easy to deal with. But the difficulty is one that must be faced, otherwise there will be a dangerous tendency to send unwholesome animals to be slaughtered and sold in small villages where they will escape inspection. We recommend, therefore, that in Great Britain the inspection of meat in rural districts be administered by the county councils. In Ireland the duty of carrying out inspection ought to devolve upon authorities corresponding as nearly as possible to those charged with that duty in England and Scotland. In view of the announced intention of the Government to introduce a new scheme of local government into Ireland we refrain from specifying the exact machinery which should be employed.

4. We recommend further that it shall not be lawful to offer for sale the meat of any animal which has not been killed in a duly licensed slaughter-house.

B.—QUALIFICATIONS OF MEAT INSPECTORS.

5. We recommend that in future no person be permitted to act as a meat inspector until he has passed a qualifying examination, before such authority as may be prescribed by the Local Government Board (or Board of Agriculture), on the following subjects:—

- (a.) The law of meat inspection, and such byelaws, regulations, &c. as may be in force at the time he presents himself for examination.
- (b.) The names and situations of the organs of the body.
- (c.) Signs of health and disease in animals destined for food, both when alive and after slaughter.
- (d.) The appearance and character of fresh meat, organs, fat, and blood, and the conditions rendering them, or preparations from them, fit or unfit for human food.

C.—TUBERCULOSIS IN ANIMALS INTENDED FOR FOOD.

6. We recommend that the Local Government Board be empowered to issue instructions from time to time for the guidance of meat inspectors, prescribing the degree of tubercular disease which, in the opinion of the Board, should cause a carcase, or part thereof, to be seized.

Pending the issue of such instructions we are of opinion that the following principles should be observed in the inspection of tuberculous carcasses of cattle:

- | | |
|---|---|
| (a.) When there is miliary tuberculosis of both lungs - | } The entire carcass and all the organs may be seized. |
| (b.) When tuberculous lesions are present on the pleura and peritoneum - - - - - | |
| (c.) When tuberculous lesions are present in the muscular system, or in the lymphatic glands embedded in or between the muscles - - - - - | |
| (d.) When tuberculous lesions exist in any part of an emaciated carcass - - - - - | |
| (a.) When the lesions are confined to the lungs and the thoracic lymphatic glands - - - - - | } The carcass, if otherwise healthy, shall not be condemned, but every part of it containing tuberculous lesions shall be seized. |
| (b.) When the lesions are confined to the liver - - - - - | |
| (c.) When the lesions are confined to the pharyngeal lymphatic glands - - - - - | |
| (d.) When the lesions are confined to any combination of the foregoing, but are collectively small in extent - - - - - | |

In view of the greater tendency to generalisation of tuberculosis in the pig, we consider that the presence of tubercular deposit in any degree should involve seizure of the whole carcass and of the organs.

In respect of foreign dead meat, seizure shall ensue in every case where the pleura have been "stripped."

MILK.

D.—DISEASES IN THE UDDERS OF COWS.

7. We recommend that notification of every disease in the udder shall be made compulsory, under penalty, on the owners of all cows, whether in private dairies or those of which the milk is offered for sale.

8. We recommend that for the purpose of excluding from their districts the milk of cows affected with tuberculosis of the udder, or exhibiting clinical symptoms of the disease, local authorities should be given powers somewhat similar to those of sections 24-27 of the Glasgow Police (Amendment) Act, with power to slaughter such cows subject to compensation under the conditions named in the Report.

9. We also recommend that powers shall be given to local authorities to take samples and make analyses from time to time of the milk produced or sold in their districts, and that milk vendors shall be required to supply sufficient information as to the sources from which their milk is derived.

At ports where milk and milk products are received from foreign countries, any costs that may be thus incurred in their examination shall be borne by the importers.

E.—COWSHEDS, BYRES, &c.

10. We recommend that the Local Government Board be empowered to require local authorities to adopt regulations as to dairies, cowsheds, &c., where that shall be found not to have been done already.

11. That in future no cowshed, byre, or shippon, other than those already registered, shall be permitted or registered in urban districts within 100 feet of any dwelling house; and that the discontinuance of any one already existing shall be ordered on the certificate, either of the medical officer of health that it is injurious to the health of human beings residing near it, or of the veterinary inspector that it is not a place wherein cows ought to be kept for the purpose of milk supply, and that it is incapable of being made so.

12. That the conditions of the attached cowsheds that shall warrant the registering of a dairy in a populous place, whether technically urban or rural, in the future shall include the following :—

1. An impervious floor.
2. A sufficient water supply for flushing.
3. Proper drainage.
4. A depot for the manure at a sufficient distance from the byres.
5. A minimum cubic contents as regards such districts of from 600 to 800 feet for each adult beast varying according to the average weight of the animals.
6. A minimum floor space of 50 feet to each adult beast.
7. Sufficient light and ventilation.

While we have prescribed a minimum cubic contents and floor space without mentioning definite dimensions affecting ventilation and lighting, we are distinctly of opinion that these are by far the most important, and that requirements as to cubic and floor space are mainly of value as tending to facilitate adequate movement of air.

Existing cowsheds should be obliged to conform to the prescribed regulations within a period of twelve months from the time of the regulations coming into force.

13. The same conditions as those recommended for populous places should apply to cowsheds in sparsely populated places, except in so far as cubic contents per cow are concerned; as regards these cubic contents, such space per cow should be provided as would, in view of the surrounding circumstances, secure reasonable ventilation without draught. But the physical circumstances prevailing in different localities being so various, we do not find it practicable to prescribe uniform minimum requirements in this respect.

14. We recommend that where cows housed in one district supply milk to another district, the local authority of the district in which the cows are housed shall be bound, when required, to supply to the local authority of the district in which the milk is sold or consumed full information and veterinary reports regarding the condition of the cows, byres, &c., whence the milk is drawn. Where the local authority of one district are dissatisfied with the reports so obtained, they may apply to the Local Government Board, with a view to an independent inspection and report being made.

F.—ELIMINATION OF BOVINE TUBERCULOSIS.

15. We recommend that funds be placed at the disposal of the Board of Agriculture in England and Scotland, and of the Veterinary Department of the Privy Council in Ireland, for the preparation of commercial tuberculin, and that stockowners be encouraged to test their animals by the offer of a gratuitous supply of tuberculin and the gratuitous services of a veterinary surgeon on certain conditions.

These conditions shall be—

- (a.) That the test be applied by a veterinary surgeon.
- (b.) That tuberculin be supplied only to such owners as will undertake to isolate reacting animals from healthy ones.
- (c.) That the stock to be tested shall be kept under satisfactory sanitary conditions, and more especially that sufficient air space, ventilation, and light be provided in the buildings occupied by the animals.

16. We recommend that the Board of Agriculture in England and Scotland and the Veterinary Department of the Privy Council in Ireland undertake the circulation among agricultural societies of instructions for the proper use of the tuberculin test, with explanation of the significance of reaction, and directions for effective isolation of reacting animals.

The Commission desire to place on record their sense of the services rendered by their Secretary, Mr. T. M. Legge, whose professional knowledge has rendered him of

great assistance in the inquiry, while his acquaintance with French and German has enabled him to translate for the use of the Commission a large number of valuable reports, returns, and other documents in these languages, and to conduct an extensive correspondence with continental authorities.

All which we humbly submit to Your Majesty's gracious consideration.

(Signed) HERBERT MAXWELL,
Chairman.

RICHARD THORNE THORNE.

G. T. BROWN.

HARCOURT E. CLARE.

SHIRLEY F. MURPHY.

JOHN SPEIR.

THO. COOKE-TRENCH.

April 4, 1898.

T. M. LEGGE,
Secretary.

Memorandum by Sir Herbert Maxwell, Mr. Harcourt Clare, and Mr. Cooke-Trench.

COMPENSATION TO OWNERS OF CONFISCATED CARCASSES.

While we are in complete accord with all our colleagues on every point, save one, in the Report which we have signed, we feel compelled to dissociate ourselves from their finding in respect to the claim for compensation made on the part of the butchers for carcasses seized and condemned for tuberculosis.

Very early in the course of our inquiry we were made aware of the intense feeling of dissatisfaction prevailing in the meat trade on account of the seizure and condemnation of carcasses affected with tuberculosis, and the claim for equitable compensation was strongly pressed, both on behalf of the National Federation of Butchers and also of the Central and Associated Chambers of Agriculture. Out of 54 witnesses formally summoned before us only one expressed an opinion unfavourable to compensation, and nearly everyone advocated it. Ten witnesses advocated compensation from Imperial funds, six out of local rates, and one a division of the burden. In addition to the evidence formally laid before us, we encountered a strong expression of opinion, in whatever part of the kingdom we visited, in favour of compensation.

It has been shown to our satisfaction that it is impossible to detect the presence of limited or localised tuberculosis in the living animal from its outward appearance. Even when generalised—that is, when it exists to an extent which may justify the condemnation of the carcass after slaughter—the animal may betray no outward sign of disease. Those of Your Majesty's Commissioners who visited Antwerp last April saw the freshly killed carcass of a remarkably fine Zeeland cow, which, while alive, seemed in perfect health, fat, and with her coat in fine condition. When slaughtered it was found that the pleura and internal organs, the post-pharyngeal glands, &c., were extensively affected, and the whole carcass was condemned. Under the Belgian law the owner of this animal would receive half its value in compensation; under the German practice, probably, the meat would have been sent to the Freibank, after sterilisation of the worst portions. Even the tuberculin test is incapable of being applied in market, and when applicable is of no value in ascertaining the *extent* to which a live animal is tuberculous; reaction is the same whether the disease be in a single organ or generalised.

There is an important qualification to the claim advanced for compensation, namely, that it was made, by most witnesses, only in respect to the price paid above a fixed minimum, and below a fixed maximum. Mr. Field, M.P., President of the National Federation of Butchers, and speaking on behalf of that body, disclaimed any proposal for compensation for an animal for which less than 8*l.* or more than 30*l.* had been paid. The former price is taken as the minimum at which a wholesome beast is likely to be sold, and the federation "do not see the necessity of protecting a class of men who want to realise money out of the sale of diseased meat." Neither is compensation claimed in respect of what may be paid above the general market value for fancy animals. In those instances where traders have formed an insurance fund on a mutual basis, against losses by confiscation, some such minimum limit of price has been adopted. In the Mutual Aid Association of the butchers of West Hartlepool, which may be taken as typical of this kind of insurance, no compensation was paid for a cow for which less than 10*l.* had been paid, nor for a heifer for which less than 8*l.* had been paid.

We are aware that, in so far as this claim for compensation for carcasses confiscated for tuberculosis is based on the analogy of compulsory slaughter and compensation under the Diseases of Animals Act, the cases are not parallel. There is no compulsory notification required in cases of tuberculosis; neither is there compulsory slaughter. The presence of generalised disease, though it may be beyond the power of either buyer or seller to detect it, may be regarded as an ordinary trade risk. But there is this important consideration to be kept in view. If any party to the transaction can be held responsible for the presence of the disease, it is the farmer or grazier who exposes the animal for sale. But there is no power to seize the animal during life, even if it exhibits clinical symptoms of advanced tuberculosis. It is not till the animal has been sold to a butcher, perhaps in perfectly good faith on either

Field, 350.
Ackers,
4628-9.
Chalmers,
3635.

Field, 593.

Ib., 531.

Wiley, 4544.

side, killed, and exposed as meat, that an inspector may seize it. Then the loss falls entirely on the butcher.

The Isle of Man Butchers' Association have adopted the rule of demanding from the vendor of every animal a warranty that it shall pass the medical officer of health after slaughter, whereby the incidence of loss, in the event of confiscation, is transferred from the butcher to the farmer or other person from whom he buys the animal. But, for the reasons explained above, this can be but a blind warranty where there are no outward symptoms of the presence of tuberculosis, and forms a very serious disability on a home industry in competition with a foreign one.

We consider, therefore, that, for the present, compensation should be paid for carcasses confiscated for the presence of tuberculosis, subject to the magistrate who orders the confiscation being satisfied that the animal while in life had a good appearance, was well nourished, and exhibited no clinical evidence of tuberculosis; subject also to a maximum and minimum limit of price. We feel that it would not be possible to fix such prices permanently, having regard to the fluctuations of the cattle and meat market. We would suggest, therefore, that the minimum price, below which no compensation should be paid, as well as the maximum sum to be paid in compensation, even if less than the price paid for the animal confiscated, should be fixed in each year by the Board of Agriculture.

The risk of collusion between buyers and sellers of inferior stock has to be taken into account, whereby an artificial price might be nominally given, sufficient to bring animals within the limits of compensation, but the necessity for satisfying the magistrate as to the good condition of the animal as a preliminary to any award of compensation would probably act as a safeguard in this respect.

We are of opinion that compensation should only be allowed for a limited period, dating from the time when measures are adopted, as we hope they will be adopted, for the elimination of tuberculosis from our herds. Believing, as we do, that the disease is one that may be almost completely eliminated, or, at least, that it may be put in the power of stockowners to reduce it very largely by rational precautionary measures, the necessity for compensation will cease when it is in the power of each man to protect himself against serious loss. Scientific knowledge of the character of the disease is so recent that the ordinary agriculturist cannot be blamed for its prevalence in his stock; it seems, therefore, equitable to protect him against being made the scapegoat of the general ignorance which prevailed till recent years. But as soon as the proper treatment and precautions have been formulated it will become his duty, as well as his interest, to put himself beyond risk of loss by confiscation. The butcher will then be able to protect himself by purchasing those animals only which have stood the recognised test.

There still remains the important question from what funds—Imperial or local—is compensation to be paid? We do not think that the whole burden should be thrown on the rates of the place where the animal happens to be slaughtered. For instance, if a cow from Ayrshire is confiscated in Carlisle, it seems hard that the ratepayers of that town should be called on to compensate the butcher, while the Ayrshire vendor pockets his price. Still, the precautionary seizure has been made in the interests of the ratepayers of Carlisle, not in that of those of Ayrshire. We think that one-half of the compensation awarded by the magistrate should be charged on the rates, and one-half contributed from Imperial funds.

We are very strongly of opinion that, subject to the above-mentioned limitations in price, satisfaction of the magistrate as to condition previous to slaughter, and, above all, more discriminating and uniform standard of inspection, the compensation paid for meat seized on account of tuberculosis would amount to a very trifling sum in each year.

Upon the grounds described above, we desire to express our dissent from the opinion adverse to compensation contained in the Report, and to make the following recommendations:—

D.—COMPENSATION FOR CONFISCATION.

We recommend that the owner of a carcass confiscated and destroyed wholly or in part by order of a magistrate on account of tuberculosis shall receive full compensation and repayment of the amount paid by him for the animal, provided—

- (a.) That the magistrate ordering confiscation shall satisfy himself that the animal had a good appearance before slaughter, was well nourished, and exhibited no visible signs of tuberculosis.

- (b) That no compensation be paid for any animal for which there has been paid less than a minimum price, to be fixed from time to time by the Board of Agriculture, according to the market values current, nor in excess of a maximum price, to be fixed in the same manner.
- (c.) That no sum shall be paid in compensation except on the order of the magistrate ordering the confiscation of the carcase.
- (d.) That all compensation so ordered shall be charged against and paid by the Council of the administrative County, which shall be entitled to repayment of one-half the amount from Imperial funds.

HERBERT MAXWELL.
HARCOURT E. CLARE.
THO. COOKE-TRENCH.

March 31, 1898.

ROYAL COMMISSION ON TUBERCULOSIS.

R E P O R T

OF THE

ROYAL COMMISSION

APPOINTED TO INQUIRE INTO THE

ADMINISTRATIVE PROCEDURES FOR CONTROLLING DANGER TO MAN THROUGH THE USE AS FOOD OF THE MEAT AND MILK OF TUBERCULOUS ANIMALS.

PART II.

MINUTES OF EVIDENCE AND APPENDICES.

Presented to Parliament by Command of Her Majesty.
1898.



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REPORT

BY THE

ROYAL COMMISSION

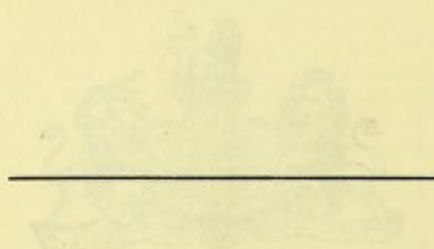
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MINUTES OF EVIDENCE AND APPENDICES

Presented to Parliament by Command of Her Majesty
1881



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MINUTES OF EVIDENCE

TAKEN BEFORE THE

ROYAL COMMISSION ON TUBERCULOSIS,

At 7, Whitehall Place, Westminster, S.W.

FIRST DAY.

Wednesday, 18th November 1896.

PRESENT :

SIR HERBERT E. MAXWELL, BART., M.P. (*Chairman*).

DR. R. THORNE THORNE, C.B., F.R.S.

Professor G. T. BROWN, C.B.

SHIRLEY F. MURPHY, Esq.

T. COOKE-TRENCH, Esq.

JOHN SPEIR, Esq.

T. M. LEGGE, Esq., *Secretary*.

Mr. SAMUEL B. PROVIS, C.B., called and examined.

1. (*Chairman*.) You are one of the assistant secretaries of the Local Government Board?—I am.

2. And you are conversant with the general law as to the public health in England and Wales?—Yes.

3. Are the same statutes as regards public health in force in London as in the rest of England?—No, in the administrative county of London the Public Health (London) Act, 1891, is the statute which regulates matters relating to public health, and in the rest of the country the general statutory provisions are contained in the Public Health Act, 1875, the Public Health Acts (Amendment) Act, 1890, and the Infectious Disease (Prevention) Act, 1890, so far as matters with which the Commissioners are dealing are concerned. Then, perhaps, I should say that the Public Health Act, 1875, is in force throughout the whole of England and Wales outside London, whereas the Public Health Acts (Amendment) Act, 1890, is not so in force. It has to be adopted before it comes into force. It may be adopted wholly or partly by any sanitary authority, and as a matter of fact it has been largely adopted. The same is the case with the Infectious Disease (Prevention) Act, 1890, whereas with regard to the Public Health (London) Act, that is in force through the whole of London without the necessity for any adoption.

4. What regular statutory provisions are in force outside of London regarding unsound meat?—The sections of the Public Health Act, 1875, which relate to unsound meat are sections 116, 117, 118 and 119, and they empower a medical officer of health or inspector of nuisances to inspect and examine meat which is exposed for sale or deposited in any place for the purpose of sale or of preparation for sale and intended for the food of man, the proof that it was not exposed or deposited for any such purpose, or was not intended for the food of man, resting with the party charged, and if the meat appears to the medical officer of health or inspector of nuisances to be diseased or unsound, he is empowered to carry it

away for the purpose of its being dealt with by a justice. Then if the justice finds that it is diseased, or unsound, or unwholesome, or unfit for the food of man, he is to condemn it and order it to be destroyed, or so disposed of as to prevent it from being exposed for sale or used for the food of man, and the person to whom it belonged at the time of exposure for sale, or in whose possession, or on whose premises it is found, is liable to a penalty not exceeding 20*l.*, or, at the discretion of the justices, he may be imprisoned for a period not exceeding three months. There are penalties on persons for obstructing the medical officer or inspector of nuisances in the discharge of his duty, and a search warrant may be granted by a justice on a complaint made by a medical officer of health or inspector of nuisances, or any other officer of the local authority, to the effect that he has reason to believe that there is kept or concealed any animal, carcase, or meat intended for sale for the food of man, authorising him to enter any building, and to search for, seize, and carry away any such animal in order to have the same dealt with by a justice under the provisions of the Act. This is the effect of the provisions in the Act of 1875.

5. And that Act is compulsory in London and not in the country?—It is not compulsory in London; it is in force outside. I am speaking of the provisions in force outside London.

6. (*Mr. Cooke-Trench*.) Throughout the whole of the United Kingdom?—No, only in England and Wales. The Act is not in force in either Scotland or Ireland. Some provisions are made in section 28 of the Public Health Acts (Amendment) Act, 1890, with regard to unsound meat. That section amends the sections which I have read, and extends them so as to deal not only with the articles which are mentioned in those sections, but also to all articles intended for the food of man. Section 28 applies to all articles intended for the food of man, sold or exposed for sale, or deposited in any place for the purpose of sale, or

Mr.
S. B. Provis,
C.B.

18 Nov. 1896.

Mr.
S. B. Provis,
C.B.

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of preparation for sale within the district of any local authority.

7. (*Chairman.*) Then supposing unsound meat has not been seized under section 116 of the Act of 1875, can a justice condemn it under section 117?—He could not under section 117, unless it had been seized under section 116. That was decided in the case of *Vinter v. Hind*; but sub-section 2 of section 28 of the Act of 1890 provides that a justice may condemn any article intended for the food of man, sold or exposed for sale, or deposited for sale, or for preparation for sale, and order it to be destroyed, if he is satisfied of the complaint made to him that it is diseased, unsound, or unwholesome, or unfit for the food of man, although it has not been seized as mentioned in section 116 of the Act of 1875.

8. Supposing a person to be in possession of unsound meat intended for the food of man, can he be convicted under section 117 without exposing it for sale?—Yes, that point came before the court in the case of *Mallison v. Carr*, in which it was held that a person having in his possession unsound meat, intended for the food of man, was liable to be convicted under section 117, although he had not exposed the meat for sale.

9. That is to say, if it were intended for the food of his own family?—There there had been preparation for sale; the man had not himself exposed the meat for sale, but he had got it in his possession, and though there was no evidence to show that he was selling it, he was preparing it for sale; he said he was going to pickle it, and the Court held that that was sufficient, and that he might be convicted.

10. Supposing a farmer were to send unsound meat to a salesman, and the salesman were to refuse to sell it and hand it to the inspector, could the farmer be proceeded against?—No, that point was raised in the case of *Barlow v. Terrett*, and it was decided that, as there was no exposure for sale or deposit for sale or preparation for sale, that the farmer could not be convicted.

11. Then, proceeding under 117, is it necessary to show that the defendant is personally aware of the condition of the meat?—That point also came before the Court in the case of *Blaker v. Tillstone*, and it was held that it was not necessary to show guilty knowledge in order to insure a conviction.

12. Do those sections to which you have drawn our attention apply to milk and its products as well as to meat?—Sections 116 and 117 of the Public Health Act, 1875, apply to milk as well as to meat, but they would not apply to the products of milk, that is to say, butter and cheese, and so forth; but sub-section (1) of section 28 of the Act of 1890 makes sections 116 and 117 of the Act of 1875 apply to all articles intended for the food of man sold or exposed for sale or deposited in any place for the purpose of sale or of preparation for sale within the district of any local authority.

13. Those are the provisions in the country. Now, as to London, can you give the effect of the statutory provisions there?—The statutory provision which applies in London is contained in section 47 of the Public Health (London) Act, 1891, and it generally re-enacts the provisions which are contained in the sections of the Public Health Act of 1875, to which I have already referred, but it makes certain differences. In the first place, the section applies to any animal intended for the food of man which is exposed for sale or deposited for sale or preparation for sale, and of any article, whether solid or liquid, intended for the food of man, and sold or exposed for sale or deposited for sale or preparation for sale. Then a justice may deal, not only with an animal or article seized, but with one liable to be seized; the words "liable to be seized" do not occur in the previous Act. Again, the penalties are heavier; it is 50*l.* or six months imprisonment in London, as against 20*l.* or three months imprisonment in the rest of the country. Then there are also some new provisions which have been inserted in section 47 of the Act of 1891 which are not to be

found in the earlier Acts. Sub-sections (3), (4), and (6) I think are new. Sub-section (3) provides: "Where it is shown that any article liable to be seized and found in the possession of any person was purchased by him from another person for the food of man and when so purchased was in such condition as to be liable to be seized and condemned under this section, the person who so sold the same shall be liable to fine and imprisonment unless he proves that at the time he sold the article he did not know and had no reason to believe that it was in such condition." That is a provision which was not in the previous section. Then, as to sub-section (4), there is an additional penalty on a person convicted. The sub-section provides that, if a person had been within 12 months previously convicted of an offence under the section, the court might, if it thought fit and found that he knowingly and wilfully committed both such offences, order that a notice of the facts be affixed on the premises occupied by him, and direct that he should pay the costs of the affixing of the notice. And sub-section (6) provides that if a person obstructs an officer who is performing his duty under any warrant for entry under the Act, and the court is satisfied that he obstructed with intent to prevent the discovery of an offence under the section, or had within 12 months previously been convicted of obstruction, he shall be liable to imprisonment for any term not exceeding one month in lieu of any fine authorised by the Act for each obstruction.

14. Is there any instance in your knowledge of the notice of a wilful repetition of the offence having been affixed to any premises?—I do not wish you to name the premises?—I believe there have been cases in which that has been required to be done.

15. Have you any other decisions under those sections to which you think our attention should be drawn?—There is one case which, perhaps, is not so important for the purposes of the Commission, but still, I might mention it. It was the case of *R. v. Dennis*, in which it was held that to justify a conviction under sub-section (3), which is one of the sub-sections I read just now in the Act of 1891, the article must be liable to be seized after it has come into the possession of the purchaser, and this would only be so if it was then intended for the food of man. It was a case in which some walnuts were purchased in Covent Garden wholesale, and sold to a man, and there was a notice stuck up in the shop to the effect that if any of the walnuts were found to be bad, it was to be taken to be a condition of the sale that these bad walnuts were to be sorted out and destroyed, and it was held that that notice was evidence for the jury that they were not intended for the food of man, and consequently that there was no offence under the Act.

16. Are there any other points which are of importance?—No, I do not think that it is necessary to mention any.

17. The point in that case was that the vendor had given notice to the purchaser that a portion of the goods were unsound?—That he had given notice that a portion of the goods might be unsound; it was a general notice he put up in the shop.

18. But that is surely a very different thing, giving notice of unsound walnuts to giving notice that meat or milk is unsound?—Undoubtedly; that is why I said that perhaps it was not important for the present purpose; it is quite a different case.

19. Can you give us any idea as to the number of carcasses seized and condemned?—There was a Parliamentary Return issued in 1894, and numbered 485, which gave some particulars on the subject. The summary of the Return gives the number of the carcasses seized during the year ending the 25th March 1893, by medical officers of health and inspectors of nuisances as 3,322; the number of those carcasses which were condemned by justices was 499, and the number of carcasses so condemned in consequence of the animal having suffered from tuberculosis was 155. The number of carcasses condemned, of course, is

small as compared with those seized; the number seized is upwards of 3,000, and the number condemned is less than 500, but it is explained that only a small proportion of the carcasses seized were condemned by justices, because a good many of them were destroyed before being taken before the justices. There are notes to the return to show that that was the case.

20. That is both in town and in the country?—Yes. I can give the figures distinguishing between London and the rest of the country: in London there were 382 carcasses seized, 86 were condemned, and 23 of those were on account of tuberculosis. The rest were in the country.

21. And a considerable number were destroyed without being seized?—Quite so.

22. Does your information show whether those were foreign or native carcasses?—No, it does not show that.

23. Have the Local Government Board any power to deal with this unsound meat?—No, they have not; but they are empowered to prescribe the duties of medical officers of health and inspectors of nuisances. They may prescribe the duties of all medical officers of health, and outside London they may prescribe the duties of inspectors of nuisances if any part of their salary is paid by the county councils; and they have laid down in the regulations which they have issued prescribing the duties of these officers, some rules which have some bearing upon the matter. I will read the rule which is applicable to medical officers of health in urban districts outside London. It says that: "In any case in which it may appear to him to be necessary or advisable, or in which he shall be so directed by the sanitary authority, he shall himself inspect and examine any animal, carcass, and so forth, or any article to which the provisions of the Public Health Act, 1875, shall apply, which are exposed for sale, or deposited for the purpose of sale, or of preparation for sale, and intended for the food of man, which is deemed to be diseased, or unsound, or unwholesome, or unfit for the food of man; and if he finds that such animal or article is diseased, or unsound, or unwholesome, or unfit for the food of man, he shall give such directions as may be necessary for causing the same to be dealt with by a justice, according to the provisions of the statutes applicable to the case." Then, with regard to an inspector of nuisances, it is made his duty "from time to time and forthwith upon complaint to visit and inspect the shops and places kept or used for the preparation or sale of butchers' meat, and other articles to which the provisions of the Public Health Act, 1875, apply, and to examine them, and in case any such article is intended for the food of man, and to be unfit for such food, he cause the same to be seized, and take such other proceedings as may be necessary in order to have the same dealt with by a justice." If he has any doubt in the matter he has to report it to the medical officer of health, with a view to obtaining his advice thereon. There are similar provisions in the regulations applicable to medical officers of health and inspectors of nuisance in rural districts, and in London.

24. Turning to the subject of slaughter-houses, under what general Acts are they regulated?—Under the Public Health Act, 1875, outside London, and in London the Public Health (London) Act, 1891.

25. Can you state briefly the provisions of the Act which apply to outside London?—Section 169 of the Act of 1875 enables any urban district council to provide slaughter-houses and to make byelaws with respect to their management and the charges for the use of them, and they may also regulate slaughter-houses provided by other persons, and for this purpose the provisions of the Towns Improvement Clauses Act, 1847, with regard to slaughter-houses are incorporated with the Act. Then section 170 provides that the owner or occupier of any slaughter-house licensed or registered under the Act shall,

within a month after the licensing or registration of the premises, affix a notice on it to the effect that it is a licensed or registered slaughter-house, as the case may be.

26. Then the provisions of the Towns Improvement Clauses Act as to slaughter-houses were incorporated with the Public Health Act, 1875?—Yes.

27. What was the effect of those provisions?—The sections in the Towns Improvement Clauses Act which relate to the slaughter-houses are sections 125 to 131; they enable the urban district council to license slaughter-houses, they prohibit places from being used as slaughter-houses without being licensed, unless they were in occupation at the time at which the Act came into force, and those slaughter-houses which can be used without being licensed must be registered. They empower the urban district council to make byelaws regulating the licensing, registering, and inspecting of slaughter-houses, for preventing cruelty in them, and for keeping them in a cleanly and proper state, and for removing filth therefrom, and providing proper water supply, and the byelaws may impose pecuniary penalties. On a conviction for disobeying the Act or the byelaws the justices are empowered to suspend or revoke licences of slaughter-houses, or forbid the use of registered slaughter-houses, and there is a penalty for slaughtering cattle during the suspension or after the revocation of the licence. Powers of entry are given for the inspection of slaughter-houses.

28. Is it within the power of the urban district council to grant licences for a limited time?—There was a doubt about that under those sections, but the doubt was removed by the Public Health Acts (Amendment) Act, 1890, and where that Act has been adopted it is provided by section 29 that licences granted after such adoption for the use and occupation of places as slaughter-houses shall be in force for such time or times only, not being less than 12 months, as the urban authority shall think fit to specify.

29. If the occupier of one of these slaughter-houses were convicted of selling unsound meat, I presume his licence could be revoked?—Yes, there is a provision in section 31 of the Act of 1890 that if the occupier of any building licensed to be used as a slaughter-house for the killing of animals intended for human food is convicted of selling or exposing for sale, or having in his possession the carcass of any animal or any piece of meat or flesh diseased or unsound, or unwholesome, or unfit for the use of man as food, the court may revoke the licence.

30. Have urban district councils exercised their powers of making byelaws?—Yes, pretty generally so far as regards private slaughter-houses. In the last five years I find that 200 local authorities have made byelaws as to these slaughter-houses.

31. Do these byelaws require confirmation?—Yes, by the Local Government Board.

32. Is there any general uniformity in them?—The Local Government Board have issued a model series of byelaws on the subject, and that model has been generally adopted. Practically now all byelaws that are made with regard to private slaughter-houses are made upon that model.

33. And then do you find that the urban district councils exercise their powers by providing slaughter-houses?—Not to any great extent. It is difficult to say exactly how many urban district councils have private slaughter-houses, but, according to the Local Taxation Returns for 1893-4, 84 urban district councils had received or spent money during the year in respect of slaughter-houses. That would lead to the inference that that was the number of urban district councils that have provided them.

34. Then as to rural district councils, have they any similar powers to the urban district councils?—The Act of 1875 does not itself give them any power with regard to slaughter-houses directly, but under section 276 of the Act the Local Government Board may confer on a rural district council any of the powers of an urban district council if application is

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made for that purpose, and they have, in a large number of cases, put in force the provisions of the Public Health Act, 1875, with regard to the regulation of slaughter-houses, but they have not conferred on rural district councils the power of providing slaughter-houses themselves.

35. Now as to London; what is the effect of the provisions in force there?—The provisions in London are contained, I think, in sections 19 and 20 of the Public Health (London) Act, 1891. Section 19 prevents any person from establishing anew the business of slaughterer of cattle without the sanction of the county council, who before they give any such sanction, must give notice to the sanitary authority of the district in which the premises are, and also public notice by advertisement, so that opportunity may be offered to persons to state objections. The county council are empowered to make byelaws with regard to the business of slaughterer, and as to the structure of the premises in which the business is carried on. Further, section 20 provides a person carrying on the business of a slaughterer of cattle must not use any premises in London outside the city as a slaughter-house without a licence from the county council, and, if he does so, he is liable to a penalty. The licence expires on such a day in every year as the county council fix, so that it is only granted, practically, for a limited time. Before an application is made for a licence notice must be given to the sanitary authority of the district in which the premises are situate, and they may show cause, if they wish, against its being granted. The sanitary authority have a right to enter into any slaughter-house at any hour of the day, or any hour when business is carried on, for the purpose of examining whether there is any contravention of the Act, or of any byelaws made thereunder. The power with regard to giving sanction for establishing anew the business of a slaughterer and of making byelaws is in the city vested in the Commissioners of Sewers under the 19th section of the Act of 1891.

36. As to dairies and cowsheds and milkshops, they are regulated by the general provisions of the general law, are they not?—They are; section 34 of the Contagious Diseases (Animals) Act, 1878, enabled the Privy Council to make general or special orders for the registration with the local authority of all persons carrying on the trade of cowkeeper, dairyman, or purveyors of milk; for the inspection of cattle in dairies; for prescribing and regulating the lighting, ventilation, cleansing, drainage and water-supply of dairies and cowsheds in the occupation of persons following the trade or occupation of dairyman; for securing the cleanliness of milk stores, milk shops, and of milk vessels used for containing milk for sale by such persons; and for prescribing precautions to be taken by purveyors of milk and persons selling milk by retail against infection or contamination. That power, thus conferred upon the Privy Council by the Act of 1878, was transferred to the Local Government Board by section 9 of the Contagious Diseases (Animals) Act, 1886. In London those enactments do not apply, but the sections are practically re-enacted in section 28 of the Public Health (London) Act, 1891.

37. Can you state what the effect of these orders has been?—The two Orders which are now enforced are the Dairies, Cowsheds and Milk Shops Order of 1885, which was made by the Privy Council, and an amending Order issued by the Local Government Board in November 1886. One object of the Order made by the Privy Council was to require every person who carried on the trade of a cowkeeper, dairyman or purveyor of milk to register his name and address with the local authority. The local authority were required to register every such person.

38. Who are the local authorities for the purpose of this Act?—They are now the urban and rural district councils, and in London outside the city the county council, and in the city the common council.

39. They are empowered to make regulations?—Yes. Perhaps I ought to say, before leaving the subject of the Order made by the Privy Council, that it dealt not only with the registration, but also with the construction and water supply of new dairies and cowsheds; it required that all dairies and cowsheds should have proper lighting, ventilation, drainage and water-supply. It contained certain regulations intended to prevent the contamination of milk, and it authorised the local authorities to make regulations on the same subjects, except registration, as are dealt with in the Order of the Privy Council.

40. And then as to the object of the Order issued by the Local Government Board in 1886?—Some question was raised after the law was altered in 1886, and after the powers had been transferred from the Privy Council and the local authorities under the Contagious Diseases (Animals) Acts to the Local Government Board and the local authorities under the Public Health Act, whether there was any power to recover penalties for a breach of the Order of the Privy Council of 1885, and the Order of the Local Government Board removed that doubt, and made it clear that the penalties could be recovered.

41. Do they make such regulations?—Regulations are made by the local authorities.

42. Do they require confirmation by the Local Government Board?—In London they do. They are made exactly in the same way as byelaws; in fact, they are byelaws; but in the rest of the country the regulations made by the local authority do not technically require confirmation by the Local Government Board. They are required to send to the Local Government Board a copy of any regulation before it comes into operation, and if at any time the Board are satisfied on inquiry with respect to any regulation that the same is of too restrictive a character, or otherwise objectionable, and they direct revocation thereof, the regulation is not to come into operation, or will cease to operate, as the case may be. Therefore, although the regulations do not require confirmation by the Board, the Board may require them to be revoked.

43. Have they exercised that power of veto?—They have not. What has happened in practice is this: that the local authorities have sent up drafts, in most cases, of their regulations, and the Board have pointed out objections to them, and they have been modified in order to meet the objections. The Board have not, in any case, felt so strong an objection to a regulation as to exercise their power of working it.

44. Is there much variation in those regulations?—Some models have been issued, not by the Board, but by the publishers of Local Government books and papers, relating to these models, which have been founded upon series approved by the Board, are now usually adopted, so that now some uniformity is attained.

45. There is not much danger of a man transgressing unawares?—Although there are variations in detail as to what is required, the regulations are pretty much formed on the same lines. A man would no doubt have to get information himself as to what were the particular regulations in force in the district.

46. For example, they prescribed the cubic area for each cow?—He must ascertain if this was prescribed.

47. Is that uniform?—No, it varies a good deal. It is not easy to say precisely what is the rule in all cases, without going through the whole of the regulations, and I may say that nearly 1,000 authorities have made regulations under the Order since the transfer of the power to the Local Government Board, but a certain number of regulations have been examined—about 20 in each year—which have been sent up in each year since the powers were transferred to the Board in 1886, and this is the result. With regard to the cubic space, in 88 cases 800 cubic feet per cow is required; in one case 700; in two cases 650; in 17 cases 600; in nine cases 500; and in six cases 400 cubic feet. It would appear that in about

half the cases, or rather less, the local authorities have not made any regulations requiring cubic space.

48. In the absence of any regulations, a cow may be stowed anyhow?—Yes.

49. Quite irrespective of any cubic space?—Yes, subject to Article 8 of the Dairies, Cowsheds and Milkshops Order of 1885, which prohibits a cowkeeper or dairyman from occupying a dairy or cowshed, if the lighting and ventilation, including air space, and the cleansing, drainage, and water supply are not such as are necessary and proper for the health and good condition of the cattle.

50. That is not the case in London, is it?—The London regulations prescribe that "In every cowshed there shall be sufficient air space for the health and good condition of the cattle therein, *i.e.*, there shall be for each animal kept in a separate stall a superficial space of at least 8 feet by 4 feet, and for two animals kept in one stall a superficial space of 8 feet by 7 feet, and there shall be an air-space of at least 600 cubic feet in respect of every animal kept in a cowshed, where, taking into consideration the position and construction of the shed, there are perfectly satisfactory means of ventilation; but in other cases there shall be an air-space of 800 cubic feet in respect of every animal kept, and in any case the height of the shed in excess of 16 feet shall not be taken into account in estimating the air space."

51. (*Dr. Thorne Thorne.*) What was the date of that?—That was the 3rd July 1885.

52. Before the constitution of the county council?—Yes.

53. (*Chairman.*) Can local authorities prescribe any floor space?—The Board are advised that they cannot; that they can only require cubic space.

54. Have they any power to inspect dairies for the purpose of the various orders and regulations under it?—Yes, power is given under section (4) of the Contagious Diseases (Animals) Act, 1886; they have similar powers of inspection for this purpose as local authorities have for the purpose of examining into nuisances under the Public Health Act, 1875. Then there is also a provision in section 4 of the Infectious Diseases (Prevention) Act, 1890, which provides for the inspection of the dairies in certain cases. That section, which I may say is also re-enacted in section 71 of the Public Health (London) Act, 1891, so far as London is concerned, provides that in case the medical officer of health has evidence that any person in the district is suffering from infectious disease attributable to milk supplied from a dairy within or without the district, or that the consumption of milk from the dairy is likely to cause any infectious disease to a person in the district, he may, if he is authorised by a justice's order, inspect the dairy, and if accompanied by a veterinary inspector or some other properly qualified veterinary surgeon, may inspect the animals therein. If he is of opinion that infectious disease is caused from consumption of the milk supplied therefrom he is to report to the local authority, and that report is to be accompanied by any report of the veterinary inspector or surgeon, and the local authority may then serve on the dairyman notice to appear before them to show cause why an order should not be made requiring him not to supply milk in the district till the order has been withdrawn by the local authority, and if he fails to show cause, the local authority may make an order for that purpose.

55. Has your Department any suggestions to make as to the amendments on the dairies order?—I am not in a position to say that the Department will make suggestions for its amendment. They have received some suggestions for amendment from various bodies. For instance, several county councils have suggested that a uniform standard of cubic space would be required; and the London County Council have suggested that a new order should be issued altogether as regards London, superseding the Order of 1885, and that a variety of amendments should be

made if that course is adopted. One of the most important of their suggestions is that Article 15 of the Order of 1885, which prohibits the sale of milk of a diseased cow, if the cow is suffering from certain diseases such as cattle plague, should be extended to cases in which the cow may be suffering from any disease.

56. (*Dr. Thorne Thorne.*) May I assume that I am right in this: that a farmer knowing that a bullock is suffering from tuberculosis as the result of the tuberculin test can send that animal for sale and cannot be proceeded against, whereas the salesman buying the same bullock, without the knowledge that it has tuberculosis, is liable to be proceeded against for selling it in turn?—If he did not himself sell it, the farmer would not be liable, I think.

57. Then may I ask whether, as regards food supplies—for farmers do not often sell bullocks for any other purpose—there is any other article of food in the same position in which the original vendor is protected in that way?—The provisions in the statute are the same with regard to other articles of food as they are with regard to meat; there is no difference between the meat and the other articles of food.

58. They are all alike in that respect?—Yes.

59. The original vendor who does not actually expose it for sale is free just in the same way as the farmer?—Yes.

60. My main reason for asking is the result that would fall upon the farmer who used the tuberculin test, but he is free?—Yes.

61. Then you were explaining to the Chairman that a large number of the carcasses seized both in London and in England and Wales, after being exposed for sale for the purpose of food, were destroyed, and at one time you said, without being taken before the justices, and on another occasion without being seized?—I ought to have said without being taken before the justices.

62. They were seized?—They were seized.

63. Then there is a discretion on the part of the person who seized; and may we assume that in all those cases the person who exposed the carcasses for sale thought it better not to go before the justices, and accepted destruction instead?—That would be a fair inference.

64. With regard to the byelaws that can be made under the Public Health Act of 1875, for the control of slaughter-houses, I notice that you made no reference whatever to diseased meat being in slaughter-houses; is there no reason—there is nothing in the byelaws, or you made no reference to it—why diseased meat should not be there?—There is nothing in the byelaws on the subject, but there is a provision in section 131 of the Towns Improvement Clauses Act to the effect that the inspector of nuisances or the medical officer of health may at any reasonable time inspect any building used for the sale of butcher's meat or for slaughtering cattle, and examine whether any cattle, or the carcass of any cattle, is deposited there. If the officer finds any cattle, or the carcass or part of the carcass of any beast, which appears unfit for the food of man, he may seize and carry the same before a justice. The justice must forthwith order the same to be further inspected and examined by competent persons, and if necessary to be destroyed. Provision is also made for penalties. It was considered that, looking to that provision, and also looking to the provision with regard to dealing with unsound meat in the Public Health Act, it was unnecessary to deal with this matter in the byelaws.

65. Is there not something else there with regard to diseases that are included in the Contagious Diseases (Animals) Act; are they prohibited from being taken to slaughter-houses at all?—Under the byelaws?

66. No?—Under the Contagious Diseases (Animals) Act?

67. Yes?—I rather think there is a provision, but I am not familiar with these Acts.

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68. Anyhow it was assumed that the provisions which do exist were sufficient, and hence nothing was put in?—That is it.

69. You say that 84 urban district councils have provided public slaughter-houses, can you say in what year they provided them?—I said that 84 urban district councils are believed now to have them. I do not know within what period they have been provided.

70. What is the number of urban district councils in England and Wales?—There are 1,083 urban district councils.

71. Could you give the Commission any reason why the number of public slaughter-houses is so infinitesimally small?—I suppose that as there are in most places private slaughter-houses the demand for public ones has not been felt, and, therefore, the urban authorities have not considered it necessary to make provision for that purpose. I do not know of any other reason why they should not have done so.

72. I suppose at present there is no system of compensation with regard to private slaughter-houses that would be closed by the construction of a public one?—No, none at all.

73. Would that in any way influence the question?—Even if they provided public slaughter-houses that would not *ipso facto* close the private ones.

74. Not *ipso facto*?—They could refuse to license any fresh ones. I may perhaps say that there is reason to suppose that the local authorities who have provided public slaughter-houses make a profit by them, because I find that whereas during the last five years urban authorities spent on slaughter-houses, apart from loans, 88,000*l.* they received 112,000*l.* in respect of slaughter-houses.

75. You said, I think, that no regulations as to dairies and cowsheds have ever been revoked by the Board?—Do you mean by the Board?

76. By reason of their being faulty in the estimation of the Local Government Board?—Yes.

77. May I ask if it is the practice of the Local Government Board in sanctioning a byelaw as to cubic space to take no account either of floor area or of wall space per cow?—The view of the Board would undoubtedly be that a regulation should be made requiring cubic space, but their position is this, they could only disallow a byelaw which they considered to be wrong; they cannot require a local authority to make a regulation if the local authority does not choose to do it.

78. As regards the metropolis, I may assume then that since the regulations of 1885, which I believe were made by the Metropolitan Board of Works, account is taken of superficial area; but that so far as the provinces are concerned they are actually behind London of even 11 years ago?—So far as superficial space is concerned that would be so.

79. But the Board, I may take it for granted, know that cubic space apart from floor area and wall space may be utterly valueless?—No doubt.

80. May I ask your opinion on section 4 of the Infectious Diseases Prevention Act for a moment. Would the inspection of a tuberculous cow, for example, which the medical officer may make if accompanied by a qualified veterinary surgeon, in your opinion justify his taking a sample of milk for microscopical or bacteriological examination?—I do not remember the point having come before me, but I should have thought not, that he was only empowered to inspect, that he had no power to take milk for purposes of examination.

81. If he made an examination at all it would be purely a physical one of the cow?—Yes.

82. The suggestions that you named which have been made to the Local Government Board with regard to the amending of regulations as to the dairies include one, I remember, in which it was stated that the regulations affecting such diseases as cattle plague should be extended to diseases other than those named in the Contagious Diseases Animals Act?—Yes.

83. What would be the effect of that with regard to tuberculosis for example?—Well, it turns on Article 15 of the Order of the Privy Council of 1885, which provides that if at any time a disease exists amongst the cattle in a dairy or cowshed, or other building or place, the milk of the diseased cow therein shall not be mixed with other milk, and shall not be sold or used for human food, and shall not be sold or used for food of swine, or other animals, unless and until it has been boiled. That regulation at the present time only applies if the cow is suffering from a disease as defined by the Order, *i.e.*, cattle plague and some other diseases. If the regulation was made to apply to a cow suffering from any disease, say, from tuberculosis, the result would be that the milk from a cow suffering from such disease could not be sold.

84. Then if a farmer or a dairyman were to use the tuberculin test and found that, say, 30 per cent. of his cows had tuberculosis in the most trivial degree—one nodule, we will say, in the lung—would he be prevented from selling that milk?—He could not sell it for human food.

85. Do you think that such a modification is desirable, because there is a good deal of demand that tuberculosis should be placed upon the same footing as the other diseases named in the Contagious Diseases (Animals) Act?—How far that would be reasonable is hardly a question on which I could express an opinion, but, of course, there would be a good deal of opposition to a regulation of that kind.

86. Well, then, I will put it in this way: Accepting the conclusion arrived at by the previous Commission on Tuberculosis that a small amount of tuberculosis in the lung is no reason why the milk should be tuberculous, do you think such an addition would be reasonable?—No, I do not think it would.

87. (*Mr. Murphy.*) In continuation of Dr. Thorne's question, I suppose it might be possible in an order to provide for some definition of the word disease that would specify, say, a disease of a particular part of the body?—No doubt the word disease, if used without any definition at all, would apply generally, but, of course, it would be possible to limit it.

88. But it might possibly be limited to the disease of the udder and enable a distinction to be made of the milk of an animal that may have tuberculosis as shown by the tuberculin test, but which has no disease of the udder as far as a physical examination could show?—I do not think that there is any legal difficulty in framing an order limited in some such way.

89. Might I ask a question about section 71 of the Act of London as to the inspection of dairies where there is disease?—Certainly.

90. If a medical officer of health and veterinary surgeon inspect the cattle without the order of a justice, but with the consent of the dairyman, would any subsequent action be valid if the authority proceeded upon their report, or does it make it necessary that an order from a justice should be obtained; in fact, is not the "order of a justice" inserted there to provide for cases where the dairyman is unwilling?—The object, I should think, was to give a medical officer of health power to go in, although the occupier was unwilling to admit him, and, therefore, an order of justices was to be obtained in order that he might have a right to enter. But the section says "and if on such inspection," and the question is whether that means an inspection by a medical officer of health, or an inspection which is authorised to be made by an order of justices. I should be disposed to say the latter, although the intention may have been that the section should apply if the officer inspect, although without an order from the justices.

91. About the seizure of live animals unfit for food, how far is that provided for?—There was a decision, I think, that the sections of the Public Health Act relating to diseased food should apply to live animals.

92. I notice a difference between the Act of 1875 and the London Act of 1891. The 1875 Act contains

the words "any animal carcase," and in the London Act the word "carcase" is omitted?—The London Act was intended to take in all that was covered by the Act of 1875, as amended by the Act of 1880, and, of course, to be wider than the Act of 1875. But it was held that the Act of 1875 applied to the live animals. There was a decision of a Recorder—I think in a case of *Moody v. Leach*—in which it was held that section 116 of the Public Health Act applied to live animals.

93. That would be live animals deposited in some place for sale?—Yes.

94. That would govern the condition?—Clearly so.

95. Is there any power, say, to a medical officer or a sanitary inspector to examine meat or an animal in process of conveyance through the district, if it is suspected to be intended for the use of food?—No, I think not.

96. There is a power under the Sale of Food and Drugs Act by which milk arriving at a railway station can be sampled?—Yes.

97. But there is no corresponding power with regard to meat?—No, I think not.

98. Then as to the power to provide public slaughter-houses; there is a provision in the Contagious (Animals) Act of, I think, 1886, section 10?—Yes.

99. The local authority in London, under that Act, would be now, in the City, the Corporation, and outside, I take it, the London County Council?—Yes.

100. Might that be held to give the London County Council the power to provide public slaughter-houses for the general use of animals of all kinds, whether foreign or not?—I am not aware whether the question has ever been raised, nor is it one that the Local Government Board would have anything to do with. It would arise under the Contagious Diseases (Animals) Act, and so would seem to be a matter for the Board of Agriculture, and, therefore, you will excuse my expressing an opinion upon the question.

101. With regard to the regulations made by sanitary authorities outside London, particularly that one of cubic space, there is no power for a county council to supersede authorities that fail to make a byelaw, such as exists in London?—None at all.

102. (*Mr. Cooke-Trench.*) I think you have stated that the evidence you have given hitherto has referred exclusively to England and Wales?—Exclusively.

103. Are you able to give the Commission any information as to the state of the law in Ireland and Scotland?—No. The English Local Government Board have no jurisdiction whatever with regard to these matters in Scotland and Ireland.

104. (*Mr. Speir.*) What is the difference between the English and Irish and Scotch Acts?—I am afraid I cannot answer that.

105. Not in a general way?—I am not familiar with the Scotch and Irish Acts.

106. You referred to the walnut case in which by the simple notice a few walnuts might be rejected; but in the case of a farmer who had a bullock with a broken leg, he would have it slaughtered in the usual way, and on sending it for sale it would be inspected by the local authority, and if on inspection that animal was condemned, would be liable to prosecution?—Do I understand that the case would be this, that a farmer was sending meat to be sold?

107. Yes, to be sold?—But not himself selling it?

108. To be sold by a meat salesman. What would happen in that case?—I do not think he would be liable; he would not then be selling the food himself.

109. Well, then, if I were to mention to you that cases in Scotland have repeatedly occurred where carcasses have been seized in transit, say, at a railway station, would you consider that the farmer was justified there in not being prosecuted?—I am not familiar with the Scotch Act, and I can hardly answer that question.

110. Well, that seems to me to be a case very similar to the walnut one. The farmer may have no

special knowledge himself, and he leaves it to the inspecting authority to say whether the carcase is considered sound or not?—The Acts may be different in Scotland. I do not think I can say how far a decision under the English Acts would be applicable to them.

111. In connection with the same matter you said the inspecting authority, or, at least, the officer, had the discretion, when he seized a carcase, whether he should prosecute or not; are you quite sure that that is correct?—I do not think I said that; I did not intend to do so.

112. I may have misunderstood you; I think you stated that there were some 3,000 and odd carcasses seized?—Yes.

113. Well, only 499 were condemned, and the owners of the others, practically 3,000 and a half, had agreed to destroy them without prosecution. Evidently there the officer had the power of saying: "If you destroy those carcasses you will hear no more about it, but if you do not agree to that I must haul you before the courts"?—We do not know the details of these cases. My statement is taken from a passage in the memorandum in the Parliamentary Return giving particulars with respect to these cases which says, "It will be seen from the above figures that only a small proportion of the carcasses seized were condemned by justices, but the returns in many cases show that the carcasses were destroyed without being taken before the justices and that some of the carcasses so destroyed were those of animals which had suffered from tuberculosis."

114. Would not that appear to give a dangerous power to any officer, which might be abused. You might find a certain person who might continue to send carcasses, which would be dangerous, and he might always rely upon having the power of destroying them himself. Would it not be well that the officer should bring the owner of every carcase, which he considered should be condemned, before the justices?—I do not think that the section requires that in every case in which an inspector of nuisances has seized meat, which appears to him to be unsound, he is bound to bring it before the justices. All that it says is that he may seize and carry it away in order to have the same dealt with by a justice, but there may be cases where after doing that he may communicate with the medical officer of health and they may think that the meat was not unsound. In that case they could hardly be expected to take the case before the justices, who, of course, would decide against them.

115. Well then, in connection with that same subject, when you say that 499 carcasses were condemned, about what percentage is that, because 499 means nothing unless we know the percentage?—499 out of 3,322.

116. That is the number seized; but what proportion is that of the whole carcasses which have passed through?—That is not shown in the return.

117. Well, that means very little to us at all; it is practically speaking the percentage which is the main portion of the information?—The only information is that contained in this Parliamentary Return, and I was merely bringing that before the Commission.

118. Then what power has the local authority in London over private slaughter-houses in the way of inspection; what provision do they make for thoroughly inspecting every animal that passes through a private slaughter-house?—The inspector of nuisances can inspect them.

119. At any time he can inspect; that might mean he might come once a week, or an hour a day, or something of that kind; a very large proportion of the carcasses that pass through the slaughter-houses might never come under his notice at all?—His duty is from time to time to inspect, and if a complaint is made, he is bound to go; otherwise, of course, it would depend upon the instructions given by the local authority.

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120. If he only inspects at particular intervals, I presume the supposition is that a great many carcasses go through without his having seen them there, which might have been found fault with?—That might be so.

121. Would your opinion not be that very much better supervision might be obtained if all carcasses of all animals were slaughtered and killed in public slaughter-houses, where there was an inspector?—Public slaughter-houses are of two kinds; there are public slaughter-houses where the local authority themselves undertake the slaughtering and provide persons for that purpose, and the apparatus and so on; and there are also public slaughter-houses, which are provided by the local authorities, but which are let to the butchers, and the butchers themselves undertake the slaughtering in the slaughter-houses. In the latter case there would be no better security than in the case of private slaughter-houses.

122. But presuming that the local authority provided houses, do you not think that it would be to the advantage of everybody that they should provide proper facilities in the way of butchering at the public expense and let each owner of animals utilise the machinery provided?—Outside London, at all events, it is in their power to do so.

123. Do you not think that it would be better if they were compelled to do so?—I do not know that that is a question on which I could express an opinion.

124. I can readily understand, you can grasp the questions at once, that inspection will be very much more easily accomplished when all the animals are passed through certain slaughter-houses for the supply of a certain district, and under the eye of one or two or more inspectors than in places which may be two or four miles apart?—No doubt.

125. That could be done much more satisfactorily and more cheaply. Are there any difficulties in the way of carrying that out that occur to you?—It would, of course, mean that every district council would be required to provide public slaughter-houses.

126. Yes?—There would be a good deal of difficulty in that, in their being compelled to provide slaughter-houses.

127. Where would the difficulty be?—They would object.

128. In what way?—They would object to the cost.

129. But could the slaughter-houses not be made to pay their way?—There are already slaughter-houses in most places, and it would not necessarily follow that people would come to the public slaughter-house rather than to the private slaughter-house. If you go on to say that private slaughter-houses are to be closed, then would come in the question of compensation.

130. That has already been attained in Prussia and Norway. Could not you adopt the same thing here and make it compulsory for all local authorities to provide slaughter-houses with proper machinery for disposing of the carcasses, and compel all cattle to pass through those after a certain time, giving as it were, a certain compensation to the owners of private slaughter-houses if necessary?—Of course, that would be possible, but the difficulty with regard to the compensation would be considerable.

131. Would compensation to a very large extent be necessary, do you think?—I imagine that the owners of private slaughter-houses at the present time would certainly claim compensation.

132. But it is a matter of public health?—Yes.

133. The public demand that all carcasses should be thoroughly inspected, and it is a matter of *l. s. d.* whether you inspect them all in one place or go over a large town for the purpose of doing so. Well, then, I want to know how many rural authorities have taken advantage of the Act in the way of providing public slaughter-houses?—I do not think that any rural authority have provided a public slaughter-house.

134. You said there were only 84 out of 1,083. That seems a very small number. Do you not think it would be advisable to take some power to compel a larger number to take advantage of those facilities?—I am not authorised to express an opinion on the part of the Local Government Board on the administrative question. Of course it would be possible to do that so far as an alteration of the law is concerned.

135. Then in connexion with the Dairies and Cow-sheds Act; have, say, the London local authority power to object to milk coming from some other local authority, which they might consider was detrimental to health?—Section 71 of the Public Health (London) Act, with regard to milk which is dangerous, applies, although the dairy is outside the district. The medical officer could inspect and the sanitary authority could take action.

136. You have said already an inspector had no power for the purpose of making a microscopical examination?—Yes.

137. But if the inspector made application to the local authority, saying, "I have had such and such "milk microscopically examined, and I find that it "contains bacilli of tuberculosis," and he wants power to do so, is there any objection to his doing it?—No, not that I am aware of.

138. With regard to cubic space; in answer to Dr. Thorne, you also said, that any regulation applying to cubic space, if it did not also include floor space, was practically useless and valueless. What would you say with regard to ventilation; might you not have a certain guaranteed area, both floor and cubic, and yet if you had no ventilation you might gain no material results?—Cubic space is required for the purpose of ventilation and health, and it may very possibly be the case that, unless proper arrangements were made, if you had cubic space, it was not sufficient for ventilation.

139. Take the largest building possible, or where the largest cubic space is given, how many hours or how many minutes after you have closed that up do you obtain probably the very worst class of air, unless there is some ventilation?—That is a medical question.

140. Does it appear to you a matter of common sense that ventilation is absolutely important, and more so than floor space or cubic space?—Ventilation is no doubt of importance, and is intended to be secured by these regulations.

141. And the regulations that I have seen make very little provision for ventilation?—Ventilation is one of the matters referred to in the Order of the Privy Council which should be dealt with by regulations.

142. (*Mr. Murphy.*) As to the sanitary inspector, the inspection of meat must be made by a medical officer or sanitary inspector?—Yes.

143. And the sanitary inspector in London must, on his appointment, be required to comply with certain requirements as to his qualification and so on?—Yes.

144. I believe one examining body has been recognised by the Local Government Board?—That is so.

145. In the event of it being thought desirable that the meat inspection should be undertaken by a veterinary surgeon, he would not be able to become a sanitary inspector without complying with that requirement?—That is so; he would be obliged to satisfy the provision of the Act, which says that he must be certified by a body recognised by the Local Government Board, if he is appointed after a certain date, which has now expired.

146. That is under the present law?—Yes.

147. (*Mr. Speir.*) His qualifications as a veterinary surgeon would not qualify him alone to act without some alteration in the law?—That is so.

148. (*Mr. Murphy.*) So that that might tend to prevent veterinary surgeons undertaking such duties unless the examining body were to so arrange the examinations as to meet his particular case?—Yes.

149. (*Chairman.*) Could you give us a summarised statement of the statutory regulations and orders, affecting the sale of milk and meat?—I could give a statement of the material sections. There would be no difficulty in doing that. The regulations are rather more diffident, because of course some of them are byelaws made by local authorities, and they differ, and it would not be practicable to give those.

The witness withdrew.

Mr. THOMAS HENRY ELLIOTT, called and examined.

152. (*Chairman.*) I believe you are secretary to the Board of Agriculture?—Yes.

153. Has your department given much consideration to the subject of tuberculosis in animals?—Yes; the Board have given very careful consideration to the subject of tuberculosis, and that was also the case with their predecessors, the Privy Council.

154. Have you taken any special action in regard to it?—Perhaps it might be convenient to the Commission if, in the first place, I mentioned some of the principal representations that the Board have received, and the action taken upon those representations?

155. If you please?—In 1883, communications passed between the Irish Government and the Privy Council as to the possibility of dealing with the disease under the Contagious Diseases (Animals) Acts, but it was ultimately decided that no action in that direction could properly be taken. In 1885, the Town Council of Hull communicated to the Board a report by their medical officer of health as to the danger attending the sale of the milk and flesh of tuberculous animals, and asked that they might be empowered to deal with such animals under the Contagious Diseases (Animals) Acts. In the same year, the Council of the Association of Municipal Corporations forwarded to the Privy Council the result of certain inquiries which they had addressed to medical officers of health. From those inquiries it appeared that 36 of those officers were of opinion that bovine tuberculosis was infectious, two that it was not, and 33 were unable to express an opinion. Sixty-one of the medical officers considered that the disease was communicable to man by means of uncooked milk, or insufficiently cooked meat, none were of the contrary opinion, and 11 declined to express any opinion at all. The Council subsequently expressed the opinion that if the provisions of sections 116 and 117 of the Public Health Act, 1875, were strictly enforced, the sale of the milk or flesh of tuberculous cows for food would be effectually prevented; but they asked that the definition of "disease" in the Dairies, Cowsheds, and Milkshops Order, which had been issued by the Privy Council in 1885, in the exercise of the powers conferred upon them by section 34 of the Contagious Diseases (Animals) Act of 1878, should be extended so as to include tuberculosis, and they stated that it had been suggested that urban sanitary authorities should be empowered to inspect cowsheds and dairies, and to slaughter tuberculous animals on payment of compensation to their owners.

156. In 1886, I believe, a Contagious Diseases (Animals) Act was passed?—Yes; in 1886 an Act amending the principal Act was passed transferring to the Local Government Board for England, and the Board of Supervision for Scotland, the powers vested in the Privy Council under section 34 of the Contagious Diseases (Animals) Act of 1878 with regard to dairies, cowsheds, and milk shops, the reason being that that section was designed mainly for the protection of public health, and that it was thought that the duties to be performed under the section could be better performed by the Local Government Board, and the Board of Supervision, than by the Privy Council.

157. After that had you any further requests to place tuberculosis under the Contagious Diseases

150. In the case of regulations, you mentioned that you had prescribed forms?—There would be no difficulty in giving the model forms.

151. (*Dr. Thorne Thorne.*) And any definite orders of general application?—Yes. Shall I put in a statement as an appendix to my evidence?

(*Chairman.*) Yes.

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(Animals) Acts?—Yes. In 1886 the Privy Council received representations from the Yorkshire Confederation of Butchers' Associations and the Leeds and District Cow-keepers' Association asking that tuberculosis should be included in the Contagious Diseases (Animals) Acts. In 1887 the Police Commissioners of Paisley asked the Privy Council to so amend the definition of "disease" for the purposes of the Contagious Diseases (Animals) Act as to bring tuberculosis within the provisions of Article 15 of the Dairies, Cowsheds, and Milkshops Order of 1885, but the Privy Council felt themselves unable to accede to this request. At a later date the same Commissioners had an interview with Lord Cranbrook, the then President of the Council, and Lord Lothian, the then Secretary of Scotland, when it was promised that the subject should be referred for consideration to the Departmental Committee which it had been decided to appoint on the subject of pleuro-pneumonia.

158. Was there any special reason which caused the Yorkshire butchers and the Leeds cow-keepers to take action?—The representations from both those bodies were, I think, mainly due to the fact that action had been taken by the public health authorities in their neighbourhood for the seizure of tuberculous carcasses, and they thought that some compensation should be paid for carcasses so seized, and that if tuberculosis could be included in the Contagious Diseases (Animals) Acts, the payment of compensation would be secured.

159. It had no connection with any idea of the communication of tuberculosis to the human subject?—I think they approached the question rather from the point of view of vendors and of distributors than from the point of view of consumers.

160. In 1889, I think, a Departmental Committee was appointed?—Yes, a Departmental Committee was appointed to consider the subject of pleuro-pneumonia, to which, as I have explained, tuberculosis was subsequently added. That Committee was appointed in April 1888, under the chairmanship of Mr. (now Sir Jacob) Wilson, and presented its report in the following July.

161. Did Sir Jacob Wilson's Committee include Scotland?—Yes, Sir Jacob Wilson's Committee included Scotland in its inquiry.

162. Was any action taken by the Board of Supervision in consequence?—The action taken by the Board of Supervision had, I think, no particular reference to the inquiry by the Committee. In May, 1888, much attention had been given by the public health authorities in Scotland to the subject, and the Board of Supervision issued a circular to the public health authorities in Scotland, sending a copy of a report made by their medical officer, Dr. (now Sir Henry) Littlejohn, and calling attention to the importance of a thorough inspection of all the byres or cowsheds in their district, with a view to the enforcement of the provisions of the Dairies, Cowsheds, and Milkshops Order of 1885.

163. I suppose the action of the Board of Supervision was prompted by different motives to those of the Yorkshire Confederation of Butchers' Associations, and the Leeds and District Cow-keepers' Association; they acted entirely in their own interests, but I presume that the Board of Supervision acted in the public interest?—The Board of Supervision acted entirely in the interests of public health.

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164. What were the general recommendations of Sir Jacob Wilson's Committee?—The recommendations of Sir Jacob Wilson's Committee were made under two heads. In the first place the Committee described the nature of the disease, the mode in which the virus or microbe enters the body, the mode of attack and distribution of the disease within the body, and its frequency of proportionate occurrence among animals and men. Then under the head of "Preventive Measures" the Committee made several recommendations. They proposed: (a.) That provision should be made for the improved hygiene of cattle-sheds, &c., especially in the direction of proper ventilation, pure water supply, and the disinfection of stalls, &c., wherein tubercular animals have been kept. (b.) That the Dairies, Cowsheds, and Milkshops Order should be more rigorously enforced. (c.) That the veterinary inspectors under the Diseases of Animals Acts should be given more extended powers of entry. (d.) That suspected cases should be isolated. (e.) That precautions should be taken against the flesh or milk of diseased animals being given as food to others. (f.) That fodder, litter, and water should not be taken from one animal or stall and given to another. (g.) That the veterinary inspectors under the Diseases of Animals Acts should be empowered to seize all animals in fairs, markets, or in transit, obviously affected with the disease. (h.) That further steps should be taken for the prevention of the introduction of the disease from abroad. And (i.) That breeding from tuberculous stock should be discontinued. Then under the head of "Extirpation," the Committee recommended: (a.) That diseased animals found on the owner's premises should be slaughtered. (b.) That compensation for such animals should be paid for at the rate of three-fourths of their value to the owner. (c.) That diseased animals exposed in fairs, markets, &c., and during transit should be slaughtered. (d.) That diseased foreign animals should be seized and slaughtered at the place of landing. And (e.) That notification of the disease should not be compulsory.

165. Then there was a supplementary report, I think?—Yes; Professor Victor Horsley, who was a member of that Committee, presented a supplementary report, in which he recommended that breeding from tuberculous stock should be made a penal offence, and that notification of the disease should be compulsory.

166. Was any action taken by the Legislature or Government in consequence of that report?—Some of the recommendations entailed legislation, and others fell within the province of the Local Government Board as the central authority in matters concerning the public health. The remainder received full consideration at the hands of the Privy Council and various draft Orders were prepared, but it was eventually decided to take no action in the direction proposed by the Committee.

167. Why do you suppose that was?—Some of the reasons for that decision are fully set out in the annual report of the professional officer of the Agricultural Department of the Privy Council for the year 1888. Briefly stated those reasons were: (a.) That tuberculosis was in many cases extremely difficult to detect, and that, therefore a number of diseased animals would probably altogether escape notice. (b.) That there were several other diseases which might readily be, and in fact were, constantly mistaken for tuberculosis. (c.) That tuberculosis existed in certain pedigree herds, and that consequently many valuable animals would fall under suspicion which could only be verified upon a post-mortem examination. (d.) That the valuation of old consumptive cows and valuable pedigree cattle would present considerable difficulties. And (e.) That the administration of the law relating to foreign animals would be rendered more difficult. Then, in addition, the Privy Council were influenced by the fact that there was not sufficient evidence that stock-owners at that time felt it necessary, or were willing, to suffer the enormous loss and inconvenience which, whatever

might be the system of compensation adopted, would be entailed upon them by anything in the nature of general operations against the disease, or that such operations were essential in the interest of public health. I may say with reference to that last point, that prior to the receipt of the report of the Committee, the representations received by the Privy Council were practically limited to urban sanitary authorities, and to societies and individuals taking special interest in or affected in any way by the administration of the law relating to public health.

168. Was the inquiry of the Committee limited to tuberculosis?—No; the primary object for which the Committee was appointed was the investigation of the subject of pleuro-pneumonia, and tuberculosis was added to the reference subsequently in consequence of the representations of the Paisley Local Authority. I may, perhaps, point out to the Commission, as showing how much more the attention of the Committee was directed to the subject of pleuro-pneumonia than to the subject of tuberculosis, that out of about 9,200 questions addressed to the witnesses in the course of the inquiry, more than 8,000 related to pleuro-pneumonia, and less than 1,200 to tuberculosis; and that out of 44 witnesses examined, 10 only expressed the opinion that tuberculosis should be brought within the scope of the Diseases of Animals Acts. Of these, four were veterinary surgeons, four were members of the medical profession, the remaining two being Professor Carroll, the Superintendent of the Agricultural Department of National Education in Ireland, and Mr. John Speir, who is a member of this honourable Commission. With the exception of Mr. Clement Stephenson, who is not only a veterinary surgeon, but a farmer and breeder of pedigree stock, no English stock-owner gave evidence before the Committee in support of the recommendations eventually made with regard to tuberculosis. On the other hand, both the Inspector and Assistant-Inspector of the Agricultural Department (Messrs. Cope and Duguid) gave evidence adverse to the inclusion of tuberculosis amongst the diseases dealt with under the Diseases of Animals Acts.

169. What was the reception given to the Report of the Committee by agricultural societies generally?—I think I may say that for some time the question was considered by the public health authorities rather than by agriculturists. Subsequently to the Report of the Committee, the Privy Council received various representations generally in favour of its being carried into effect; amongst others from Kinross, Roxburgh, Forfar, Perthshire, Elgin, Paisley, Fifeshire, Glasgow, and Dumfries. Only in the case of Paisley and Glasgow, however, was the subject of tuberculosis specially pressed upon the attention of the Privy Council; and in the case of Glasgow the suggestion was made that there should be some statutory limitation of the amount to be paid by way of compensation.

170. Then in 1889 came the establishment of the Board of Agriculture?—Yes; the Board of Agriculture was established and took over the duties of the Privy Council in September 1889; and in the following spring there was a debate in the House of Commons on the subject of tuberculosis, on the motion of Mr. Lees Knowles, M.P., and a deputation jointly to the then Presidents of the Local Government Board and the Board of Agriculture. That deputation led to the appointment of the Royal Commission of 1890, which presented its Report in April 1895.

171. Your Department has received a number of communications from other public bodies, has it not; by public bodies, I mean societies?—Yes; from public bodies, from societies, and from individuals. During the whole of the period between 1890 and 1895, there was a growing interest in the subject amongst agriculturists and amongst agricultural associations. Prior to 1890, as I have said, the interest in the subject was mainly the interest of

public health authorities, and of those who were affected by the action of those authorities.

172. Did the county councils take any action after their establishment?—Yes; we have had several recommendations from county councils. Possibly it might be of interest to the Commission if I were to describe in groups the representations that we have received. First of all, there have been representations from urban sanitary authorities and societies interesting themselves in public health questions, who desire that further powers should be given by Parliament for the protection of consumers of meat and milk. Then we have, as I have said, received many representations from butchers' trade associations, asking that compensation should be paid for tuberculous carcasses seized by the public health authorities as being unfit for the food of man. Another group of representations which we have received are those from veterinary associations, proposing that further steps should be taken to prevent food derived from tuberculous animals passing into consumption. Then we have received representations from several county councils, and from agricultural associations, especially in Scotland, urging that tuberculous animals should be slaughtered and compensation paid for them. From one county council in Scotland, namely Dumfriesshire, we received a representation declining to join the movement in favour of the slaughter of tuberculous animals and the payment of compensation.

173. Do you gather from the representations laid before the Board of Agriculture, that there is a general feeling in favour of action being taken?—I should certainly say that there is a general feeling in favour of action being taken, but it is somewhat difficult to gather from the representations precisely the action which the memorialists have in view. The terms of some of the resolutions might be taken as suggesting that a serious crusade should be undertaken against tuberculosis, such as was successfully undertaken against cattle plague, foot-and-mouth disease, and pleuro-pneumonia, and possibly against swine fever; but on the other hand it may be that the memorialists contemplate that slaughter and the payment of compensation should be dependent upon a voluntary report by the owner, or that they simply wish that a remedy should be provided against the grievance which is urged by the butchers, namely, that tuberculous meat is seized by public authorities without the payment of compensation. I am informed that many farmers and others dealing in cattle have, in fact, the same grievance as the butchers, because the butcher at times declines to make payment to the vendor for an animal the carcass of which is seized, so that the loss of the butcher is really transferred to the stock-owner, and therefore the grievance of the butcher becomes also to that extent the grievance of the stock-owner.

174. Can you state the general view taken by your Department as to the necessity for attempting to stamp out tuberculosis, and as to the possibility?—I think I should say that even if the adoption of stamping out were necessary, it would not be possible, and that if it were possible, it is not necessary. I think the two hang together. Possibly I might be allowed to put before the Commission the difficulties which we think stand in the way of the adoption of what is called the stamping-out process—and those difficulties are met with at every stage.

175. I suppose the difficulty begins with notification?—Yes. Owing to the character of the disease, it does not appear to be possible to secure that it should be efficiently notified, since many other diseases are accompanied by similar external symptoms to tuberculosis, and in many instances no external symptoms are manifested in stages of tuberculosis during which infection can be conveyed. This difficulty of securing the efficient notification of disease has been seriously felt in connexion with our operations against pleuro-pneumonia and swine fever. We cannot, of course, say in how many cases there has been a failure to notify diseases; but with regard to

the notification of cases in which it has subsequently appeared that the alarm was a false one, I may say that during the years 1891 to 1895 we received 879 reports of pleuro-pneumonia, in only 240 of which was the disease found to exist, and that from the 1st of November 1893 to the 30th September 1896, we received 55,402 reports of swine fever, in only 16,907 of which was the report confirmed; although, of course, the whole of the 55,402 reports had to be investigated and veterinary assistance obtained, and restrictions placed on the movement of pigs just as if the case were a veritable one of swine fever. Between the 1st of November 1895 and the end of September 1896, less than 25 per cent. of the cases that were reported were confirmed, and each report cost us, in round figures, 30s. for the fee and travelling expenses of the veterinary surgeon employed. Of course, if we could be reasonably confident that practically all cases of disease were brought under notice, and that these could be so dealt with as eventually to secure the extirpation of the disease, we might view the expenditure on unconfirmed reports with some degree of equanimity; but we see no hope of this in tuberculosis, for it is estimated that even skilled veterinarians would not be likely to condemn from mere clinical examination even 10 per cent. of the tuberculous animals in the country. I may say, that Professor McFadyen, in his Report to the Royal Commission of 1890, stated that "ordinary clinical examination is almost valueless for the detection of tuberculosis in its early stages;" and, of course, it follows that the ordinary examination which a stock-owner may make of his stock is even of less value than a clinical examination made by a skilled veterinarian.

176. Then you see a difficulty in getting an efficient diagnosis of the disease?—We see considerable difficulty in obtaining anything like an efficient diagnosis, on the ground that it would be attended with enormous difficulty and cost. The number of animals to be tested would certainly amount to hundreds of thousands, and the preparation of tuberculin, which is admittedly now by far the best diagnostic of the disease that is available, is a very delicate process, requiring not only skill in laboratory manipulation, but also the greatest care and attention to details. Then the application of the test requires both skill and time. The temperature of the animal has to be taken before inoculation, and afterwards every four hours for the first 20. We estimate that a veterinary surgeon could not do more than about 60 cattle in a day of 22 hours, and that, of course, is on the assumption that 60 cattle were on the premises to be tested. Possibly the whole of the cattle in Great Britain might be tested at the rate of 2s. per head, and at this rate a sum of 635,000*l.* would be required, with an additional 436,000*l.* for Ireland, if the same basis of calculation is adopted; but I should not like to commit myself to these figures even as maxima, if the system were actually brought into operation.

177. Does your Department hold the obstacles in the way of notification and reliable diagnosis to be insuperable?—Yes, but in any case, notification and diagnosis are only preliminary stages of action. It would subsequently have to be considered what was to be done with the animals which were reported to be diseased, and which, on the application of the tuberculin test, or by any other method of diagnosis, were pronounced to be tuberculous. Two courses alone, so far as I know, have been proposed after the disease has been diagnosed. Those courses are, in the one case, the slaughter of the affected animals, and in the other case, their isolation and subsequent control. The former would involve an enormous and, as the Board think, an entirely unnecessary expenditure, whilst both courses, we think, would entail very serious loss, and in many cases ruin, upon the unfortunate stock-owners.

178. Do you think that when it was resolved to deal with pleuro-pneumonia by stamping out, the risks incurred then, of loss to stock-owners or of

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inefficient inspection and notification, were not so great as they would be in the case of tuberculosis?—I think the different characters of the diseases enabled a course to be taken with one disease which could not possibly be taken with the other; and then the extent to which the diseases have prevailed, and the consequences they entail upon stock-owners are entirely different.

179. It is the case, is it not, that the admitted success which has attended the Department in its efforts to deal with pleuro-pneumonia has been used as an argument for extending those efforts to tuberculosis?—Yes, unfortunately I think that is the case; but it is not sufficiently recognised that our success in pleuro-pneumonia was possible by reason of the character of the disease, and the extent to which it prevailed. It by no means follows where you have a different kind of disease, presenting different symptoms and extending over the country very much more widely, that anything like the same measure of success could be obtained. Again, in the case of pleuro-pneumonia, the cost both to the State and to stock-owners was comparatively small. The latter were induced to put up with the loss and inconvenience to which they were exposed, and the State on the other hand, was willing to make a contribution to the loss. But in the case of tuberculosis we do not think either that the State could find the money or that the stock-owners, on their side, would be prepared to make so enormous a contribution to the cost of stamping out tuberculosis as would be necessary; many of them would undoubtedly be ruined. On this latter point I should like to say that there is no precedent for the payment of full value for diseased animals, and it seems to me unlikely that Parliament would agree to make such a payment. If only one-half value were paid, and if only 20 per cent. of the cows of the country were to react, an estimate which is probably much below the mark, the loss of stock-owners in the value of their stock alone would be, in Great Britain, nearly 4,000,000*l.*, taking the average value at 15*l.* per head, which is approximately the average value paid for compensation in our pleuro-pneumonia work. A similar sum would be required to be found from public sources, less the amount received for salvage. In Ireland the corresponding figure, arrived at on the same basis of calculation, is something over 2,000,000*l.* Nor would this exhaust the burden to be borne by the unfortunate stock-owner. It cannot be doubted that the slaughter of so many of our breeding stock would practically disorganise the whole cattle trade of the country, bring disaster upon the dairy farmer, and throw an even larger share in the trade in dairy products into the hands of the foreigner, and, by enhancing the price of store stock, render the business of graziers and feeders still more unprofitable than it is. Even if the whole value of the slaughtered animals were defrayed out of public funds, an enormous burden of loss would, I believe, still remain to be borne by stock-owners. Then with regard to isolation, which has been suggested as a possible alternative, we believe that this also would be impracticable and disastrous to many stock-owners. A special re-arrangement of the farm buildings would be necessary in many instances, and in many others isolation would be practically impossible. An army of inspectors would be required to see that the arrangements for isolation were properly carried out, and the fact that the animals had responded to the tuberculin test would undoubtedly greatly depreciate their value. Indeed, we doubt whether public opinion would admit of the sale of the carcasses or milk of such animals, in view of the fact that their condition was known to a public authority under whose supervision the test was applied. Then, of course, in addition to the loss and inconvenience which would be suffered by the stock-owners by the slaughter of their herds, they would also suffer a considerable loss and inconvenience by reason of the individual or general restrictions on movement, which we have found it necessary always

to impose in connection with operations against disease, notwithstanding that we well realise that for the time being they do entail much hardship upon the stock-owner.

180. If it were satisfactorily proved to your board that disease was communicated regularly and affected large numbers of the population, owing to the existence of tuberculosis in the herds of this country, I suppose steps of some sort would have to be taken then?—Undoubtedly some action would have to be taken.

181. Have you ever received any evidence or opinions on that subject?—I should say as to the subject of the necessity of any measures, that the board are very much impressed by the fact that from the reports of the Registrar-General it would appear that a steady diminution in the mortality from tuberculous disease amongst human beings is shown. In England and Wales the death-rates are stated to have fallen from 3,240 per million in 1861–70 to 2,420 in 1881–90, and in 1894 the Registrar-General of England reported that the death-rate from phthisis was the lowest on record. The Board consider, in view of these facts, that there is no sufficient reason why so enormous a loss should be thrown upon stock-owners as would be involved in anything like an attempt to extirpate the disease.

182. That is in view of the fact that the consumption of meat and milk by the population is not less than in former years?—We should say that the consumption of meat has undoubtedly increased, and that the deaths from tubercular disease have diminished.

183. Have you any suggestions to make for action that could be taken by individual stock-owners?—I think there is a good deal of evidence to show that, by individual action, owners could do something to protect themselves against the disease, and possibly some advice or instructions on the subject might be issued, either by the Board of Agriculture or by the leading agricultural societies. I may, perhaps, in this connection, direct the attention of the Commission to some recommendations which were prepared by Professor James Law, of New York, in August 1894, and also some directions which were issued by the New Hampshire Board of Cattle Commissioners, in June 1895. If it would be of any service to the Commission I should be happy to put in a copy of those recommendations.

184. If you please?—It might also be desirable that further inquiries should be made by experts as to the effects of tuberculin, and the conditions under which its sale should be allowed. At present, by reason of the unrestricted sale of tuberculin, some dangers to the public do undoubtedly accrue, and it is a question whether the sale of tuberculin should not be brought under regulation. It may, perhaps, be of service to the Commission if I mention some of the points arising in connection with the Public Health Acts, to which the attention of the Board has been directed. There is evidently a strong feeling, both among the veterinary profession and in the meat trades, that the arrangements for the inspection of meat by sanitary authorities might be considerably improved, and the return presented to the House of Commons, in February, 1896, as to the qualifications of the officers employed as meat inspectors, has certainly accentuated this feeling. Considerable complaint also arises by reason of the want of anything like uniformity of action on the part of the public health authorities. I have heard it stated that some years back a fat cow was regarded as being worth 3*l.* or 4*l.* less in the city of Edinburgh than in the neighbouring districts, simply owing to the different methods of inspection adopted. The Board are disposed to think that these complaints of inefficient meat inspection, and of lack of uniformity, might to a considerable extent be obviated if the public health authorities could avail themselves more systematically of veterinary aid. It is to be borne in mind, in this connection, that meat inspection is one of the subjects included in the final examination of candidates for membership of the Royal College of Veterinary Surgeons.

185. In England the Local Government Board attempts to encourage some uniformity in the regulations; is there any corresponding effort on the part of the Board of Supervision in Scotland?—Notwithstanding the steps that have been taken in England—and I think very much the same action has been taken in Scotland as in England—complaints of lack of uniformity of action still continue to be made, and very much more remains to be done before the meat trade would be satisfied on that point.

186. In both countries?—In both countries I think.

187. Do you think it is indispensable that these authorities should have veterinary assistance?—I think it would be most desirable that all the more important public health authorities should have some means of obtaining efficient veterinary assistance in connection with questions upon which veterinary knowledge would obviously be of great value.

188. What has been the most usual action of public health authorities in regard to tuberculosis?—The complaint most usually made has been that carcasses are seized by the public health authorities on the ground that they are tuberculous and unfit for food, and that no compensation is paid for them. It is urged that the butcher, or the vendor of the animal where the butcher transfers the loss to the vendor, is unable to say at the time that the carcass is purchased whether it is tuberculous or not, and that the fact that the carcass is seized and he gets nothing for it is a great hardship. That is a suggestion which undoubtedly has received considerable support amongst agriculturists.

189. Is there any precedent for compensating for the loss of a carcass which has been exposed for sale and proved to be unfit for food?—I am not aware that there is any precedent for the payment of compensation where unsound food is exposed for sale, and the proposal obviously requires very careful consideration at the hands of those engaged in the administration of the Public Health Acts. The butchers themselves appear to realise that its adoption would entail considerable danger of fraud and malpractices, and some suggestions have been made by them as to safeguards which might be adopted. I may perhaps point out that the grievance does not seem to be one of any great magnitude, if one can judge from the returns which have been presented to Parliament for the years 1893, 1894, and 1895. The carcasses seized and condemned on the ground of their being tuberculous have not exceeded a few thousands in number, probably varying in the large towns comprised in the return from about 1,000 to 5,000, so that I think the conclusion to be drawn is that the grievance is one which is felt by a certain number of individuals who happen to have been unfortunate as regards the action of the public health authorities.

190. There was a conference of butchers' associations in Glasgow last year, was there not?—Yes.

191. Did they communicate with you?—They communicated with us. They proposed that in no case should compensation be paid for animals which had been purchased for less than 8*l.*, and that in no case should the payment exceed 30*l.* We had a further suggestion from an official of the Edinburgh cattle market that compensation should only be paid for cattle purchased in the open market or at a public sale, and that only a third of the value should be paid from public sources, the value being certified by the salesman. But, of course, it is for experts in the administration of the Public Health Acts to state whether it would be practicable, and whether it would be of any advantage in the interests of the public health, to give persons inadvertently becoming possessed of tuberculous carcasses unfit for sale as food, some measure of relief from their loss.

192. I suppose the effect of the compensation secured in the case of pleuro-pneumonia has contributed greatly to success in detecting the disease and in dealing with it?—Undoubtedly. Operations such as those we undertook under the Pleuro-

Pneumonia Act would have been practically impossible unless we had to some extent made it worth the while of an owner to notify the existence of disease, taking care, of course, at the same time to prevent the disease from becoming a source of profit to him. In the case of pleuro-pneumonia we undoubtedly did not relieve the owner from the whole of the direct and indirect loss which he suffered by reason of the disease. But there is this difference between the Diseases of Animals Acts and the Public Health Acts, that under the Diseases of Animals Acts we are dependent not only upon the ability of our inspectors to discover the disease, but also upon the system of voluntary notification. Whether the adoption of a similar policy in the administration of the Public Health Acts is necessary or desirable, and whether it is possible or feasible to distinguish between the case of carcasses voluntarily surrendered and those seized, are points which we offer for consideration, but upon which the Board are not in a position to express any definite opinion.

193. Have they any definite opinion on the subject of cows with tuberculous udders; could such cows be put in a different category from ordinary tuberculous animals?—Several local authorities, and I think two county councils, Somersetshire for one, have proposed that this should be done; but the considerations which I have just presented to the Commission with regard to the payment of compensation for meat seized, apply also to animals with tuberculous or diseased udders slaughtered by the public health authorities. It is a question whether the public health would gain by the payment of a limited measure of compensation for animals slaughtered in the interests of the public health.

194. Have you no evidence to show that the contagion is more easily conveyed from such animals, than from animals diseased in other organs of the body?—That is rather a question for scientific experts than for myself, I think; but speaking from my general knowledge on the subject, I should say that there is evidence that animals with tuberculous udders are a special cause of danger as regards the public health.

195. (*Professor Brown.*) I think, from your evidence, it may be perfectly clearly understood that the Board would not be disposed to embark upon an attempt to stamp out tuberculosis?—That is so.

196. And I think I am right in saying that Sir Jacob Wilson's Committee concluded their report on tuberculosis by saying that they had not the faintest hope that the disease would ever be exterminated?—Yes.

197. Since the report of that Committee, knowledge on the subject of tuberculosis, and particularly with reference to its diagnosis, has become very much extended?—Yes, as the Commissioner is aware, at the time that that Committee sat the tuberculin test was not known, and tuberculin had not been discovered; I think tuberculin was discovered about the year 1890.

198. It was about then. One of the difficulties which the Committee had in view would be, at any rate, to some extent, removed?—I do not think the conclusions at which the Department arrived in 1888 have been in any way substantially modified by the discovery of the tuberculin test, or by the extension of knowledge on the subject generally. They still see enormous difficulties in the way of securing notification, in the way of securing an accurate diagnosis of the disease, and, what is of most importance, in the steps to be taken after diagnosis. Probably the only point on which the discovery of tuberculin has affected the decision of the Privy Council is, that by means of the tuberculin test you could, if you had the money and the organisation, more accurately diagnose tuberculosis in the living animal.

199. The question of cost is, of course, an extremely serious one?—The question of cost is a stupendous one.

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200. Is there any calculation in the office as to the amount which would have to be expended in the course, say, of a single year if you were to separate and slaughter the whole of the animals which reacted from tuberculin?—As I mentioned to the Commission, the estimate that we formed of the cost of applying the tuberculin test to all the animals in the country was 635,000*l.* for Great Britain, and 436,000*l.* for Ireland. The amount to be provided annually would depend entirely upon the number of animals coming forward for examination, and the number of animals coming forward for examination would depend upon the course you adopted with regard to notification. If you had compulsory notification and if the obligation were complied with by stock owners, the figures might even in any single year be very considerable indeed.

201. It would still, of course, depend on the stock owner himself as to whether or not he gave notice?—Yes.

202. You would not contemplate, I presume, anything like legislation to enforce the application of the tuberculin test?—The Board of Agriculture do not contemplate any such legislation.

203. Especially in the present state of our knowledge of the subject?—No.

204. Have you any opinion as to a possible medium course, which would include some of the worst cases of cows that are called wasters, for example, so that they might be got rid of as absolutely useless and undoubtedly dangerous animals?—I do not, myself, think that any middle course of that kind would be practicable; nor do I think any special good would be gained, either from the point of view of the stock owner or from the point of view of public health, if such a course were adopted. The expense might well be very considerable, and I do not think that any equivalent gain would result.

205. Taking the question as one chiefly relating to public health, in the event of further legislation being necessary, would it occur to you that the Board of Agriculture should be the body to initiate that legislation?—No, I do not think so. I have a very strong opinion that any legislation proposed in the interests of public health should emanate from the Local Government Board, because any action taken must affect the action of the public health authorities, which are, as the Commissioner is aware, different from the local authorities under the Diseases of Animals Acts.

206. In reference to the suggestion which has been made of something being done in the direction of compulsory isolation of animals, do you think that would be at all practicable?—I do not. The Board have taken some trouble to form an opinion on that point, and I speak with confidence on the subject, especially with regard to England.

207. As a matter of fact, it is provided in the Act of 1894 that people owning diseased animals must practically isolate those animals, and keep them separate and apart from animals not so affected?—Yes, that is, of course, where they are required to do so in order to prevent the spread of any of the diseases mentioned in the Act.

208. But I think it is within the knowledge of the Privy Council and of the Board that that provision of the Act has never been enforced, on account of the impossibility of a man who only has one shed taking the animals from that shed in order to keep them apart from the others which are not diseased?—That is so; and in those cases to which the Commissioner refers, if we made any attempt to enforce the provision, if we were to institute proceedings for a breach of it, the magistrates would probably not convict.

209. So that both in reference to the policy of stamping out, and in reference to the milder course of compulsory isolation, there does not appear to be anything which the Board of Agriculture could very well undertake?—No.

210. There would be a certain amount of awkwardness apparently in making tuberculosis a disease within the meaning of the Act without going some little way further?—Yes; we do not see for what purposes within the Diseases of Animals Acts, as they now stand, we could properly and practically make tuberculosis a disease.

211. So far as the sale of milk is concerned, that so clearly comes within the definition of the Milk Shops and Dairies Order that the Board would not be expected to attempt new legislation in that direction?—No. It rests now entirely with the Local Government Board to determine what definition they will attach to the word "disease" in the Dairies, Cowsheds, and Milk Shops Order. At present that definition follows the definition in the Contagious Diseases (Animals) Acts, but no legislation would be required to enable the Local Government Board to put a different definition upon the term "disease." I mean that if the Local Government Board decide that tuberculosis should be considered a disease for the purpose of the Cowsheds, Milk Shops, and Dairies Order they might order so to-morrow, so far as I know.

212. Do you consider that it is desirable that there should be some larger powers and more strict regulations in regard to the sale of milk?—I am afraid that question rather goes beyond my own province; that is a question rather for the opinion of those who are engaged in public health administration.

213. Speaking from the facts which were ascertained by the last Royal Commission on this same disease—tuberculosis—the facts showing that the question is rather a question of milk than of meat, and that there is no doubt at all that the death of a large number of children, especially in the poorer neighbourhoods, is to be credited to the milk they consume—would you say, from your general knowledge of the subject, that something more ought to be done than is done now for the purpose of eliminating from dairies those animals which supply the tuberculous milk?—I should hardly like to express any official opinion on that subject. Undoubtedly, the evidence before that Commission on the subject of milk was a little alarming; but I think that as we gain experience, we become less alarmed at the verdicts of scientific men, and that the longer we live the more we are satisfied that those verdicts are, perhaps, too strong.

214. At any rate, you would hardly call the question an agricultural one?—It certainly is not an agricultural one.

215. (*Mr. Speir.*) What do you consider to be the principal difficulties in the way of making isolation practicable?—The principal difficulties that we see are the difficulties of accommodation. A large number of persons owning stock which might be found to react to the tuberculin test would be quite unable to isolate them in an effective manner; and the cost and inconvenience of that isolation, and the constant control over the movement of the stock, would be the subject of a very considerable burden to the stock owner.

216. It has always seemed to me that this might be got rid of by the division of a single building; but would not the biggest difficulty be the supervision in order to see that it is properly carried out? Have you looked at the question from that point of view?—I think the Commissioner is right in saying that the business of supervision would be a very difficult and laborious one; but my instructions are very clear that it would be in many cases impracticable and would impose considerable hardship upon a person required to isolate his stock.

217. My personal information is pretty nearly the reverse way; I think the difficulties of isolation would not be so very great, but I can see that there would be considerable difficulty in supervision. Might something not be done by your Board under the Diseases of Animals Acts in the supply of tuberculin; have you ever thought over that in any

way?—We really require further information as to the character and effects of tuberculin, and it is well worthy of consideration whether the free and unrestricted sale of tuberculin should be permitted. I quite regard that as a subject for inquiry, but it is obviously a subject for inquiry by scientific men competent to conduct it.

218. Then there is another question; at present the loss of all carcasses that are condemned falls upon the owner for the time being?—Yes.

219. Have you ever looked at the question what would be the effect of the Act if they were to go back to, say, the original owner, if that were possible?—I am not quite sure that I follow the honourable Commissioner's question correctly. In the event of its being decided that some limited measure of compensation was desirable in the interests of public health, I take it that the only practicable way would be to pay the man from whom the carcass was seized, leaving any adjustment of his bargain with the previous vendor to be made between the parties concerned. I do not think the Government could possibly trace the bargain further back.

220. According to the ordinary Acts as presently administered the owner has to bear the loss?—Yes, the last owner has.

221. Presuming that I as a farmer sell an animal to-day, and it is discovered to-morrow to be unsuitable for human food, if the loss was brought back to me, or brought back to the farmers generally, might there not be an attempt then made by farmers themselves to get clear of the disease?—My own view is that, as a matter of fact, the risk of seizure is a trade risk which is taken into account by all concerned in fixing the price; and I should be sorry to admit that because the seizure is made from the butcher, therefore the butcher is the man who bears the loss, and that the farmer does not bear it.

222. I am presuming that there is no compensation; then, if the farmer were to bear the loss, presuming that the animal had left him only a few days—or a few weeks for that matter—would he not be more careful to see that his stock was free from disease. What is your opinion, for it is not a matter of law, it is a matter of opinion?—I think he undoubtedly would, but I think the hardship imposed upon him would be a considerable one.

223. Do you think it would be too great under the circumstances?—Yes, I do. I think he has made his bargain, and I think in the majority of cases both purchasers and vendors are fully acquainted with the possible action of the public health authorities, and they adjust the price accordingly.

224. Could it not be possible to give some compensation in the matter of diseased udders if these animals were taken possession of by particular local authorities under the Diseases of Animals Acts?—That of course involves the considerations to which I have referred as regards the proposal to slaughter animals. If local authorities were to be empowered to slaughter animals, I think they should be required to make some payment by way of compensation for the animals slaughtered, but so far as the opinion of the Board of Agriculture is concerned it is adverse to any powers of that kind being conferred upon local authorities under the Diseases of Animals Acts with a view to the extirpation of the disease.

225. Not even to the extent of diseased udders?—Not even to that extent.

226. (*Mr. Cooke-Trench.*) The object of giving compensation I understand is twofold, first, as a measure of justice to the owners, and secondly, and chiefly in order to induce the owners not to conceal disease?—Yes.

227. The latter being, from the public point of view, the predominant object?—I do not like to say "yes" to that question. It is to the benefit of all concerned; it is to the benefit of the stock owner, and it is to the benefit of the Government, which wishes to stamp out the disease.

228. If you give full compensation, do you not entirely remove all temptation to conceal disease?—Undoubtedly; the more compensation you give the less temptation there is to conceal disease, but, on the other hand, the more compensation you give the more danger you run that the stock owner will be careless about disease. You get into a new difficulty; you get away from the desire to conceal disease into the position of its being immaterial whether the animals are diseased or not, and even of its being profitable that the animals should be diseased.

229. (*Mr. Murphy.*) Under the Contagious Diseases (Animals) Acts, when animals are diseased, the owner only gets part compensation?—That is so, in the case of diseased animals.

230. Where they are found to be healthy, of course he gets then full compensation?—Yes.

231. Have any insurance societies been formed by the owners of stock which might tend to lessen the loss that they sustain when a number of their cattle are killed, and they only get half compensation for those that are diseased?—I do not think that the loss which agriculturists have borne by reason of the slaughter of diseased animals has ever been sufficiently great to require any organization of that kind. The number of animals slaughtered with disease in pleuropneumonia has always been comparatively small. For instance, in the year when we slaughtered more animals than in any other year—1891–2—only 163 animals were actually slaughtered as diseased, but something like 9,000 animals were slaughtered as having been in contact with diseased animals, so that the honourable Commissioner will see that the number of cases in which the reduced value was paid by way of compensation was so small as scarcely to be worth taking into account.

232. I was in Carlisle in the spring of last year; I was told there that a system had been arranged as between the vendor of the cattle to the butcher and the butcher himself, by which each paid towards some fund which went for compensation if the meat were seized as unfit for food?—Yes, I have heard of the system being applied in order to insure against losses by reason of the action of the public health authorities. It has always seemed to the Board that the arrangement was a very sensible one; that though the losses were not in the aggregate very great, yet they might fall with special hardship upon one unfortunate owner, and that to average the loss and spread it over a larger area by means of insurance was a very rational way of meeting the difficulty.

233. (*Mr. Speir.*) I might mention that that system is pursued in Paisley, where, in the case of each animal that is there sold, the owner gives up 1s., the buyer gives up 1s., and the auctioneers are supposed to give up another 1s.; then they pay compensation to the full value for all animals which may happen to be condemned as unfit for food?—We at the Board of Agriculture entirely agree that that is a very reasonable and sensible way of meeting the difficulty.

234. But then that in no way limits the disease, that is where the difficulty comes in—that you still have the same thing going on as before?—But it protects the public health.

235. (*Mr. Murphy.*) Has it occurred to you whether the same system might be applied, or would be likely to be applied, to the cases of milch cows; whether a farmer having a number of milch cows would be likely to insure against the possible risk of seizure of his cows if they had tuberculous disease to an extent dangerous to the milk consumers?—I should think that some system of that kind might be quite possible in the case of dairymen who are concentrated in a town like London, or in any of the larger towns. I should doubt whether that system would be practicable under the conditions of country life, where communication is difficult, and where, perhaps, there is no trade organization. Where there is a trade organization an arrangement of that kind is much more easy to organise.

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236. (*Dr. Thorne Thorne.*) You were saying, I think, that so far as you know the Local Government Board might to-morrow include tuberculosis amongst the diseases under the Contagious Diseases (Animals) Acts?—No; I think I said that, so far as I knew, the Local Government Board might alter the definition of "disease" in the Dairies, Cowsheds, and Milkshops Order, so as to include tuberculosis. At the present moment that order says that other terms, including of course "disease," have the same meaning as in the Act of 1878, but I am advised that there is no legal reason against the alteration of that definition.

237. Assuming that to be correct, am I not right so far in stating that inclusion of a disease under the Contagious Diseases (Animals) Acts is not for the protection of the public health, but solely for the protection of animals?—That is so. It may be taken that the Diseases of Animals Acts (excluding this section, the administration of which was transferred to the Local Government Board) are solely for the purposes of suppressing disease amongst animals.

238. Then it would do no real good as regards the public health if the Local Government Board could and did take that step?—I take it that supposing that step were taken, the requirements in Article 15 of the Dairies, Cowsheds, and Milkshops Order would apply to tuberculosis in a dairy or cowshed. That article provides that, "If at any time disease exists among the cattle in a dairy or cowshed, or other building or place, the milk of a diseased cow therein (a) shall not be mixed with other milk; and (b) shall not be sold or used for human food; and (c) shall not be sold or used for food of swine, or other animals, unless and until it has been boiled." So that an alteration of the definition of "disease" would undoubtedly extend the powers of the local authorities under the Order.

239. Would you kindly tell me whether the Board of Agriculture have, since the date of the Report of the Committee in 1888, taken any steps to ascertain, or received any information which enables them to judge of the amount of tuberculosis amongst milch cows in the country?—Yes. The opportunity was taken of the post-mortem examinations made in the case of cattle suspected of pleuro-pneumonia, to look also for tuberculosis; and most interesting figures are given in the annual reports of our veterinary officers, for the years 1891 and 1892, and upon those figures very many estimates as to the extent of tuberculosis in the country have been based.

240. Then as regards milch cows, you were saying that 20 per cent. was well below the mark?—Yes.

241. Could you give us anything a little more definite as the result of those reports?—Yes, I think I can easily do that.

242. I am only speaking of milch cows now?—In every herd slaughtered on account of the existence of pleuro-pneumonia the lungs of every animal were examined, and a record kept as to the number affected with tuberculosis. It was found that whereas between 7 and 8 per cent. showed pleuro-pneumonia lesions, 20 per cent. of the cows, and about 2 per cent. of the other cattle slaughtered, were more or less tuberculous. In some herds as many as 30 and 40 per cent., and in one herd about 70 per cent. of the cows and heifers in milk or in calf, were so affected. These figures were obtained by post-mortem examination only, but if the tuberculin test had been applied no doubt the percentage would have been very much higher. With regard to the tuberculin test, in one herd of 23 animals inoculated, 22 of which were in apparently good health and condition, the whole re-acted and were afterwards slaughtered, and all were found to be more or less tuberculous. In another apparently healthy lot of 27 cows, 26, or 96 per cent., re-acted. The result of other inoculations of healthy looking cows has been that 40 per cent. re-acted. At a recent meeting of a Veterinary Medical Association, one veterinary surgeon stated that in a lot of cows he had inoculated, 30 per

cent. responded, while another stated that in some which he had inoculated 70 per cent. re-acted. So that it will be seen that the figure which we took for the purposes of calculation is an extremely low figure, and probably under the real mark; but we were very anxious not to exaggerate in the matter.

243. In reference to those cases in which a post-mortem examination was made, was there any differentiation between those which had tuberculous udder disease and those which had disease of a tuberculous character in other organs?—I think not, but I am not quite sure as to that.

244. (*Professor Brown.*) No observation was made about the udders?—No. We did not have the entire carcass before us.

245. No, the Board only had the lungs sent up?—That was so.

246. (*Dr. Thorne Thorne.*) These post-mortem examinations were made by yourselves then?—They were made by our veterinary officers, or by veterinary surgeons employed by us.

247. Could you form an opinion at all as to whether tuberculosis amongst milch cows is more rife now than formerly? I am referring to the modern practice, which is growing, of turning a cow practically into a milking machine, instead of letting her remain a grazing animal; have you any idea whether that, along with the tendency to keep them in sheds and stables, has led to an increase of tuberculosis amongst cows?—No. I have seen general statements to that effect, but I have never seen any figures which were really comparable which would support that conclusion.

248. You have referred several times to the question of notification in connection with pleuro-pneumonia and swine fever as being so fallacious, and you have drawn some comparison, I think, between the notification of human diseases and the notification of diseases in cattle; may I ask you who makes the notification in the case of disease of the animal?—Always the person having in his possession or in his charge the affected animal.

249. Then it would be a totally different thing to a notification in the case of the human subject, which is nearly always done by the medical man?—That is so.

250. It is not done by the veterinary surgeon?—No.

251. To limit notification of tuberculosis to the veterinary surgeon would practically be useless, I suppose, because he is not sufficiently often called in?—That is so; it would be quite useless. You must depend upon the co-operation of the owner before you call in a veterinary surgeon.

252. I wish especially to ask you a question on the statistics which you have taken from the Registrar-General's report. You referred to the diminution of tuberculous disease and to the diminution of phthisis. That, so far as phthisis is concerned, everyone admits; but may I ask you whether you have ever looked at the corresponding statistics as to tuberculosis in the case of children under five years of age?—No, I have not; my statements were simply taken from the last decennial report, and the last annual report of the Registrar-General; but I have made no special study of the statistics.

253. You do not happen to have noticed then that there has been nothing that could be compared to a corresponding diminution in the forms of tuberculosis from which infants and children suffer?—No, I was not aware of that.

254. Now may I ask you a question with regard to the possibility of dealing with tuberculosis of the udder. You were rather afraid that no middle course between the stamping-out, which is impracticable, and leaving things alone, was possible; what would you say to this: That the dairy cows should be periodically examined by a competent authority, and that in every case in which the smallest amount of tuberculosis of the udder was found, the owner of the dairy should have the option of immediately slaughtering the animal with a certain amount of compensation, or

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of fattening the animal for sale as meat, he then taking the risk as to its being passed ultimately for a meat supply?—I am a little doubtful about the latter point. There have been cases in which animals known to have reacted to the tuberculin test have been sold for food, and some amount of public scandal has been created in consequence. It has been said that as the public authority had knowledge of the existence of tuberculosis in the animal, it ought not to have permitted the sale of the carcass as food. I am doubtful as to whether public opinion would permit of the sale of a carcass for food after the fact of its being affected with tuberculosis had come to the knowledge of the public authority; but I think there is very much to be said in favour of securing the co-operation of the dairyman in getting rid of those of his cows which are affected with tuberculosis in the udder, by reducing the amount of his loss and by encouraging him to voluntarily surrender those animals for slaughter; not relieving him of the whole of his loss, but relieving him of a part of his loss. I do not speak of course as an expert in public health administration; but, undoubtedly, in regard to the stamping out of diseases in animals, we have found that to give inducements to owners voluntarily to assist in the work, without relieving them of the whole of their loss, has been very advantageous.

255. If a cow had a fragment of tuberculosis in the udder, and I will assume that that constitutes a grave danger to the milk, may I take it for granted that you would accept the general view that that does not endanger the meat?—That is rather a scientific question. I should be perfectly ready to eat the meat myself.

256. And yet you fear that it would not do to prepare that animal for the meat supply?—I fear that there might be a public opinion to the contrary, led, as it were, by those who look upon tuberculosis as being even more dangerous than possibly it really is. I should not like to be regarded as expressing an entirely adverse opinion, but simply as mentioning a possible difficulty in the way of the adoption of that proposal.

257. Have you formed any opinion as to who would constitute the best inspector of meat? I mean for present purposes?—I am inclined myself to think that a veterinary surgeon would constitute the best meat inspector.

258. Since when has the inspection of meat formed a subject, as you were stating, in the examination of veterinary surgeons?—I do not know that; I only know that the inspection of meat is one of the subjects included in the final examination under the present curriculum of the Royal College of Veterinary Surgeons.

259. Would there be any difficulty in a sufficient number of veterinary surgeons competent in the matter of inspecting meat being found for that purpose?—I should have thought not; and I should have thought that the knowledge that employment was possible for veterinary surgeons in that direction would very much stimulate the various colleges to give special instruction in meat inspection. I believe that some of the colleges do not give that special instruction, although the subject, as I have

said, is included in the final examination; but if public health authorities were more disposed to obtain veterinary aid, I think that the special attention of the colleges would be given to this subject of meat and milk inspection.

260. Have you thought at all whether it would be too costly to employ a man of that stamp?—I should not have thought it would be so.

261. There is one point which I want to ask you about; I hope you will not think me too critical. When Professor Brown referred to the much greater danger in the case of milk in relation to tuberculosis than there is in the case of meat, you rather gave a caution as to accepting the verdict of scientific men; may I ask you whether you were referring to the scientific experts, veterinary and medical, who were members of the Commission, or to the scientific experts who were witnesses before that Commission?—I was referring to some of the extreme statements, the alarmist statements, as I conceive, which have been made outside the Commission.

262. You know, of course, how grave that opinion is as regards milk?—I am well aware of that.

263. (Chairman.) Can you tell us to what extent cattle insurance companies make provision against compulsory slaughter?—I have never heard that they made any provision at all. The loss owing to compulsory slaughter must now be infinitesimal, with pleuropneumonia practically extinguished. I never heard of any provision being made.

264. There has been a good deal of loss in the matter of swine fever in the North, has there not, lately?—I think the loss arises, not when the animals are slaughtered, but when they are not slaughtered.

265. You think the subject is disregarded by both insurance companies and insurers?—I think so.

266. (Dr. Thorne Thorne.) What has been the effect of slaughtering and giving compensation as regards the abolition of swine fever; has the practice been a success or not?—I should say that the truth lies between the two. During the last 13 weeks we have had just about half the amount of swine fever that we had during the corresponding 13 weeks last year. We are showing at the moment, and have been for the last three months or so very good results as compared with the results of last year.

267. How long has compensation for swine fever been given?—Since November 1893.

268. At what rate per annum?—We spent about 190,000*l.* altogether last year—not simply for compensation.

269. For everything else relating to swine fever administration as well?—Yes.

270. But it is only in the last 13 weeks that it has become effectual?—There have been fluctuations. The disease has gone up and down, but we have never had really satisfactory results until comparatively lately.

271. It is not a satisfactory precedent then?—It is by no means a satisfactory precedent as yet; I hope it may become so.

272. (Mr. Cooke-Trench.) As regards pleuropneumonia it has been?—As regards pleuropneumonia it has undoubtedly been so, and also as regards cattle plague and foot-and-mouth disease.

The witness withdrew.

Adjourned until Wednesday next at 11 o'clock.

SECOND DAY.

At No. 7, Whitehall Place, Westminster, S.W.

Wednesday, 25th November 1896.

PRESENT :

SIR HERBERT E. MAXWELL, BART., M.P. (*Chairman*).

Dr. R. THORNE THORNE, C.B., F.R.S.

Professor G. T. BROWN, C.B.

SHIRLEY F. MURPHY, Esq.

T. COOKE-TRENCH, Esq.

JOHN SPEIR, Esq.

T. M. LEGGE, Esq., *Secretary*.Mr. W. Field,
M.P.

25 Nov. 1896.

MR. WILLIAM FIELD, M.P., called and examined.

273. (*Professor Brown*.) You are the President of the National Federation of Butchers and Meat Traders of the Three Kingdoms?—Yes, we have affiliated to that Federation 52 associations of the largest towns in the three kingdoms, London, Dublin, Belfast, Paisley, Manchester, Liverpool, and so on, in fact all the large centres of the meat eating people of the Three Kingdoms.

274. Under those circumstances it is your duty to take particular notice of everything connected with the meat trade?—Certainly all that is brought before us. We are a meat trade parliament at our annual meeting every year.

275. We gather from what has come before us in the public press and in other ways that butchers generally complain of the seizure of animals or the carcasses of animals on account of tuberculosis, such seizure being conducted, in their estimation, in an unfair manner or without any fixed rules?—That is so; I will give my views on that subject later on. We have been complaining for seven years, and we have received no remedy.

276. Is there anything in your complaint which is not included in what I have stated?—I think it requires somewhat more detailed treatment, and I will take it at a later stage if you please. There are some things which I wished to have alluded to previously to making any statement on that. I want to speak of the duty of the Commission of 1890.

277. Do you wish to make some observations as to the action of the commission of 1890 on this matter?—Yes.

278. And with regard to their report published in 1895?—Yes, with regard to that Commission, which was really appointed without any consultation of any kind with the trade. It was alleged then that the eating of this tuberculous meat was very dangerous, and yet the report was not issued until 1895, and I think it would have been further delayed only that so many questions were asked in the House of Commons, mainly by myself; and when the report did come it really did not solve the question.

279. Your complaint refers to the reference under which the Committee was appointed, apparently?—Well, in our view that Commission accomplished nothing, or little or nothing. There has been practically no output from our point of view with regard to that Commission, and it cost a great deal of money.

280. Are you aware that that commission was appointed for the specific purpose of inquiring into the circumstances under which tuberculosis was communicable among animals, and the amount of danger to the public health on that account?—Yes, but they have not given us—and I have studied it—their definition as to the particular point of the disease showing where it would be dangerous or otherwise. For instance, let us take this paragraph 48 on page 15, the report of Dr. Martin says: "Having regard to Dr. Martin's invariable failure to produce tubercular disease by feeding (though he sometimes did succeed by inoculating) test animals with the meat taken by him from cows with mild or moderate

tuberculosis, and admitting his explanation of an affirmative result, sometimes seen when meat was being taken from cattle with advanced or generalized tubercle, we are prepared to believe with him that if sufficient discrimination and care were exercised in taking meat from tuberculous cattle, a great deal of meat from them might, without danger, be consumed by the community." Just mark that! A great deal of meat from them might, without danger, be consumed by the community. The practice of public abattoirs on the Continent appears to be founded on the same belief.

281. Is there anything that you object to there?—Well, notwithstanding that paragraph 48 the prosecutions and persecutions have been continued in the same way as it hitherto existed all over the three kingdoms.

282. That is not the fault of the work of the Commission or the terms of their report in any way?—There is nothing in the report that has brought about a change in the law.

283. Your own quotation seems to point distinctly to the fact that with proper care on the part of the persons concerned in seizing the meat a large portion of it, "a great deal of this meat might without danger be consumed by the community." Is that not rather a considerable concession on the part of the Commission to the demand?—But it has brought no fruit to us. My point is that the Commission is practically useless as far as we are concerned.

284. That is to say, that these suggestions have not been adopted?—Yes.

285. And the Commission were absolutely powerless to enforce them?—I know as a member of Parliament that Commissions very seldom bear practical fruit immediately; it takes a long time to ripen.

(*Mr. Speir*.) Might I suggest to the witness that the last Commission to which he refers was appointed to find out how far meat of that class was dangerous. The present Commission has been appointed to draw up regulations with a view of carrying out what Mr. Field suggests.

(*Professor Brown*.) I want to make that clear. At the end of the report the Commissioners protect themselves by reference to the substance of the warrant under which they were appointed. They say, on page 21: "We note that your Majesty's gracious commands do not extend to inquiry or report or administrative procedures available for reducing the amount of tuberculous material in the food supplied by animals to man, and we have regarded such questions as being beyond our province." It would appear from the present appointment that on that representation it has been deemed necessary to appoint another Commission, the one that is now sitting, for the purpose of making the very inquiry which the former Commission stated in their report they were debarred from making under the terms of the reference.

(*The Witness*.) I am perfectly aware of that fact, I want to get a little further, and I will explain the reason why I am here because I want to help you,

and I hope this Commission will view this matter from a practical common-sense point of view, and not merely theorise or view it in the light of experimentalists, but that you will, I hope, come to some business conclusion, and that that will be the result of this Commission.

286-94. I may take it that you are quite satisfied to leave the procedure of the former Commission, which would be a very long business if we were to discuss every point, and deal entirely with the reference to the present Commission, which I will read to you?—One moment, in order to save probable trouble, I do not intend to discuss the provisions of the former Commission except so far as to say that it led up to the appointment of this Commission. Therefore, in order to save you trouble, I do not wish at all to discuss it; it is past and gone, and there is no use in talking about it; all that I say is that it brought about no result.

[The witness proceeded to refer to the dissatisfaction felt by the National Federation of Butchers' and Meat Traders' Associations, that they had not received direct representation on the Commission; but the Commissioners, after consultation, decided that they could not receive evidence on this point, with which they had nothing to do (287-94, omitted).]

295. With reference to the loss to the trade certain representations have been put in. I note one point is that the Belfast traders are wishful to obtain a landing stage for foreign animals in order that they may be able to purchase dead meat and so escape the tuberculosis persecution and confiscation?—That is so.

296. Do you know exactly what that means, why there should be a landing place for foreign animals in order to buy dead meat?—Those men have lost a large sum of money.

297. With reference to the landing of dead meat?—It is not so much the landing of the dead meat as to have a local landing stage where the cattle could be killed. That brings up a matter which I was going to refer to later on; but that point is this, that any man who buys in our trade a beast, whether a bullock or a cow or anything else, and if it is affected with tuberculosis to any degree whatsoever it is confiscated and the man loses the money. If you go to Birkenhead and buy an American beast, killed in England, you are subjected to no such penalty.

298. But there is a regular inspection goes on at Birkenhead?—Yes.

299. And there are a very large number of confiscations?—Not that I am aware of.

300. Among pigs particularly?—We have not so much to do with pigs. We are speaking now of beef. The whole point of contention which you have raised now, yourself, is that confiscation falls on the owner, the farmer, or consignor, but if it happened with a native beast it will fall on us, and that is what we want remedied.

301. I cannot understand for a moment how the landing of a foreign animal at a port in Belfast would exempt it from the risk of confiscation?—It would not exempt it, that is not the point, I have nothing to do with Belfast; but it would exempt the Belfast butchers, who can buy the dead American meat, after inspection, without the risk of their goods being confiscated, whereas if they buy a native beast in Belfast, and it is found suffering from tuberculosis in the same way, that is, after it has been killed, they have to pay for it.

302. Have you any personal evidence of the statement which you have first made that the loss falls upon the farmer, that is to say, the farmer sells a beast to a dealer, and he sells it to a butcher to kill; the animal is confiscated, and I understood you to say that in such a case the loss would fall upon the farmer?—I beg your pardon, you have misunderstood me; I said that in the case where the beast was imported and killed, that the loss fell upon the consignee who bought it from the farmer.

303. You said farmer?—Well, it practically comes on the farmer, the man that imports it. The farmer does not pay it here.

304. That is a point which I wish you to clear up, as to whether or not the loss does go back to the original seller?—No, on that point there is a matter in your report, Professor Brown, at page 21, where you say that the loss falls upon the meat salesman and the farmer; it does not fall upon them at all.

305. I asked the question on whom the loss was concentrated?—It falls upon us; the man who kills the beast buys it in the open market, the farmer has got nothing to do with it. I have your report here and, in the first paragraph, page 21, you say: "With the views expressed in the Report I concur, but I am unwilling to allow the alleged grievances of farmers and others concerned in the meat trade to pass unnoticed." The farmers have no grievances at all in this matter, as the thing stands at present.

306. In your view, and in your experience, the loss is confined to the others and not to the farmers?—It is confined to us; there are no others in it; it is the butchers. "For some years past complaints have been made of losses inflicted on stockowners, owing to the seizure and confiscation of carcasses of animals"—they do not belong to stockowners, but to butchers who buy them in the open market.

307. You are aware that the statement has been made repeatedly, that the loss does fall ultimately upon the farmer?—It may, in a way, afterwards, by the depreciation of the value. That is a very big question; and sometimes men have tried to buy stock at a lower price, because of the administrative action of the Government in confiscating our property.

308. As a matter of fact, in your experience, the direct loss from confiscation does not implicate the farmer in any way?—No. On that point it is necessary that I should state that in the opinion of those who are charged with the function of the Federation something like 10,000*l.* has been lost in the last few years. There has been confiscation at Glasgow, Belfast, Birkenhead, Leeds, Edinburgh, Paisley, and other places. Where does the farmer come in there?

309. That is in the course of six years?—Or thereabouts. I believe it is more for this reason that a great many object to give in any returns at all, because they do not want it to be brought before the public.

310. You have a note on meat inspection; do you wish to say something on that?—I think that the system of meat inspection has a good deal to do with the unsatisfactory condition of the administration of the law at present. I moved in the House of Commons for a return as to officials employed as meat inspectors in London and certain municipal boroughs in England. I do not intend to detain you at any length, except to run down certain names of those who have been employed as meat inspectors in London and certain municipal boroughs in England. Their vocations previous to receiving appointments as meat inspectors, quoting from the official return, were as follows: plumber, carpenter, warehouseman and cheesemonger, sanitary inspector, butcher, vestry surveyor's clerk, ticket inspector, builder, plasterer, provision merchant, clerk in civil service, Inspector of Metropolitan Police, inspector of nuisances, stonemason, carpenter, compositor, florist, surveyor, gasfitter, bricklayer, and so on. These were their vocations prior to receiving their appointments as meat inspectors. In fact, every man in the community was appointed except a butcher, a man who ought to know something about the business, was employed as a meat inspector.

311. Do you wish us to understand that all these persons are engaged in the inspection of meat?—Certainly that is so. I do not wish you to understand what is not the fact.

312. Where are they indicated?—This is a Parliamentary Return which was issued at my request. "Inspectors of Meat: Return to an address of the Honourable the House of Commons, dated 27th

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" August 1895:—for 'Return showing (1) the number of officials employed as meat inspectors in 'London, Liverpool, Manchester, Birmingham, 'Bolton, Birkenhead, Bradford, Blackpool, Hull, 'Nottingham, Derby, Portsmouth, Glasgow, 'Edinburgh, Dundee, Paisley, Perth, and Greenock; (2) date of their appointment; (3) qualifications for appointment; (4) vocation prior to receiving appointment, and (5) whether such officials act as 'meat inspectors only, or hold any office or emolument in a department other than that supervised 'by the Medical Officer of Health.'"

313. (Mr. Cooke-Trench.) We have it before us?—But Professor Brown does not know it. This is an official Parliamentary Return obtained by me, which proves up to the hilt that this whole system of meat inspection is wrong; we have everybody except butchers, with two or three exceptions.

314. (Professor Brown.) With reference to that, what kind of person would you think could make the very best meat inspector, especially with regard to diseased animals?—I think a practical butcher or a veterinary surgeon would be the best.

315. Which would you prefer?—I think the practical butcher would be more available in this way, that he would not be so expensive, and his salary probably would not be so great, and, besides, he would have more practical experience in it. I would like to point out this fact, that where the beast is condemned, if there is a difference of opinion between the owner and the official who condemns it, there ought to be an appeal and a butcher's jury should be asked to act in conjunction with the veterinary surgeon. This system prevails in many places, in Leeds, Hull, and Birmingham, and the corporations of certain towns, who are gifted with more common sense than other corporations, have ensured co-operation between the butchers and their inspectors. For instance, I have here a letter from Mr. Darby, who is the honorary secretary of our Federation there, and he says: "The following is a copy of letter just to hand. 'Town Hall, Leeds, 23 November, 1896. Dear Sir, I have to inform you that the sanitary committee have selected the undersigned gentlemen to act in conjunction with the meat inspectors in cases of diseased or suspected meat in accordance with the arrangement made with the 'Leeds Butchers Association.'"

That, in my opinion is a commonsense way of dealing with the question.

316. Do you think that a thoroughly experienced butcher would be able to decide what amount of tuberculosis was likely to be dangerous to public health?—Most undoubtedly he would, and for this reason, as I will show you from your own most distinguished authorities. What we have been advocating for the last seven years is endorsed by the leading veterinary surgeons at the present time. The Administration has confiscated our property and ruined the business of several hundreds of men, and I have a return from the Continent which endorses this.

317. There is an appeal to a veterinary surgeon in any case of dispute?—Certainly, a veterinary surgeon and a butcher's jury.

318. Have you anything else to say with regard to your examination in chief, before the other members ask questions?—Yes, I have a great deal more to say; but if the other members of the Commission desire to ask me any questions on the points that we have gone into so far, I shall be glad to answer them. There is one thing that probably would be useful to members of the Commission in regard to this matter of the meat inspection, and which is at the bottom of the whole thing.

319. I have not got through the whole of your proof?—No, not at all.

320. There is a point here as to want of uniformity of inspection?—That is the very thing I am coming to; I am not near done, but if there is any point on which the members desire to examine me on what I have already said I have no objection to answer them. With regard to the want of uniformity of inspection

that is one of the principal roots of all this evil, we require one system of inspection for the whole country. We want uniformity of inspection, and we declare that the mere *ipse dixit* of an official should not be accepted in all cases as final, but that an appeal to a veterinary surgeon and a butcher's jury, as I said before, should dispose of the question.

321. That would apply to any case where the butcher is not satisfied with the decision?—Certainly. We desire to have one system of inspection for the whole country; we declare that the *ipse dixit* of a central official should not be accepted in all cases, particularly in disputed cases, as I have said, but that an appeal should be granted to a veterinary surgeon and a butcher's jury to finally dispose of the question. What we desire is not to shirk inspection, let that be distinctly understood, but that there should be co-operation with municipal authorities and with practical men for the protection of the community, and also for the protection of honest meat salesmen and retailers and butchers, because we hold they ought to be protected from prosecution, and prosecution by fines, and loss of business in some of those cases which have occurred. Now let us take a case. There are certain towns in England where meat will be condemned on one side and will be allowed to pass in the other. I have one or two notable examples in my mind. Let us take the examples where cattle have been killed in the country and brought into the town.

322. (Chairman.) Can you give an instance of a specific case?—I do not like to give specific cases, but I have in my mind at least in a certain city what is condemned on one side will be passed on the other. And why is that so? It is the want of qualification of the meat inspectors, who do not know their business.

323. I do not wish to press you for more specific information; but you will observe that it will be very difficult to deal with a statement like that unless you give us some indication of the locality?—I am not an Englishman, and you will have some particulars from them. As to the evidence which I give, I shall be prepared to substantiate it from my own personal experience. I do not want, myself, to make statements which I am not prepared to verify from personal experience and observation. Under these circumstances you will see the reason why I am not in a position to give a direct answer to your query. It is not that I have any desire to parry the question, but I think that it is fairer and more honest to say exactly what I know.

324. Your impression is that matters are in certain places as you state?—That is my impression, that is what I have been told frequently with regard to certain places in England. Now, with regard to this matter, how this matter presses on our trade and the advantage it gives to foreign importers, I would like to read a letter which I received recently from a very large trader, Mr. Lister, of Sheffield, to a friend of his who was one of the principal officers, Sir Walter Gilbey, of the Royal Agricultural Society. I will read the letter. It is dated November 16, 1896. "Dear Sir, I asked Mr. Spencer to bring to your notice the insecurity that we and the trade generally dwell in with respect to the question of tuberculosis, which I thank him for having done. I have received a letter from him requesting me to write down the facts for you. During the past year." He goes on to specify what he has killed, and then resumes. "Most of these have been purchased in the open market, and as every market is under veterinary inspection it is presumed, when we buy them, that all are healthy. It is acknowledged that it is impossible to diagnose tuberculosis in living animals but it is only found after their slaughter. Should we or any butcher slaughter an animal that proves to have the slightest taint of tuberculosis." Mark that! "The carcass is at once confiscated and that without any compensation being given to the owner on the ground that it is for the benefit of the public health. And further we are

“ liable to be prosecuted and fined or imprisoned, (Public Health Act, 1875, 38 & 39 Vict., Cap. 58, section 117). Of course, you will say that this is preposterous,” and so it is, “but I assure you it is not, and send you cuttings from our local papers of two cases which have happened within the past few weeks. In one of the cases we succeeded in getting the summons dismissed, but not until the butcher’s name had been dragged before the public in a way to ruin his trade. Now, sir, to our firm a prosecution would mean ruin, and I beg you to use your influence not only on the Council of the Royal Agricultural Society (of which society I am a member), but with Sir Jacob Wilson, to bring the question before the Royal Commission. (1st.) That every animal condemned as being affected with tuberculosis should have compensation paid for it. (2nd.) That no prosecution should be undertaken against the butcher who has bought the animal under the belief that it is healthy and fit for human food, and who has paid a fair market value for such animal. This question of confiscation and compensation has a direct bearing on the farmer and dairyman, for many butchers prefer purchasing English killed American fed beast rather than buy a cow. Consequently dairy-shed cows are lower in price, (comparatively with other beasts than they ever were) which causes a direct loss to the farmer. In the same way it has a tendency to reduce competition for all home fed cattle in favour of the foreigner,” that is my point, Professor Brown, “in favour of the foreigner. I also enclose extracts from various experts evidence respecting which the present Royal Commission are receiving evidence.” That is from one of the best men in the trade in the three kingdoms. Mr. Lister has the finest establishment, probably, in the three kingdoms in our line. Now they had a strong deputation from Leeds with reference to this question in 1889. It was subsequent to an inquiry held at Glasgow about tuberculosis which was held before Sheriff Berry. If it does not detain you too long I shall read these extracts, because they are useful to show that we are exactly in the same position in 1896 as we were in 1889, and things have not progressed since the Commission of 1890. “During the recent inquiry into tuberculous meat, at Glasgow, before Sheriff Berry, held May 28th to June 17th of the present year (1889), when various eminent veterinary and medical scientists were examined, not one of the witnesses stated that the disease could be detected alive. On the contrary, Professor McCall, Principal of the Glasgow Veterinary College, Inspector for the Privy Council and the City of Glasgow, stated:—‘It is very difficult to detect in the early stages if the animal is a sound animal in other respects.’ This witness also stated:—‘That if you take the little tubercle that you will find in the liver, and sometimes in the lung and in the spleen, if you take all this as indicative of tuberculosis still existing, then there is scarcely such a thing as a perfectly sound animal. As a proof that there is a great divergence of opinion as to the disease and its effects to the animal, it may be pointed out that Dr. Russell stated:—‘That the bacilli are rarely found in the blood’; but, on the other hand, Professor Walley stated:—‘That it is certainly in the blood stream, and therefore being conveyed to every part of the system’; whilst Professor McCall stated:—‘That he examined the blood microscopically, and expected to find the bacilli present, but was unable, and in all his researches has been unable to find the bacilli in the blood.’” I do not go into that because if doctors differ we cannot give an opinion, but I only want to point out the difficulty that exists with regard to our trade in dealing with tuberculosis, and being able to point out the exact points on which it may or may not be dangerous to the human frame. My own opinion is that it is not.

325. What you refer to is the Glasgow case?—Yes.
 326. What was the nature of the case, was it a general confiscation?—It was the case of a bullock and heifer which were seized, and it cost a great deal of money. It will not take long to read this. “Dr. J. Wallace stated:—‘That it is the habit of the bacillus to wander from part to part of the system, till it finds a proper nidus.’ Mr. H. E. Mayland stated:—‘The bacillus does not move, and that it has no motion of itself.’ (The above were all witnesses for the sanitary authorities.) Dr. L. Imlach, of Liverpool, states:—‘That I have looked frequently for bacilli in the flesh of tuberculous animals, and I have never found one, and there is no evidence that they have been found in man.’ He also says:—‘I do not know any town in England where they condemn’—mark this!—‘the carcases in toto if they find any trace of tuberculosis.’” There are other eminent authorities. Dr. Goldie, of Leeds, says, with regard to the finding of the Commission—because we are here to find out, as I understand it, how far tuberculosis meat is prejudicial to the human frame—“I have no doubt that my town is fed on tuberculous meat. With regard to animals affected, I should remove all the affected parts, and pass the carcase. In removing the affected parts, I would perform the operation known as ‘stripping,’ that is simply ‘nicking’ across the skin inside the carcase, and tearing it down, then it will come away wholesale. In answer to an enquiry as to whether it is generally pulled off with the hand, he said:—‘Yes, I have pulled off many a ‘thousand,’ and he has not found that there is any danger of the infectious matter being left behind, and adhering to the sound flesh.” We find that nearly all over the kingdom the contrary is the practice, and the meat is condemned and confiscated. “Dr. S. Gibbons states:—‘His practice is to have the lungs that contain tubercle destroyed, and to pass the rest of the carcase as fit for food, and he has never known of tuberculosis being produced’—mark that!—‘or caused in man by the eating of the flesh of animals suffering from tuberculosis.’ He also states:—‘That the bacilli have not the power of producing disease in a healthy person, and, therefore, is not the virus of disease.’” Dr. Alfred Hill, one of the most eminent men in England, and who has been 17 years medical officer of Birmingham, says:—“That there is no case on record of tuberculosis ever being transmitted by ingestion of flesh from the lower animals to man.” And yet our administrative authorities have robbed us of 10,000*l.* to 12,000*l.* during the last five or six years on the assumption that tuberculosis is the cause of disease in man. “Various other authorities might be quoted, but the above, perhaps, may suffice as a sample; but attention may be called to this, that at a meeting of the South Durham and South Yorkshire Veterinary Medical Association, held on the 18th September, 1889, the President, Mr. Nettleton, who delivered an address on tuberculosis, in conclusion, stated:—‘He feared we could never hope to free ourselves from it.’” Now, with regard to this practice of confiscating all the carcases that are found affected in a more or less degree with tuberculosis, I would like to draw your attention to what happens abroad.

327. I was going to ask you first, if you could give your own experience as a trader in confiscating carcases?—But would you allow me to finish this up what I am reading.

328. Yes?—I will come to my own experience. I never had a beast confiscated in my life; but there is this about it, there are certain facts regarding us that probably do not exist here. In the first place, in my own trade we kill the best class of cattle and, unless in these pedigree or highly-bred cattle, that is show cattle, which I am not very fond of, tuberculosis scarcely existed in my own trade. We hardly ever kill a cow; and it is the old cow, not the good cattle fed in the open country, that have tuberculosis. In Ireland we have more grass beef than in England and according to one of the most experienced men,

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Professor MacFadyean, it is the in-feeding of cattle that produces tuberculosis more or less from inhalation; out-fed cattle, for example, the American bullocks that come across, are not so affected.

329. That is pretty clear?—In the case of the young, strong, healthy cattle that come across from the prairies you hardly get a tuberculous animal—it may happen occasionally, but not in the same degree—not in the same ratio as with in-fed cattle. In-bred or high pedigree cattle superinduce tuberculosis.

330. We may take it that the existing restrictions do not press very hardly on Irish traders?—We have not the same kind of meat inspection there. As a rule we have less tuberculous cattle in Ireland, unless it be in Belfast, where old cows are shown more than in most places; that is my opinion. I would like to go on with this statement, because this is really one of the things that is more or less the principal object of the inquiry. "Attention should be drawn to the fact that in Berlin, where the theory of bacillus was first introduced by Professor Koch, Chief of the Sanitary Council, who employ 138 persons inspecting meat, out of 4,300 cattle affected with tuberculosis, only 985 entire carcasses were condemned." That is to say that 75 per cent. of the cattle—the carcasses of the cattle that were confiscated for tuberculosis—were allowed to be used. If that had happened in this country, those 4,300 cattle affected with tuberculosis would have been confiscated. Do you see the difference of the administration on the continent and here. Again "It is also the practice in France, where the question has received considerable attention, to pass the flesh of an animal locally affected with tuberculosis, destroying only the organ or part affected." I think that is very important. Now, I think I will not trouble you any more. I have here a copy of the "Sheffield Independent" of November 11, 1896, in which there is a report of two cases, and in one of them the case was dismissed, and in the other the man was fined, where the cattle were seized, and where the tuberculosis was so slight that the case was dismissed.

331. Was what, do you say?—This is a thing that happened in Sheffield on November 11. You can read it yourselves (*handing paper to the Chairman*).

332. But I should like to ask you this. Did I understand you to say that tuberculosis was there in a very small degree?—To a very small degree. There is a case which happened at St. Helen's the other day, where the carcass was confiscated, and the man who owned the carcass brought it out and showed it to the town commissioners, and there was an inspection of it, and they all agreed that it was a shame to confiscate the carcass; but, owing to the administration of the law, it was confiscated. I want to point out that we have an enormous amount of food that ought to be used, and we are penalising the home producer and favouring the foreigner by our administration of this law. Some of the gentlemen may think that I have given strong opinions that might not be warranted by scientists, but I would like to read the latest evidence. At a lecture given no later than Saturday last before the Newcastle Farmers' Club by Professor MacFadyean. He is the gentleman who is considered an eminent scientist because he was appointed to report to that Commission of 1890, as the man who was best calculated in this country to give proper evidence regarding the matters brought under inquiry. You will find it on page 8 of Part I. of the Report, "Subjects of Inquiry and Names of Inquirers. Inquiry I.: As to the Means of Recognising Tuberculosis in Animals during Life, by John MacFadyean, M.B." He has a whole alphabet after his name, and this is what he says in Newcastle the other day, at a lecture only delivered last Saturday. "In the great majority of cases of tuberculosis the carcass did not contain the disease, and was suitable for consumption." And yet the practice has been exactly the opposite all the time up till the present.

333. I do not understand him to say the carcass does not contain the disease, that is in the internal

organs?—Yes? "In the great majority of cases of tuberculosis the carcass did not contain the disease, and was suitable for consumption." You will find this report in Monday's "Newcastle Chronicle," I think. Again, he says, "An inspector who condemned a carcass because he found tuberculosis in the lungs of the animal would now have difficulty in justifying his action"—mark that—"would now have difficulty in justifying his action." "It has been gravely asserted"—and you will find it in the Newcastle paper of Monday—"that human tuberculosis frequently came from the butcher's stall, but the idea that human consumption or tuberculosis would be materially reduced by the stamping out of cattle tuberculosis was not entertained, he believed, by any pathologist of repute." Now, here we have the authority to whom you appealed absolutely taking up the very position that the Federation, of which I have the honour to be a member, have been endeavouring to maintain for the past seven years, and during all the seven years our men have been fined, have been suffering in confiscation and loss of business. Again, he says, "There was very little doubt that every person sometimes consumed beef of animals affected in some way by tuberculosis, but this fact had no terrors for him"—mark that, a learned professor says, "but this fact had no terrors for him, because the edible portions of the carcasses, and actual meat substances contained the germs in extreme cases of the disease only. The danger could be avoided by cooking." Now, our trade has held that view for years, and we have not been listened to.

334. I do not want to interrupt you, but I think it is probable that we shall have Professor MacFadyean to speak for himself?—I think that it is fair that I should have an opportunity of quoting him, because we have been so persecuted during the past few years, and considering that we have no representative on the Commission, the duty devolves on me to put the case as thoroughly as I can. Before you came into the room I protested against the omission of some member, or some representative of our trade from this Commission. The majority of our men feel very sore about it, and very properly so, and I think that our interests are at stake, and not alone our feelings, but our reputation is at stake, and I think that some gentleman who was in touch with our trade should have been put on the Commission. I know you have nothing to do with that, but I merely wish to place the fact before the Commission, and, in fact, I would not have come here at all if I had thought you had had anything to do with it. I did not care to stay away; I want to help to make the best of things. But, to finish up what Professor MacFadyean says: "A veterinary surgeon up to the times, could, by the aid of tuberculin, tell a farmer within 24 hours precisely which of his cattle were affected." Why do not the farmers adopt this test, and not place the whole onus of that thing upon us. The whole onus is placed on our trade, and the farmers have taken no precautions at all.

335. The former part of the evidence went to show that that could not be tested?—But that is what he stated; that is not 1889. There have been a great many improvements since then, but particularly in foreign countries. There are scientific examinations and pathological experiments which are very much more forward than they are here, and this tuberculin test is useful in a good many cases. There is another gentleman, Mr. Clement Stephenson, whom most of you who have had to do with cattle, know. Mr. Stephenson is a breeder of the Polled Angus himself; he is a veterinary surgeon, and what does he say? His opinion is that "tuberculosis when localised did not affect the carcass, and was perfectly fit for food." And here is another thing he says: "A respectable butcher who bought a beast at a good price ought to be compensated if it were afterwards found to be diseased and confiscated." That has been held by our Federation for the past seven years, and we have

forwarded numerous resolutions to the Prime Ministers and Chief Secretaries, and the Board of Agriculture, and the Local Government Board, on this question. And in order to show that we did not want to do anything that is not fair, we limited the compensation; we would not ask for compensation for any beast bought under *SL*, because that would mean that the beast was not worth much, or ask for compensation for any beast over *30L*. The compensation was not to be given to beasts under *SL* and over *30L*. That is a fair proportion. In replying to the vote of thanks, Professor MacFadyen said, that "999 human beings out of every 1,000 that became affected by tuberculosis were infected by tuberculous human beings." What does that mean? It meant "that there is no such thing as disease caused by the eating of tuberculous animal food." That is his opinion. It is for you, of course, to consider whether he is right or not, but it has been always our opinion, and we have not been listened to. From my own point of view in support of this, I may say that there is a vastly increased consumption of meat. I believe the English people are the largest meat eaters, barring the Americans. What is the fact? If the view held by the gentlemen persecuting our trade for a number of years was correct, there would be an enormous increase of tuberculous disease amongst human beings; but the fact is there is a great decrease in tuberculous disease, so that you have two irreconcilable theories, one is, that the eating of tuberculous meat causes disease, and yet you have more meat eaten and less disease. There is something wrong there that wants to be found out. We say, that if it is to a certain extent dangerous, that the cooking removes that and destroys the bacilli. There is another idea, that the human organism is quite competent to deal with those things. If you will look in a glass of water, you will find animalculæ that they say will poison you; but I think that Providence has provided us with a sufficient organism to avoid this, and that tuberculosis is not so dangerous as it is made out, if it is dangerous at all. A friend of mine, an eminent surgeon, Mr. Cox, says: "That human tuberculosis has never been contracted by the use of the flesh and milk of tuberculous cattle, and the so-called proofs"—and that is the thing—"that is the use of flesh covered with the morbid material of tubercle, uncooked to animals (lower) so very susceptible, or with an idiosyncrasy or taint"; that is in its bad and abnormal condition in which it is very seldom used. With regard to test animals that have been employed as experiments, he points out that rabbits and guinea pigs and the swine upon which the experiments have been inaugurated and tried, that these are animals that are susceptible of tuberculous disease, more or less, and that it is always in them to a certain extent, and can be provoked by tuberculin. That is a very important point with regard to those animals that have been operated upon. Probably the gentlemen might ask some question, because some of the evidence here is really a reiteration of what I have stated. There are a few other points I want to go into.

336. I have some notes of your evidence here under the head of warranty?—Yes, I will come to that. I would like to add something first about waste. Does not this Commission think it would be a great pity to have so much food wasted, because it is really an enormous waste to have animal food destroyed under a false impression, and particularly as the continental experience is entirely in the contrary direction. As far as my own experience is concerned, and I have been to Buda-Pesth and Dresden and Berlin and Vienna, they have a most rigid meat inspection.

337. On that point you allude to the enormous loss of meat; what percentage of meat is lost owing to confiscation?—It would be a very difficult thing to fix the percentage. We have been endeavouring to find out for our Federation the amount of meat that has been lost, and we have fixed it at something like 10,000*L*. within six years up to the first of the year.

I believe myself that it is a great deal more. I was talking to one of our most experienced men in the trade and he says that it does not represent half the sum because there has been a great deal confiscated that one hears very little about. Of course you have a return, and that return seems very small. That return was made by Mr. Knowles, I think, in 1894-95, and in that return animals are given as being confiscated for tuberculosis; but I do not think that return covers all the cases, and I am quite sure that it does not. The most correct estimate we could give for the time I have stated was something like 10,000*L*.; that is a large sum of money. Supposing there were only one-tenth of that amount in cattle that should have been destroyed, that would have been a bad case; it means the loss of 9,000*L*. worth of meat that is absolutely wasted; and then we should remember that in the foreign countries they do not confiscate the cattle to the same extent at all. I do not like to use very strong language, but I think we are going on wrong lines in this country. I do not see why we should waste useful food; I do not see why we should suffer by not using our own native food, and protecting the foreigner at the same time.

338. Do you dispute the figures of this return, which shows that the carcasses condemned in consequence of the animals having suffered from tuberculosis in the whole of Great Britain amounted in 1894 to 132, and in 1895 to 147; do you dispute that?—I believe that it does not represent the number of carcasses confiscated for tuberculosis. I am not disputing the return because I am not in a position to do it.

339. Do you mistrust it?—Further than this that the information that has come to me. Belfast is left out, and it is one of the principal sufferers—it only refers to England and Scotland, I think, I do not believe that it represents it fairly.

340. It refers to England and Wales?—Scotland is not in that—then Scotland and Ireland are left out of that. I do not think that it represents it at all; that is my opinion—I am not in a position to directly contradict the official authorities, and I do not intend to do so.

341. We should like to have a clear understanding of your ground for distrusting the accuracy of the return?—My ground is this. I think you have got, Mr. Legge, a bundle of documents that were sent in here by Mr. Holgate, our secretary. Here we have a lot of documents showing absolutely the amount and the owners' names, and the number of cattle. Here we have 115 beasts in one place; from Belfast, I think.

342. But I am talking of England and Wales?—That does not represent the total loss.

343. No, no; but I ask you a question, and it is rather an important one, because your opinion is of weight, Mr. Field. I ask you if you could tell us what grounds you have for distrusting the accuracy of this return so far as it applies to England and Wales?—My ground is this; that I have had returns with specific details as to the number and the amount of cattle that have been confiscated that certainly would not tally with the Parliamentary return. For instance, here I have one now from the West Hartlepool Butchers' Association and the amount confiscated there was 560*L*., and the number of beasts was 44, and the date of the confiscation is here, but then it runs from September the 10th, 1891, down to 1896, and that return only goes for a single year.

344. I want to get it on the evidence?—I do not want to be put in the position of directly contradicting official evidence, because that is not a position that I have taken up.

345. I do not use the word dispute but distrust—you distrusted the accuracy of it?—But I will not dispute it absolutely.

346. West Hartlepool is given here. During the year 1894-5 30 carcasses were destroyed?—I will try to see how that comes out in my figures; I daresay that is about right. There is no return there from Belfast, nor is there any return from Glasgow and

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Edinburgh, and Edinburgh is one of the places, if I understand rightly, that has been most annoyed in this matter; but that all goes to show the point which I wish to make in the beginning, and make very strongly, namely, the want of uniform meat inspection. How could it possibly come that West Hartlepool could have 30 beasts confiscated, and other places not have one. Of course, there may be local circumstances to determine the disease, but at the same time it would not account for that disparity in the number. It simply means that you have a meat inspector in one place that will confiscate an animal for little or nothing at all, and in another place the inspector will let it pass.

347. Then the first remedy would be uniformity of inspection?—Certainly. I would like to point out this other fact. The point was raised before you came into the room, Mr. Chairman, that the farmers suffer, and that the owners of stock suffer. Well, in my opinion they only suffer to this extent, that there may be a depreciation where there is a doubt as to tuberculosis existing; but I would like to point out this fact, and it has been commented on in the "Meat Trades Journal" that in Dundee, where a veterinary surgeon applied a tuberculin test to a certain case of a dairyman in or about that city, he was advised to fatten them and sell them to the butcher, and that was the advice of a veterinary surgeon to the dairyman—to fatten them and sell them to the butcher, and then if they were badly affected or affected at all and the butcher killed them, and there was an inspection as there was in Dundee, the result was that the butcher had to bear the loss. I want to know where the farmer comes in; the farmer does not come in at all. That absolutely happened, Mr. Chairman, and I will get you a copy of the "Meat Trades Journal" giving the date, and the circumstances.

348. And the names of the parties?—And the names of the parties. I do not want to penalise the dairyman or the farmer. What I am here to do is to do good all round if I can. I believe that we ought to be protected, and I do not see that the losses should always fall upon the butcher. There is no question about it that there is a certain amount of depreciation on inspection, because you can buy dead meat at Birkenhead, and Deptford, and Glasgow, and other places without any fear of confiscation hereafter.

349. Is it possible for a butcher to obtain a warranty?—With regard to warranty, if there is not some protection given to our trade just at the present time, and some amendment of the administration of this tuberculosis business, it will become our duty to protect ourselves. We have been trying it now for seven years, and neither the Government nor the administration, nor the officials, have paid any heed to anything we have said on this question. In fact, we have been looked down upon as the raw material of taxation, without having any views whatever in maintaining our own affairs, and they have taken this matter in their own hands, and in one community in the Isle of Man this tuberculosis question has been settled by them. On the 11th June, as you will find in the "Meat Trades Journal" they passed this resolution "that on and after the 2nd June 1896, any animal or animals bought by any member or members of the Isle of Man Butchers Association either by public or private sale at a fair commercial market value, shall be guaranteed by the farmer or the vendor free from any infection or contagious disease, and shall warrant the said animal or animals to pass the inspection of the Medical Officer of Health in the Isle of Man after being slaughtered." That, in my opinion, will be the way we shall have to deal with it. What happened in the Isle of Man on the 10th June was this: A farmer named Quale always held an annual sale of his own and his son's produce, and the butchers and dealers went there to buy the cattle as usual, and he was asked to give the warranty, and he said he was not accustomed to give a warranty and he would not, and they would not buy his cattle; they boycotted them, as they say in Ireland,

and they drove away, and he sold none of his cattle. He sent them to England and lost 100*l.* on them; and now it is recognised in the Isle of Man that there is no buying of cattle without a warranty. I want to point out that in the event of some remedy not being forthcoming for the present unsatisfactory state of things, and it is unsatisfactory, as far as we are concerned, and also as far as the public are concerned, and also unfair, in my opinion, to the native producer, because I happen to be President of the National Federation of the Butchers and Meat Traders Association, and I also happened to be President of the National Cattle Stock Owners, and my sympathies are not against the farmer or stock owners; but I say that this Commission ought to make such representation to the Government, and without being in any way egotistic, to carry out the same system that I have brought before them. There is no reason why we should be more particular than the scientists abroad have found it necessary to be, and if it becomes necessary for our trade to take this step on a universal warranty, it will have a very prejudicial effect. There will be a certain amount of public opinion and irritation created. Men will get into friction with one another, and this matter get more publicity than it need, and also increase the scare about tuberculosis. But I stated before you came in that this Federation, of which I have the honour to be the President, have 52 affiliated associations, and we have made up our minds that unless we are treated in a fair, businesslike, fashion, that we shall have to do something for ourselves; we will not suffer ourselves to be legally robbed as in the past, and the question of warranty will be brought before our associations, not to buy anything unless the cattle are warranted free from tuberculous disease in any part of the three kingdoms.

350. Have you got any system of insurance?—With regard to insurance, there were some associations who tried insurance, and the results were not very satisfactory. I believe it protected to some extent undoubtedly, and some of them are in favour of it. Personally, I myself, and also the Federation, are against insurance for this reason. We believe, and I think that it is a perfectly sound assumption, that if anything is confiscated for the public good, the public ought to pay for it. If you take a piece of land from a man for a sewer you pay for it. If you want anything for the public convenience it is paid for. If clothing or furniture is destroyed for sanitary purposes in cases of contagious diseases, they are paid for. Why should we be the only portion of the community to be robbed when it is said that the public health should be protected? That is what it comes to. I am decidedly against insurance, because if the question of insurance was submitted, then our claim for compensation would altogether disappear; and there is no reason why we should not be compensated if an animal is bought, mark, in perfectly good faith, *bonâ fide*, in a market at its full market value. I have known a case of a beast at a show costing 70*l.* that was very badly tubercled; but because it belonged to the Prince of Wales it was not confiscated, but if it belonged to anybody else it would have been, and that man would have lost 70*l.* I know a case of a man giving 35*l.* for a beautiful heifer and he lost his 35*l.*; that is not fair. There is no other member of the community who would be asked to suffer such an injustice as that. The extraordinary part of it is that there seems to be no necessity for this hard and fast line of confiscating everything that is affected with tuberculosis. However, I am wandering away from the question of insurance. Our Federation is not in favour of insurance, because we hold that anything that is confiscated for the public good ought to be paid for by the public. There is one other question, and we attach great importance to it, and that is the question of surrenders. We say that our trade is very badly treated in the way of surrenders; that the meat which is voluntarily surrendered should be treated as surrendered and not returned as seizures, because we are debited in the public mind with this. The principal complainants

in these matters are the London men really. The meat comes from the country now, and it is consigned to meat salesmen, and if the meat salesman does not like it he calls the medical officer's attention to it, and says: "What do you think of this?" before offering it for sale, and the meat inspector says: "That is not good enough," and he takes it as a seizure instead of a surrender. In our opinion, and in the opinion of any impartial men, it is not fair to treat it as a seizure, because it is voluntarily surrendered; and we asked Mr. Chaplin in that interview if he would mind taking up this matter, and make such an administration of the law as would enable the surrenders to be treated as surrenders and not as seizures. To sum up my opinion, and those whom I represent, we say, first, that the method of judging and deciding as to the fitness of consumption for human food should be similar in all districts and applicable to hawkers and to country districts as well as to town. The onus of this matter should not be put altogether on towns and cities. What we want is a universal system of similar inspection of competent inspectors, and not by plumbers and gasfitters and all these kind of men. We want either butchers or veterinary surgeons. I want it to be understood that our trade have no objection whatever to meat inspection; they look upon it as a safety rather than otherwise, but they want it properly and fairly done all round. The next point is that of plain cases, that is to say, of cases where, in the opinion of experts, there might be danger from human consumption, and they should be destroyed, but that they should be paid for, and also any expenses should be recouped to the butchers; and, further, that where these cases were not patent when alive, that is to say, where a beast is not beginning to waste—you will understand me, Mr. Chairman, because you have some knowledge of this matter—in my opinion it is very difficult, almost impossible, to know about tuberculosis—unless a beast has gone into that stage when she begins to waste—why some very good cattle have tuberculosis, and it does no harm, but when it comes to the waste, then no man should buy it. That is the case with regard to all cows. With respect to that—as to the suggestion I am now making as to the compensation, I am glad to find that the leading Agricultural Societies of England and Ireland have adopted resolutions similar to our own with regard to compensation; and also a sanitary Congress held at Newcastle lately adopted the same resolution. I will read the resolution that we passed at our Federation in our last meeting in Sheffield regarding this compensation question, and I have nothing to say with respect to it beyond this, that we have been passing them for seven years without any result. The resolution is as follows: "That this National Federation of meat traders calls upon the Government to provide compensation to the owners of animals purchased at the full market prices"—"full market prices" mark that!—"we do not want compensation for anything of an inferior class purchased at full market prices, the carcasses of which have been confiscated for tuberculosis. We consider that meat traders should be placed in the same position as agriculturalists as the public who pay for the protection of public health." That is our position. "We are of opinion that a direct representative of the trade should have been appointed to act upon the new commission on bovine tuberculosis, as we consider that practical experience should be combined with scientific knowledge in order to obtain an amicable and satisfactory settlement of this important question, the present administration of which handicaps our native stock and favours foreign imported produce. That copies of this resolution be forwarded to Lord Salisbury, Mr. Balfour, the President of the Local Government Board, the President of the Board of Agriculture, and to the local authorities." Now, we had 70 delegates at that meeting, and they represented the principal towns of England, Ireland, Scotland and Wales, and the Isle of Man, so that it was a very representative meeting. We sent all these resolutions

to the various gentlemen named, and we have replies, just formal acknowledgements, from Lord Salisbury, from the Board of Agriculture and the Local Government Board, and from Mr. Balfour, so that we have been in earnest about this matter, and you may take it that we intend and hope that some remedy may be provided for us in the immediate future.

351. (*Dr. Thorne Thorne.*) You have on several occasions referred to the question of confiscation in words such as these, that there is a "hard and fast line as to confiscation now." You say: "That all carcasses in whatever degree of tuberculosis are seized." Again you say: "They are confiscated if tuberculosis was found to any degree." Would you kindly name three towns where every animal that has tubercle, that is tuberculous in any degree, however slight, is condemned, because the Commission would like to have special evidence from these three towns?—If I said that I rather overstated it, because they cannot do it. It all comes to a question of the meat inspectors; for, instance, if I am rightly informed, in such a place as Birkenhead and West Hartlepool and St. Helen's; there are three places that I can give you.

352. That every animal is condemned there?—So far as I can understand it. You must remember that my position is that I cannot possibly know everyone of those places, because I do not live there.

353. I only ask for three towns out of the whole kingdom?—I will find you out three.

354. Because your statements were so absolutely definite?—Well, in some places I say. If I stated that it is an invariable rule it was not my intention because that is wrong, and I wish to correct it. In places like Leeds and Birmingham where butchers' juries are they have the power to do it; that is where it comes in.

355. Have they any power which the magistrate does not give them?—No. But then the magistrate always coincides with the meat inspector and the Medical Officer of Health, and that is exactly where our difficulty lies. The magistrate, of course, has the law, and what we want is an amendment of the law.

356. Well, then, I should like to ask another question. You were quoting someone who implied that the experiments made by the last commission had left them liable to a great source of fallacy, and that the animals used were especially liable to tuberculosis, and might therefore have had latent tuberculosis in them?—Yes, Dr. Cox.

357. Would you allow me to finish my question? Are you aware that the results on each kind of animal fed were tested by control animals which were killed, that 216 such animals were killed under precisely the same conditions as those which were fed with tuberculous meat, and not one of them became tuberculous, do you know that?—I know that.

358. How do you reconcile that with what you have said?—It does not change my opinion in the least.

359. If none of these animals, out of 216, develop tuberculosis, the pigs being taken from the same litter as those experimented upon, how can it be said that such a gross fallacy as you suggest underlay the experiments?—I believe what Dr. Cox says is right, because we know that guinea pigs and swine and rabbits are just the class of animals that are most liable to tuberculosis; that is the experience of every body.

360. But is that not the very reason why they took this precaution, so as to avoid that fallacy?—Probably.

361. You say that a great many continental nations take a different view from what we do in England as regards this disease and the use of tuberculous meat?—Yes.

362. And I gather that you consider that abroad they attach much less importance to it than in England?—That is so.

363. Do you remember what the last Commission say: "Provided every part that is the seat of tuberculous matter be avoided and destroyed, and pro-

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"vided care be taken to save from contamination by such matter the actual meat substance of a tuberculous animal, a great deal of meat from animals affected by tuberculosis may be eaten without risk to the consumer?"—I thought I had got that. No, it was another case, I thought I quoted that, but I did not. I remember that distinctly.

364. You may have done it, but you implied that the opinion of England was totally different to what it was abroad?—Well, but, Dr. Thorne, you have your views and I have mine, and you have a perfect right to them and so have I. If that opinion that you state be the opinion of England why is it not brought into practice?

365. Now, again I repeat the question. Tell me what you mean by saying it is not brought into practice. We have been told that a large proportion of the bovine race in this country is tuberculous, and we know that the vast majority of them, when slaughtered, are used for the purpose of meat supply, and you yourself imply that so much was eaten that is tuberculous, that if the contention of meat doing harm were true we ought to have a large amount of increase of tuberculosis?—That is so.

366. I cannot reconcile your statements, the one with the other?—In certain districts.

367. Oh?—Well, in certain districts this seizure system is carried out to an extraordinary extent, and in another district common sense prevails. But I think I have shown from the resolutions that have been passed during the Federation meeting that undoubtedly a very large amount of complaint exists amongst our trade.

368. I was not referring to complaint in trade but to actual facts about tuberculosis?—These complaints arise from actual facts, and unless something in the nature occurred in the various associations they would not bring them forward. There is a case in Sheffield—I do not want to be pinned, and I will not be pinned, to give the evidence that occurred in England; it is impossible that I could do it. My duty in my business, and as member of Parliament, is not to go into a roving commission about England, but to give the statement from our Federation, and you can find out from the local men whether some of the statements are facts or not. I tell you this, that there is a rebellion against this system and a rebellion, too, in the immediate future.

369. You have referred to Birkenhead. May I ask you if many Irish cattle go there, because we wish also to deal with Ireland and Irish cattle; do they go to Birkenhead?—I believe a great deal of Irish cattle go to Birkenhead. I do not know. You can get a man from Birkenhead who will give the information. Councillor Burn will give the information from Birkenhead. I do not wish to make any statement which may not be correct.

370. Well, in your own answer you say you have very little tuberculosis in Ireland?—Yes, comparatively, unless among old cows. Allow me to qualify that, for this reason. Every one who is aware of the fact regarding the cattle in Ireland must be aware of this, that we have had a clear bill of health for a number of years in Ireland.

371. As regards tuberculosis?—No, as regards cattle. But do not you see that as regards tuberculosis, the unfortunate part of it is that it is not classified.

372. Then it does not apply?—No.

373. Is it worth mentioning, then?—Yes.

374. (Chairman.) I have looked at the Sheffield case, and I find the summons was dismissed?—That is one case; but the man was brought up. We complain that the man was brought up, and he should not be summoned at all; we complain of the prosecution. I mentioned that one of those cases was dismissed.

375. (Dr. Thorne Thorne.) As to the amount of tuberculosis in Ireland, I suppose you are aware of the report of the Departmental Committee of 1888?—Yes.

376. Do you know that it says, "that it appears to be certain that it is more prevalent in some parts of the country than in others, notably so in Ireland"—that applies to tuberculosis?—That is a long time ago; that is 10 years ago. We have made a great improvement since then, and I do not think that that can be quoted at all as a proof regarding this Commission.

377. Then you have got rid of tuberculosis?—I cannot say that.

378. You said you have made great improvements?—But I could not say "got rid of tuberculosis."

379. The answer is of no value unless you do say it?—Allow me, how can you ascertain the existence of tuberculosis except by the tuberculin test, and that has not been applied in Ireland; therefore you ask me a question that I cannot answer.

380. But it was on a definite statement of yours that I asked the question?—But my definite statement is that we have less tuberculosis in Ireland, for this reason, that the cattle are out-fed; we have less in-feeding.

381. Then I should like to ask you further with regard to your statement, that if anything is confiscated for the public good, the public should pay for it?—Certainly.

382. Would you apply that to all foods, to stinking fish, to fruit, and to hundreds of other articles that are confiscated for the public good?—Certainly not, but the circumstances under which these things are bought and offered for sale are entirely different; we buy cattle at a full market price; we have no means of ascertaining whether the animal suffers from tuberculosis or not; and then I say that, bought under those conditions, and when it is supposed that they should be confiscated for the public good, then I maintain that the compensation should be paid to the buyer.

383. I should like to say that I am not objecting now, and not giving any opinion as to the desirability of compensation or not, but it was your definite statement that if anything was confiscated for the public good the public should pay for it?—Under certain circumstances, but the circumstances may differ. If a man, for instance, buys a fish that he knows to be stinking and it is confiscated, that is a different thing from a man buying a beast and giving anything you like from 10*l.* to 30*l.* for it, and then its being taken away from him and prosecuted. I think it is quite a different circumstance.

384. We have had it given to us in evidence that this risk of seizure is a well-known trade risk, which is taken into account by the persons concerned in fixing the price; do you agree with that, or not?—Only to a very limited extent. Very much depends on the locality, on the nature of the beast that is bought, and also on the temper and the tenour of the buyers and on the condition of the market. There must be some official individual to deal with that who has not bought or sold much cattle.

385. May I assume that there is much less stringency with regard to the condemnation of tuberculous carcasses in Ireland than in England?—That is a difficult question for me to answer, for this reason: There does not appear, so far as I am aware, to be the same amount of inspection in Ireland that there is in England. We have not so much local government; that is one of the things we require. Therefore the risk is rather less in some places like Belfast, where the inspection is rigidly carried out. Belfast, in my opinion, is a district in which probably there are more tuberculous cattle than in most places in Ireland, for this reason, that they kill a good many cows, and it is not a good grazing district, you see. It is rather an exceptional district. I may be wrong, but that is my opinion.

386. Could you give us any idea as to the number of cattle that you yourself, for example, have sold per annum, that have gone for meat consumption?—We generally kill from eight to ten beasts a week; about 400 to 500 beasts a year.

387. How long has this been going on?—As long as I remember.

388. And you never have had a single animal with this disease?—I have had one or two; say, a couple, but very few.

389. You said distinctly you never had one?—I beg your pardon, if I did. I do not think I made such a statement as that; if I said that, I correct it. I have had a couple of tuberculous beasts, or three, or four. I have never had a bad case.

390. It is quite indifferent to me whether it is one, two, or none; but do you attribute its being so little to the fact that you buy good cattle?—Yes. We generally buy young heifers and bullocks; that is the principal reason. In Ireland it is principally the old cows that have it, in my opinion.

391. Do you not think that if you can sell thousands upon thousands with hardly any interference, it is extremely desirable in the interests of the public that there should be some strict supervision with regard to the animals that are not of the same quality as yours?—Certainly. I have never advocated the contrary. I have said it distinctly, I think, that a good many in our trade are in favour of meat inspection, and I will give you my reasons. The respectable men in our business are in favour of it for this reason: that if a man buys, as I think I said before, a beast for a low price, and he gets something like the same price as we do in selling it, of course, he has a great advantage in competition. I think it is perfectly plain that the respectable men in the trade are not against inspection for the preservation of the offering of good food to the public; on the contrary, we are inclined to give you every facility to do it.

392. If a butcher buys these old cows that you talk of in a district like Belfast, where there is known to be a large amount of tuberculosis, do you really mean that the public ought to compensate that man when he finds out that at his own risk he has bought a bad article?—There are difficulties existing in Belfast that you will have to take some account of. There is a large population there who want cheap meat, and there is no landing stage for American meat, and they have got to come to Dublin for good meat. There are a great many difficulties in the way, mind you.

393. I am talking of compensation?—Do you not see that we speak about compensation for animals costing not less than 8*l.* nor over 30*l.* We want compensation for beasts that are bought at the full market price—probably you did not catch this; we do not want compensation for men who buy a low class of animals. What we say is, provide compensation to the owners of animals purchased at the full market price.

394. The full market price for the quality of the animal?—Yes, the full market price. If these cases of tuberculosis are patent, they are in the market where the veterinary man ought to forbid the sale. These men buy them as sound cattle.

395. I just want to ask you one more question, and I will not trouble you any further?—You can go on as long as you like.

396. You read a list of the credentials of men who are meat inspectors in England and Wales, and they are all—?—Not all.

397. Pardon me; all those you read out had such antecedents as would in the estimation of the public obviously make them unfit for the purpose. Do you know that on that first page that you read from, out of 61, 30 of them had passed the examination and received the certificate of the Sanitary Institute?—I do not think the Sanitary Institute is an authority with regard to meat; I may be wrong. Perhaps you might be able to give me information on that point?

398. The principal point that I had in view was that they have not the incompetency of mere plumbers, or chemists, and of such trades as you read out?—I read out about the sanitary men; I did not omit them, I think.

399. But you left out the essential column, I am afraid. My reason for asking is that I do know that

the Institute now examine all men in meat, and I merely wanted to get at the fact why you regard it as quite fair to limit their antecedents to that which applied before they entered on a course of study which involved some knowledge, at least, of the matter that they were dealing with?—In those cases, undoubtedly, I think there is a certain amount of qualification; but at the same time, I do not think they are as well fitted as a veterinary surgeon, or as a practical butcher.

400. I am quite in agreement with you there; and now I would only ask this one question: What is your reason for considering that the butcher would be a better meat inspector than a man who has had a veterinary training?—I do not say he would be a better meat inspector.

401. I thought you said he would be the best?—No; I would sooner have a veterinary man than the butcher, as I think the ordinary butcher sometimes does not know so much about the subject as a veterinary surgeon, unless he has made a study of it.

402. Then you would rather have a man who had had as a basis at least some knowledge of veterinary pathology?—Yes.

403. (*Mr. Murphy.*) Your objection, really, is less to the total amount seized in England and Wales than to the unevenness of the operation?—Certainly.

404. You would say that perhaps it was too much in one place, and not enough in another?—That might be. That depends a good deal on the character of the relations which may exist between the meat inspectors combined with the doctors and the meat sellers, the butchers, in the locality. For instance, in Leeds, I am told—but you will have an opportunity of meeting a witness from Leeds—that if a beast has the smallest sign of tuberculosis it is seized, but in other places that is not the case.

405. You think that it wants some regulation, so as, in the first instance, to say what is reasonable in view of existing knowledge?—Yes.

406. And then to apply that equably over the country?—Certainly. It might be useful with regard to that, to bring before you, in reference to meat inspection and meat seizures, resolutions that were passed by our Federation meeting. They are not long, and will not detain you. This resolution relating to meat inspection was moved by Councillor Nixon, of Birmingham: "That this meeting reaffirms the resolution frequently passed by this Federation, 'that only qualified meat inspectors should be appointed, and that in disputed cases an appeal to a jury of butchers should be available. And that copies of this resolution should be forwarded to the President of the Local Government Board, and the President of the Board of Agriculture.'" That goes to the root of the question, because if we had qualified meat inspectors, and an appeal afterwards, then those cases about which there might be some dispute or difficulty would, I think, be satisfactorily settled. It has been found that in places where this system is in operation it has worked very satisfactorily with the authorities. Mr. Coggan, of London, at the same meeting, formally moved: "That this meeting regrets that the President of the Local Government Board and the President of the Board of Agriculture have not as yet acceded to the request contained in the resolution passed at the last Federation meeting, held in Manchester in July 1896, asking that, in case of butchers' meat voluntarily surrendered, it should be so stated, and that in the returns made by medical officers of health the said cases should be separated from those where the meat was seized by the inspector, as is already done in Birmingham, Hull, and other places; and that our affiliated associations be requested to approach the local authorities on the subject, and that copies be sent to the local authorities of all affiliated towns." That comes in with the other, because frequently we have meat inspectors and the authorities acting in unison with the trade as it were, and a good deal of the meat is

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surrendered, if it is of a bad class, before it needs to be seized at all. What I suggest is co-operation really between the respectable butchers and their accredited representatives, and the municipal authorities, so that less friction might occur, and so that the public would not be scared and these prosecutions would not take place. But we have no idea of selling anything like diseased meat to the public.

407. You would expect, if veterinary surgeons were employed and were specially trained for the purpose, that you would get a sounder knowledge applied to the matter of meat seizure and more uniformity?—Certainly. It is well on that point that we should remember this fact, that in the past veterinary surgeons were principally engaged in the study of the equine race, and that the bovine study has only come into prominence of late years. We are very much behind the Continent in regard to these matters affecting the bovine species, and we have not followed it up the same way; and frequently veterinary surgeons of the olden time, who have not studied these things, might not have the up-to-date requirements of the present time. As a rule, veterinary surgeons are very qualified men.

408. You would have some difference between the practice of one individual and that of another; do you think it would be well to take any step that might tend to equalise that?—If we had some central authority acting from the Local Government Board, which has charge of the doctors and generally of the meat inspection, if some code of regulations were issued by that Board which would be distributed amongst all the meat inspectors, and if we had then qualified meat inspectors, with a butchers' jury and a veterinary surgeon as a Court of Appeal, I think the difficulties that have arisen in the past would not be at all so likely to occur in the future. The fact is that you have had no central authority, as it were, you have had no uniformity of instructions for procedure, and the matter has been left to a large extent to the individual caprice, if I may so term it, of the inspectors, some of whom have really no knowledge of meat or of anything in connection with live stock of any kind.

409. Then you would propose that the Local Government Board in England and Wales—?—And the Veterinary Department in Ireland.

410. And the proper departments in other parts of the United Kingdom, should have the power, first of all, to prescribe the qualifications of the meat inspector?—Yes.

411. Secondly, perhaps you might think it well that the Local Government Board should from time to time issue orders defining or prescribing the conditions of tuberculous meat that should lead to its seizure?—I think something of that nature would be exceedingly desirable, because it would lead to a general administration of these affairs in something like a uniform manner, whereas at present it differs very much in one town from another, and even in a large city between the different inspectors. It appears to me that that is a very common-sense suggestion.

412. Beyond that I would like to ask you whether you thought that it would not tend to uniformity of inspection and seizure if the slaughtering of animals, instead of being conducted in private slaughter-houses at the back of the shops, were centralised in public slaughter-houses where the opportunity for meat inspection would be more complete and more satisfactory from the point of view of efficiency?—There can be no doubt whatever that the proposition which you lay down is correct, but there are a great many difficulties in the way. In small towns it might not pay to have such an abattoir; and in larger towns and cities, unless there were several of them at various convenient points, the difficulty of distribution would be very great.

413. I am not speaking of the difficulties of provision at the present moment; but, so far as affects the question which you yourself have urged, namely the want of uniformity in practice?—There is no

doubt about it; the proposition you have laid down would tend to increase that uniformity and would also help to aid very effectually the inspection of meat.

414. Do you think that the provision of public slaughter-houses, seeing that it would have that effect, would be looked upon with favour by persons engaged in the meat trade?—That is a very difficult question for me to answer; it depends very much upon local circumstances and upon the character of the men and of their trade. Undoubtedly it is a great advantage to have a slaughter-house near your place of business, there can be no question about it; but, in many cases, if suitable compensation were provided for the removal of these business facilities, men would be inclined, I think, to go to a public slaughter-house. Of course, I cannot reply definitely, because I do not know the personal feelings of everyone engaged in the trade; but there has been a tendency on the part of corporations to interfere with individuals in their business facilities, and not to grant them compensation for removal; that is, to confiscate their business facilities without compensation, and anything in that nature would be resisted as far as possible by the affiliated associations and by the Federation.

415. Of course the question of compensation for disturbance, for taking away the rights of slaughtering in private premises, is a different matter from that I have in my mind. Imagine, for a moment, a town of some thousands of inhabitants which had no slaughter-houses at all, public or private, would you propose to have a public slaughter-house for the use of that town under the control of the municipality, or would you propose to have private slaughter-houses?—Personally, I am certainly of opinion that it would be better to have a public abattoir, because the men then would begin on level conditions all round and they would be accustomed to it; but where individuals have had private slaughter-houses during their own time and for generations, they think it very difficult, you know, to give them up, because they have got into another habit of action, you see. I quite agree with you that where a new town is started, and where it is possible, public abattoirs would be more preferable in regard to meat inspection; but, with respect to the private convenience of the men in the business, the private abattoirs are always preferred by them.

416. But it is obvious you can have no uniformity of inspection where the animals are killed in private slaughter-houses?—It is a question. I do not think it is so obvious, because men generally kill at a certain time, and it is very easy, if the town is small, for the inspector to go round and see it. Sometimes the fact of having this inspection in private slaughter-houses may be an advantage rather than a disadvantage, by reason of the fact that the goods are separated, and it is easier to get at them. That is another point of view.

417. Take London, for instance, have you any idea as to the number of private slaughter-houses in London?—Yes, I understand there were 900, and I think it is reduced to nearly half that now. I could get you the exact numbers.

418. You may take it from me that there are somewhere about 400 or 500 at the present time?—Yes, that is about what I say.

419. Do you think it at all practicable to inspect meat, especially so as to insure uniformity of practice, in 400 or 500 places where cattle are killed?—I think it would be very difficult, but if the meat inspectors were increased to a considerable number it could be done. Of course that would add very materially to the expense.

420. If you increased the inspectors in a sufficient proportion, you would not ensure the uniformity that you are aiming at?—That undoubtedly would be a difficulty, but then you have got another matter you know to look at, which I think is very important and ought not to be lost sight of, and that is the distribution of supplies in an immense city like London. That is very difficult. You could not concentrate all

the killing of London in three or four abattoirs, or in half a dozen; you would want a great many.

421. I was not proposing to ask questions upon the actual machinery by which the thing would be done, but so far as possible to limit myself at the present moment to learning from you your views how far it is practicable to make anything like a proper inspection, first of all in the interests of the public, and, secondly, so as to safeguard the butchers themselves against the want of uniformity, which you have put forward as a great difficulty, unless you have the centralising of the killing of the animals?—I agree with you that public abattoirs would be the best, and the most effectual way to ensure uniformity of inspection, but then there are correlative circumstances which must be taken into account, because you cannot get rid of them.

422. Perhaps you would be good enough to say what are the difficulties of which you are aware and which militate against public slaughter-houses?—First, as far as I am aware of the personal feelings of the owners of private slaughter-houses, as a rule, far and away the greater majority of them are opposed personally to the removal of their business facilities. In considering that, you know, we must take into consideration this fact, that private slaughter-houses have been in existence in this country for a long time; that it was the acknowledged system, do not you see, and that we are only getting out of it by degrees. We are a nation of people who are conservative about these things to a large extent, and it is not particularly easy to educate a whole race of men in the trade to this idea. That is number one. Secondly, as a rule, going to the public abattoir would be very inconvenient to men who have been accustomed to the other system, because it is very much easier, for instance, to kill your goods just behind your own place and bring them into the shop. Then there is another reason, that, in the summer time, if the abattoir is any way distant from your house of business, the carriage of the meat would deteriorate its quality to a considerable extent, and also prevent its keeping; because in a hot summer, say from July to September, there is no doubt if your butcher is two or three miles away from his place of business that the carriage of the meat would prevent that meat from keeping a day longer than it would if it was killed in the immediate vicinity. These are circumstances which have all to be considered. Then, in a great many instances, the corporation have refused to give compensation for disturbance, which, of course, is unjust.

423. Does any other reason occur to you than those which you have mentioned?—Not just at the present time.

424. I do not quite distinguish between the first two points you mentioned as being separate from each other—they really relate to the convenience of the butcher, do they not?—Yes, but convenience is a great element in the success of a business, you know.

425. Certainly, but I take it the convenience would depend upon the distance the butcher would have to go for the killing of his animals?—To a large extent, but not always. In any event, if there was a public abattoir just alongside, a man who has been used to killing at home would rather have his goods separate for these reasons: He has his own goods, he has his skins, his offal, and everything else, immediately under his own eye; sometimes these abattoirs, you know, are not managed exactly in the way that the man would manage his business at home. You can understand the reason of it, and that goods may get mixed and various things may occur.

426. Now take the question of the deterioration of the quality of the meat through the early carriage of it after the killing, might not that be met by the provision of proper cooling chambers?—Yes, that might be, but in a great many abattoirs there is no such convenience existing. That is one of the things that most of the people who have to do with public

abattoirs complain of. Undoubtedly that would be a great advantage.

427. If it were provided that would certainly meet that difficulty, would it not?—It would help to meet it, but not entirely.

428. Why would it not meet it altogether?—Because the shorter the distance the meat is carried the better, whether it is chilled or anyway else. I will give you an instance from my own personal experience. We have one shop in Blackrock, and another one standing about a mile or a mile and a quarter away. It is all killed in Blackrock, where our slaughter-house is, and the meat that is brought down to the stall at Blackrock and kept there will keep a day to a day and a half longer in the summer than will the meat which goes in a van to Monkstown. The meat which is kept in the Rock just close to where it is killed, will keep a day to a day and a half longer than will the meat that is carried over to Monkstown, only a mile or a mile and a quarter away. That is my experience. I am speaking of the hot summer time.

429. But the meat that you are speaking of as not keeping so well, has not been in the cooling chamber?—No.

430. That would tend to equalise the conditions?—It would, undoubtedly, but in any case the carriage of the meat would be looked upon as an objection by the trade.

431. How far do the trade depend upon carried meat; take London, for instance?—I would not take London as an instance, for the reason that there is more dead meat imported into London than probably into all the rest of the kingdom. You cannot take London as an instance, because the greater quantity of meat in London is imported dead meat, and a similar ratio does not exist, I think, in any other city in the three kingdoms. London is rather the exception than the rule.

432. But it is an exception including a considerable section of the population?—Undoubtedly; I cannot controvert that. That meat does not come from abattoirs, except from the Deptford abattoir, which is a different thing. There it all comes in direct, and there are more favourable circumstances in connection with the working of that abattoir than there would be with an ordinary abattoir, where men would send anything they like from three to seven, or eight to ten beasts a week, and from 10 to 20, 40, 50, or 100 sheep, according as it might be. London is very favourably situated in respect to the distribution of its meat, and that is one reason why you can do with so few private slaughter-houses in London.

433. Do you know that the number of private slaughter-houses is decreasing every year?—Yes, I know that.

434. Can you explain that?—The County Council do not care to renew the licence, and some of those places, I suppose, were not exactly built under the proper surroundings. But there is another element in it, and rather a dangerous element for the native producer. It is this, that you can buy the foreign meat which comes from Deptford so much cheaper in the dead meat market, than you can buy, say, Southdowns, or English, or Scotch bullocks, or Irish bullocks, and handle them yourself. I was in the London Meat Market yesterday, and they told me that the price of meat was down, and that it was very hard to sell it at all, it was nearly all foreign meat there. Do you not see that if a man can buy foreign meat a great deal cheaper than his own, that it pays him better to sell it, and he does not want a private slaughter-house in order to kill native meat, because he can get foreign meat and sell it.

435. Do you think that if public slaughter-houses were provided in convenient situations, the butchers in London might be tempted to make use of them, and to buy English meat?—I would rather you would ask a London man on that point. You will have Mr. Haydon, President of the London Butchers Association here, I understand. He has a private

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slaughter-house of his own, and he will be able to give you better information than I can on that point. But I may say, from my own experience, that if any such experiment were attempted in London, as far as I can understand, the result would be that you would have more foreign meat even than there is at present sold in London, and that would be handicapping the man who deals in native meat. That is my impression. I say that from my knowledge of the business as an outsider in London; but you can get much more specific and local information which would be better for you, in my opinion, from a London man.

436. I will put the question, then, to Mr. Haydon on that point?—I want to be perfectly straight; I do not want to pose as an authority on a matter that I have not direct information upon.

437. May I take it from you that speaking generally, in the country, you yourself would regard the public slaughter-house as meeting the difficulty in an important way, or necessarily in some degree?—I will not say "necessarily." They would meet the point of uniformity of meat inspection, but I do say there would be a considerable difficulty in having them adopted.

438. The objections being, first, that the butchers prefer to kill in some place immediately adjoining their own house for the purposes of convenience?—Yes.

439. Then, that, unless special precautions were taken with regard to the hanging of meat in cool chambers, they would feel difficulties in summer time?—Undoubtedly.

440. And thirdly, that they would object to giving up those private places without compensation?—They would more than object, they would resist it.

441. There is another question that I want to ask, and that is with regard to the statement you made, that if the seizure of meat went on as it is now, the butchers would have to protect themselves by only buying cattle when they could get a warranty?—That is our feeling.

442. I do not quite understand what difficulties would arise if they did adopt such a course?—Very considerable difficulties might arise, because farmers as a rule do not like to give a warranty, and a man will not give a warranty. As far as my experience goes, it would undoubtedly cause a great deal of friction and annoyance. They have a good deal of difficulty about it in the Isle of Man. They carried it in the Isle of Man, but the reason they did so was that that place is an island and it has its own laws, and the men in the trade were practically united; and they could get their supplies from another place, you see; so it is quite a different thing. They could get in the dead meat supplies from Birkenhead, and that is what they did do. That is exactly where the thing comes in. If you harass, penalise, or handicap in any way the men who are dealing in native meat, they will invariably go and get the foreign supplies. Therefore I hold that this Commission ought to do all they can to have this matter settled amicably and on a common-sense basis.

443. I am told that at Carlisle they have a system by which the butcher who buys and the farmer who sells pay a small sum, I think it is a shilling, to an insurance fund?—I have heard something about it; but I am entirely opposed to the insurance business. I am not in favour of it. I have heard that the Carlisle business has not worked very well lately. I do not know whether that is so or not, but I am not in a position to give you evidence upon it, and I will not make a statement unless I am certain about it.

444. You spoke with some satisfaction a little while ago of the methods adopted on the Continent. Do you know that the system of insurance very largely obtains there in connection with the public slaughter-houses?—Yes, I have heard something about it; but it is worked on different lines, if I understand it rightly, to any of the proposals that

have been put forward here in connection with insurance. Probably your knowledge would enable us to know, if you could convey it in a question, what are the lines on which it is conducted. It is something different from ours. Does not the Government do something in it?

445. Perhaps it does?—That is precisely what the Government will not do here.

446. I am not speaking of the Government at the moment. I want to learn from you whether you are objecting to the principle of insurance?—I am opposed to insurance *in toto*, and my Federation will not have anything to do with it under the present circumstances.

447. (Mr. Cooke-Trench.) On the ground that you claim compensation?—Yes. We are not going to stultify ourselves; it would be a contradiction.

448. As largely engaged in the trade, are you in a position to give to the Commission accurate information as to the law on inspection under which you are carrying on the trade?—Do you mean in Ireland or in England?

449. In Ireland; anything I ask you will be only referable to Ireland?—The difference between Irish and English law seems to be that we have very little local government in that sense in Ireland, and, so far as I am aware, the inspection in Ireland is not carried out unless in a few cities. We have inspection in the abattoir in Dublin, and we have inspection in Belfast, and in certain portions of the north, but I am not in a position to say whether the town commissioners or the corporations of every city in Ireland have appointed meat inspectors.

450. You are not in a position to speak accurately as to the law?—No, certainly not; nor as to how it is carried out.

451. Not as to what the law is?—As to how it is carried out. The law may be there, but I believe it is not carried into effect. In order to obtain information on that, you might get a return of the meat inspectors who have been appointed in Ireland, and then you would see how the thing is carried out. It should be a similar return to that we have had for England.

452. But you are certainly in a position to give us information as to the practical working of inspection in Ireland?—I have told you that the only places where there is practical working that I know of are the abattoirs in Dublin, Belfast, and probably a couple of the northern towns. Then, also, I know that it is in operation in regard to the military supplies.

453. Is there any systematic inspection of the slaughter-houses?—Yes, certainly, and a rigid inspection of the slaughter-houses by the sanitary inspector.

454. Both in Dublin and elsewhere?—Everywhere that I am aware of.

455. How often is that carried out?—I do not know that I could exactly answer that.

456. Once a month?—Once a fortnight as a rule. You may take it from me that there is an inspection of slaughter-houses; I know that from my own individual case.

457. You spoke just now of renewing licences; are the slaughter-houses all licensed?—No; when I spoke of renewing licences it was with regard to London, where they have a yearly renewal of licence. In Ireland there is a system according to which slaughter-houses are registered, but many of them had been in existence for a certain number of years before the local authorities came into existence. As I stated in my evidence about Ireland, our local authorities—the town commissioners, for instance—are of much more recent growth than is the case in England, and the result is that very many of these slaughter-houses had been in existence for years before the local authorities came to be established.

458. But they were registered?—They were registered sometimes, but sometimes they were not registered at all. My own slaughter-house, for instance, was in existence long before there was a towns

commission instituted in Blackrock, and I do not think it is registered, but it is acknowledged. The same thing exists over a large portion of the country.

459. If a man wants to establish a new slaughter-house, what has he to do?—He has to get a licence from the sanitary authority; and it is very difficult to obtain it too, as a rule.

460. Is there any systematic inspection of cattle, either before or after slaughter?—No, unless where the cattle are sold in a market like Dublin, where there is a veterinary surgeon always in attendance who is supposed to look through all the cattle and sheep—it may be only to look out for cases, if such cases exist, of pleuro-pneumonia and scab, as I do not know that tuberculosis comes within his scope.

461. He does not inspect for tuberculosis?—Not that I am aware of; in fact, I never heard of a beast being seized there for tuberculosis.

462. Is there any systematic inspection after the slaughter of the cattle?—Only in places that I have mentioned, so far as I am aware.

463. In your own case, your meat is not systematically inspected?—Not systematically; occasionally it might be looked at, but there is nothing systematic.

464. You say "occasionally looked at," by whom?—I suppose by the sanitary inspector, but in fact I do not remember just now any man ever coming to inspect my meat.

465. Then there is no systematic inspection made at all to detect tuberculosis?—I would not go so far as that, because I know of some cases in the abattoir in Dublin where cases have been condemned for tuberculosis, and I know of some cases in Belfast.

466. (*Chairman.*) Mr. Trench spoke of systematic inspection; if you have never had an inspector it can hardly be systematic?—It is systematic in those cases, it is systematic in the abattoir in Dublin, it is systematic in Belfast where these men have suffered an enormous loss, it is systematic also in the military meat contract, because I know of a case where a man lost a really fine bullock that cost 21*l*. Of course, these are exceptions, but they are systematic all the same. If Mr. Trench had said "not universally systematic" probably he would be right.

467. (*Mr. Cooke-Trench.*) I said "systematic" as distinguished from "occasional"?—It is systematic in some places.

468. But not in private slaughter-houses?—Not that I am aware of.

469. And it could not be without your knowledge?—I do not know that; it might be. In some of the northern towns I have heard something about it, I think in Newry; but I am not in a position to state it, and I do not wish to make any statement that I cannot verify.

470. Now, as regards Dublin, of which you have considerable knowledge, in how many cases have you known carcasses seized for tuberculosis in the last month?—In none that I am aware of.

471. Or in the last year?—Some were seized in the abattoir within the last year.

472. There were some?—Yes, I think so.

473. Do you know how many?—I could not tell you.

474. As many as half-a-dozen?—I really could not tell you, but if you would like to know, I would write to Sir Charles Cameron and find out.

475. Of course, you could not say how many within the last 10 years?—No, I cannot.

476. What degree of tuberculosis is practically considered sufficient to warrant the seizure of a carcass, in your experience in Dublin?—That is a very difficult question to answer, because it depends very much, as I said before, on the temper of the inspector.

477. I am speaking of your experience?—As a rule, I think, in Dublin they have not been so strict as in other places. I think that the seizure of carcasses in Dublin has been conducted rather on a fair basis. We have nothing to complain of.

478. Can you tell me what the proceeding is in the case of a carcass being seized?—They destroy it.

479. The inspector destroys it?—Yes, they put paraffin oil or something over it.

480. Forthwith?—Yes, they destroy it; at least so I understand, but I never saw a case.

481. Has a case been brought before the magistrate?—It depends on the circumstances. If the man gives up the beast, if he surrenders it, they do not bring him before the magistrate as a rule in Dublin. I have hardly known any case of it.

482. If he agrees that it is tuberculous he is not brought before the magistrate?—Not as a rule.

483. But if he does not?—If he does not he is generally brought before the magistrate, but I do not remember just at the present time any recent case of tuberculosis of that kind in Dublin.

484. In these cases is the whole carcass condemned, or only the tuberculous part?—If there is any carcass that is diseased, they destroy all; they do away with it all; they burn it.

485. If they find tubercle in the lungs?—If they think it is a carcass sufficiently bad to be confiscated they do away with it, they destroy it.

486. If they find only tubercle in the lungs, will they condemn the whole carcass?—As I explained, I thought this matter was arranged on a fair basis in Dublin, and we have not as much to complain of there as in other places.

487. If there is no systematic examination in Dublin, I suppose there is still less in the country villages?—I do not think there is any at all; the same thing applies in England, you know.

488. But I am only asking you about Ireland now. In your experience, is the general condition of slaughter-houses in Ireland satisfactory, both in Dublin and in the country, as to drainage, cleanliness, and absence of unnecessary cruelty?—Yes, because public attention has been very much directed to that lately and, owing to the institution of towns' commissioners and of local authorities generally all over the country, a great deal more attention has been paid than used to be paid to the condition of the slaughter-houses. I believe that, as a matter of fact, the condition of these slaughter-houses has very much improved within the last five or ten years. Besides, the local associations of the men themselves have recognised this fact, that unless they keep their slaughter-houses in a perfectly sanitary condition they can be shut up by an order of the Board or of the sanitary authority, and, therefore, in self-defence they have as a general rule—in fact I may say almost as an invariable rule—very much improved their condition. Then, with regard to the remark you made about unnecessary cruelty, I would like to take this opportunity of saying that the men in our trade are entirely opposed to anything in the nature of cruelty to animals.

489. I do not know whether you can give us any information about the inspection of dairies in Ireland?—I think that is a question which you should put to a man connected with the dairies. My field of operations is big enough without endeavouring to enlarge it. I do not desire to go into the dairy question.

490. I do not know whether you are an agriculturist yourself, but at all events you have been constantly connected with farmers, and therefore you have a good knowledge of the conditions of farming?—Yes, all my people are farmers, so I have some knowledge of farming.

491. If a farmer is obliged to sell, from whatever cause, his animal half fat, or three-quarters fat, does that involve a heavy loss to him?—Not always. Slaughter or sell is it that you mean?

492. To sell it. If a man has about 20 beasts in his stalls to feed, and either from his food falling short, or from any cause he is obliged to sell them before they are fat, before they have reached the stage at which he has been aiming, does that imply a loss to him?—As a general rule it would, certainly.

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There might be circumstances under which he would get the full value of them, and would be at no loss, but as a general rule it would be a loss in my opinion.

493. I am assuming that he gets the full value at the time of sale, whatever that value is?—As a general rule, it would involve a loss.

494. In the case of pleuro-pneumonia, what amount of compensation is paid for animals slaughtered?—I think it is three-fourths of the value if the animal is diseased, and full value if it is healthy.

495. Could you give me any reason why the compensation is limited to three-quarters of the price?—I do not think it comes within the scope of my examination here, because that is a question that has to do with another matter entirely.

496. Suppose the compensation is limited in order to prevent the farmer from becoming careless about the introduction of disease, I want to know—if the loss that he suffers by having to sell his cattle half fat is not sufficient to deter him from being careless about the introduction of disease—whether limiting the amount of compensation would be likely to do so?—I do not quite catch what it is you want me to answer.

497. You say that he suffers a loss, as a rule, by having to sell his cattle half fat?—Yes.

498. Would not that loss be sufficient to deter him from being careless about the introduction of disease?—I believe it would, but I do not think any man wants the introduction of disease, if he can keep it out. What he wants to do is to keep it as far away from him as he can, because he gets nothing, only loss and trouble, by it. Is that not so?

499. I think you have told us that a butcher buying cattle in the open market cannot tell whether it is tuberculous or not?—That is so, unless it is in a very advanced stage.

500. And therefore he is a perfectly innocent party?—Certainly; he is a victim—that is what he is.

501. Apart from the producers and dealers in food stuffs, can you name any class of Her Majesty's subjects whose property is confiscated for the public good without full compensation being paid to them?—Not that I am aware of.

502. You cannot?—No. They would not suffer it, because, as a rule, they are powerful.

503. Is not the limitation of compensation a direct incentive to the parties to conceal disease?—Undoubtedly it is, if possible.

504. Apart from what is commonly called the meat—the “meat substance” I think it was called in the last Commission—what parts of a horned beast are usually sold for food?—In England they sell the intestines of the animal; in Ireland there is very little of it sold. The people in Ireland will not eat the beast's liver and very little tripe, cowheel, or anything of the kind. Practically, in Ireland, it is only the carcass of a beast that is sold for food.

505. (Chairman.) You do not have any haggis in Ireland?—No, we do not. I will give you an instance which may be interesting and useful to you. As a rule, in Ireland the beasts' livers are given to feed the pigs, or we send them to England. When I was down in Sheffield the other day, Mr. Pearson told me that whenever they get a diseased liver it is a great loss to them. It generally weighs 14 lbs., and they get 3d. a pound for it. It is worth very much here, but it is worth very little to us. Practically, in Ireland, the intestines are not used as food.

506. (Mr. Cooke-Trench.) Not even the heart?—Yes, the heart, cock-weight, and, of course, the head, but we use very little tripe, and we do not use the liver at all.

507. You do not use the liver at all?—That is, as far as I know. In some places they may, but I do not know of any. A great many of the livers are exported to England. That is a curious thing.

508. I want to know, with relation to the establishment of public slaughterhouses, whether it is your opinion, supposing they were established in a town,

that their use should be made compulsory or not, putting the question of compensation aside, or supposing that compensation were paid?—They would hardly ever be used, unless it was made compulsory.

509. They would not be used?—No, because no man would leave a place unless he could not help it. They would say they would not leave unless they could not help it. They must be evicted tenants, and get compensation for disturbance. That is how it is.

510. Are there not in Ireland a low class of butchers who are ready to buy any class of animal, no matter how diseased?—I would not be prepared to say there are many of them. There may be some, who are hawkers. The fact of it is, that our people in Ireland, as far as I can understand, are keener and better judges of meat than they are anywhere else. For instance, they buy less foreign meat, although foreign meat is nearly as good. It is a fact, I believe, that there is more good meat killed in Dublin than in any city of equal proportions in the world; and I believe if there is one thing that they are more particular about in Ireland than another, it is the buying of good meat. That class of men that you have alluded to are almost extinct, as far as I know, in our country.

511. Are they in the country parts?—There may be a few hawkers in the country parts. I have been in the country, and I have seen some of the best meat I have ever seen in small country shops. They go for the best of everything in the way of meat.

512. Is there not, in most country towns in Ireland, at least one butcher to whom, if a farmer has a beast wrong, he sends it?—No; on the contrary, as a rule, these things find their way to a big town, because in the small places a thing of that kind gets wind; everybody knows it, and if a man gets the reputation of killing that kind of cattle, it simply shuts him up. As a rule, the farmer does nothing of the kind; he shifts it to the nearest railway station, and he sends it in to some place else, probably it may go even to Glasgow or to Dublin, or somewhere else.

513. It goes over to the Saxon?—Yes. As a rule, the small butchers could not do anything of the sort. That is my opinion and experience; I may be wrong.

514. I am only asking you your opinion?—I think you would agree with that too. The case of surrender comes in, and that is the reason why, in my primary evidence, I stated the necessity of having this inspection extended all over the country as well as in the towns, because this stuff comes into the towns, and the towns get debited with this business, which really takes place a long distance away.

515. Would not the effect of establishing abattoirs in large towns and not in the country be simply that all suspected animals would be slaughtered in the country?—It might have that effect in some cases. I do not know how it could be brought to bear upon the general aspect of the case in such a sweeping way as you lay it down. It would be very difficult to have all suspected cases killed in the country, but the tenour would be in that direction.

516. If the town had its public abattoir, and a farmer had a cow that he suspected, he would not send her to the public abattoir?—Certainly not.

517. He would send her to some place where there was no inspection?—He does not send her anywhere, he kills her himself, and sends away the carcass. He would not even send her to a respectable man; he would make the best thing he could out of it, and send it to some centre.

518. Now I will refer to the statement put in by the National Federation; you spoke of Belfast, but you did not speak of Dublin?—Because, as I told you, we have not so much to complain of in Dublin. Besides, I think the class of meat killed in Dublin is very much superior to what is killed in Belfast. The best grazing districts in Ireland are immediately adjacent to us, Meath, Kildare, Limerick, and so on; but in Belfast, you know, and up in the North, they are not able to feed and fatten cattle in the same way as they can upon our good grazing districts.

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519. If I understand you aright, it is practically because there is inspection in Belfast and not in Dublin; is that the reason why there is no reference to Dublin in the statement?—Even if there was the most rigid inspection in Dublin—of course, this is only a statement, and nothing more than a statement, because I have no practical evidence to give in support of it—my belief is, that if you have the most rigid inspection in Dublin, the same result would not accrue, for the reason that the class of meat which is killed in Dublin is vastly superior to that which is killed in Belfast. We have a better supply, and we have men who know their business, and who would not buy that kind of article. They could not sell it, and it would be no use to them. In Belfast they have a large manufacturing population similar to what exists in a good many of the English towns, and these men want a large supply of cheap meat. We have to supply a better class of customers.

520. I want to turn to another subject; you said that the whole loss falls upon the dealers?—Yes, so it does.

521. Does it not ultimately fall upon the farmer?—I do not see how it does under the present circumstances at all.

522. We have in this statement these words: "The reason the Belfast traders are anxious and wishful to obtain a landing stage for foreign animals is that they will, by purchasing dead meat, escape tuberculosis prosecutions and confiscations; obviously this is not advantageous to the native producer."—Certainly, but the loss does not immediately fall upon the farmer just now; it will when we introduce the warranty business.

523. It falls in the first instance on the butcher?—Of necessity.

524. But there is no doubt that it lowers the price which the farmers get?—In relation to a certain class of stock, a middling class of stock; it does not interfere with the good cattle.

525. This does not say anything of that kind; on the contrary, it says that it is a protection to the foreign article?—so it is.

526. And, therefore, disadvantageous to the farmer?—Yes, I have already said so.

527. Therefore it is on the farmer that the loss falls?—But the farmer does not feel the immediate loss, or, if he does, at the present time it is only in a very remote way.

528. He does not feel it directly?—No.

529. Only indirectly?—Only indirectly. We are the buffer, and we want to get out of being a buffer; we want to be a motive power, that is just it.

530. Why do you propose to limit the compensation for animals to the 8*l*.?—The reason is, because any animal that would be bought under 8*l*. would be, in the opinion of expert men in our business, not an animal that would be fit, as a rule, for consumption, except it was a small cow or something of that kind. We do not want to protect men who obviously buy animals at such a cheap rate by bringing them within the scope of compensation.

531. Would that not fall very hardly upon the poor men who have to sell their cows?—Yes; but that is not our business, and we do not see the necessity of protecting a class of men who want to realise money out of the sale of diseased meat. That is our reason for it.

532. It would be, in your opinion, a very difficult thing to carry out an inspection all over the country?—It would be a difficult thing, but I think there is room for very much improvement with very little cost. Provided the central authority, as I stated before, gave directions, and that competent men were made meat inspectors, you might count on the co-operation of our men in protecting the public from the sale of diseased meat, because it is our interest to do it; you need not go any further in finding out high motives for it, because it is our interest.

533. (Mr. Speir.) You have had a very long examination already. I have a few questions here,

but I do not want to worry you any more than I can help?—I do not mind. It is not a worry to me; it is a pleasure to me.

534. If you give me direct answers I will be very quick, as most of my questions have been cut out by the previous querists. You have already said you would like to see the meat judged according to a fixed rule; but you have never, in the whole of your answers, given us an idea of what that should be?—Do you mean in regard to tuberculosis?

535. Yes, tuberculosis only?—I think it must have escaped you; but I do think I stated more than once that, in my opinion, the rule ought to be that, where a beast alive begins what we call to waste, and where the tuberculosis is generalised and not localised inside the beast, that would be, in my opinion, a proper stage at which judgment ought to be exercised. But then, in opposition to that, we have all the evidence of these expert men showing that tuberculous meat can do very little harm, except at a very advanced stage.

536. In that way you would only condemn what is looked upon as soft, flabby meat, and is generally in the trade called so?—That is it.

537. Nothing else?—Nothing else.

538. No matter how much, then, the internal organs were wrong?—Of course, it depends very much. I, for instance, have seen for myself where the internal organs extend all along the ribs, and have stuck to the ribs, you know; that, as a rule, produces the external and generalised tuberculosis, and that is the beast I would condemn; but where you can take the internal organs clean away and there is no appearance of disease on the outside carcase, I would not condemn it.

539. Are you aware that there are any number of cases where you could not have so very much wrong with the organs, and you could still have a good deal of the smaller glands inside the muscular portion of the body wrong; what would you do in that case?—The scientific evidence that I have given you of Professor MacFadyen, Mr. Cox, and of all those men from Germany, and from France, and the various medical officers, shows that they do not agree with that view. The determining of that, I think, would not rest with me, but would rest with the medical inspectors, subject, of course, to what we want—and this is the point I think we ought to arrive at; what we want is something laid down as to a certain stage of the disease, as near as we can go to it, where it is considered to be dangerous. It is not my province to determine that.

540. You have often mentioned Glasgow and Deptford, and York Hill, with regard to the slaughter-houses there, and you have also told us that you are against public slaughter-houses unless under certain limits, and in favour of private slaughter-houses?—No, I did not put it that way. I say that public slaughter-houses would insure uniformity of meat inspection, but I pointed out the difficulties in the way of having public abattoirs established all over the country. My own view is that public abattoirs would insure uniformity of inspection, but I have honestly pointed out to you the difficulties which exist in the way of it.

541. The reasons that you gave for that did not appear to me to be satisfactory?—Of course, you have a right to your opinion, and I have a right to mine.

542. Decidedly. You have mentioned York Hill, and you have said you have seen Deptford?—Yes. When you come to carry out this thing you will find out who is right.

543. Have you found anything wrong with regard to York Hill?—No.

544. You have there a city—said to be the second in the Empire—and you have probably the largest number of foreign cattle killed there?—Yes, that is a model abattoir.

545. Why cannot any new one that is put up be a better model?—That is all very well. That is your

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opinion. You have got a lot of money in Glasgow; but if you come to a poor corporation, which is quite a different thing, you can do everything if you are prepared to go to a certain expenditure. I do not find any fault with York Hill; on the contrary, I think it is the finest abattoir that I have ever been in.

546. Has it ever occurred to you that in killing in a private slaughter-house, where you have only probably from two to half a dozen animals in a week—?—That must be a very small private slaughter-house.

547. Well, say more, say 10—has it ever occurred to you that the average cost of interest on each of those animals is, comparatively speaking, great?—I do not agree with you at all. That is all right enough from your point of view, for this reason, that you have no practical experience in it. But a man likes to have his business under his own eye. It is all very well for theorists to come in with their peculiar notion about rates of interest, and all this kind of thing. Why do you not interfere, for instance, with wine merchants bottling their wine, and all that sort of thing? The nearer a man's business to his own home the better. I believe that you are connected with the dairy and the agricultural interest. You might as well say all the dairymen's cows ought to be in one large dairy, and ought to be there under inspection, and should be fed by the public, and all that kind of thing. There is a great deal to be said on that question.

548. Have the people who are connected with the meat trade to which you have so often referred, who come from Glasgow, and who come from Edinburgh—?—Glasgow is not affiliated with us, and I do not speak of it.

549. Then Edinburgh?—And Edinburgh is not affiliated with us.

550. Leaving these out, have these men complained to you of the inconvenience of slaughtering in a public slaughter-house?—No, but Glasgow is favourably circumstanced, because Glasgow has three public slaughter-houses, has it not, in three-quarters of the city? I have been to Glasgow, and I know all about the slaughter-houses. They are very well circumstanced; but let us take Dublin, for instance.

551. (Chairman.) Paisley, I think you said?—Paisley is affiliated with us.

552. Is there an abattoir there?—I do not know; I have been in Paisley, but I do not think there is. Perhaps Mr. Speir knows whether there is an abattoir there.

553. (Mr. Speir.) You have said that we are often very far behind what is being done in foreign countries?—Yes, and I believe so.

554. Are you aware what is done there now in the way of condemnation?—I know that, as a rule in all big cities they have public abattoirs, and that all the meat is marked. I have been at Buda-Pesth, and I have been at the abattoir there. There the meat is all marked—every one on the leg. But then there are a great many correlative circumstances that must be taken into account. These people do not eat anything like the same amount of meat that we do, and that system has been in operation there for some time and they have got used to it. Then they are not half so harsh in the administration of the laws as our officials are towards us. You do not hear of any of these prosecutions and persecutions and taking up of men. If they have anything to do with the trade, they consult a member of the trade, and they take his advice; they do not act outside of the trade.

555. In connection with that matter, I happen to have before me a list of the animals that have passed through Leipsic—there are nearly 23,000?—I was in Leipsic, too, the other day.

556. You said some time ago that the disease was, as a rule, principally found in cows only?—I was speaking of our own country and not so much about Leipsic. I cannot be supposed to have a general and

universal knowledge like an Admirable Crichton, of every slaughter house in the world.

557. Presuming that you were speaking of our own country, is it not a fact that the Glasgow cases to which you referred were, one a bullock and the other a heifer?—Yes, the bullock was not affected at all.

558. The other one was a heifer?—Yes, certainly. That is only an exceptional case.

559. Is it exceptional?—Yes, that is all.

560. Then another heifer to which you referred—that was, I think, a Dublin case—had been sold for 30l.; was that an exceptional case too?—That was one of these pedigree heifers. It was a short-horned heifer which was fattened. She had spent all her lifetime in a stall.

561. I will take you up just on that point. Bred all her life in a stall?—Nearly all her life.

562. In one of your answers—I do not remember to whom—you made some reference to the effect that foreign cattle were not nearly so badly affected as our own; might I ask you whether you are acquainted with the conditions under which cattle are kept in the winter time in the States of America and in Canada?—Not very well acquainted. I have never been in the States of America or in Canada, but I have seen a great many of their cattle killed in Birkenhead. I have seen them killed at York Hill and at Glasgow too. Then I have been at Deptford several times and I have seen these cattle killed there. I have seen some hundreds of them killed and I never saw a case of tuberculosis amongst them opened.

563. Are you aware that the cattle there, in most cases, are seven months in the house?—Yes, I am.

564. And that the houses are not as good as ours?—Yes, but they have been all their lifetime before that, until they have come to a certain age, outside, and as a rule, we are only getting the two, three, and four year old bullocks, and they are a fine class of meat.

565. Cattle in America are not all their life outside?—No, not all.

566. No matter how long; the winters are too severe for them?—The winters are severe. They are more healthy cattle—you know they are—and they are a fine class of bullock, no mistake about it. They are able to resist disease better than our cattle, as a rule.

567. Do you presume that an outside life would entirely free them from the disease?—No, I do not say anything of the kind.

568. How far do you go in that matter?—I could not exactly say.

569. Do you think it would reduce the chances?—I will give you an authority if you want to go into that.

570. I want only your own opinions just now?—My own opinion is that cattle that are out are better off. If I had my own way about it I would have cattle out every day in the year—dairy cattle too—and house them at night, because I think the open air and the sun are so good for them; the sun is the most disinfecting agent in the world.

571. Taking this matter of the sun, Portugal is a pretty sunny country?—Yes.

572. They have a portion of the country there where bulls are kept for the bull rings; I understand there is somewhere about 30, or 40, or 50 square miles of it; would you be surprised to know that there has been a considerable amount of disease found in those animals?—No, I would not.

573. Yet they have never been in the house?—That is because they are in-bred animals. I would not take Spain or Portugal as an example to be followed by any nation in regard to any of their institutions or concerns, but particularly in matters of that kind, because I think they are the most backward nations probably on the globe. These cattle have been all their lifetime there, they are all in-bred, they have no crosses or anything of that kind, and therefore it is quite natural.

574. If you have an area of country, 45 miles square, devoted entirely to animals of that kind, surely you cannot say that they can be very much in-bred?—I do say that. There is certainly no foreign blood comes in at any time. They are more or less in-bred; I think it is perfectly plain.

575. I want to return to an answer which has been given in reference to this Belfast business and the meat trade's desire to have foreign cattle brought into Belfast. The meat trade say they wish that in order to be free from tuberculosis, and I understand you corroborate that?—I am not responsible for the statement at all.

576. You are not responsible for it?—No; that is the statement of some of the men in the place, and it is not my statement; at the same time I believe there is a certain amount of truth in it.

577. Is it not likely to be a statement that you want cheap meat?—Most undoubtedly. Why should not they want cheap meat?

578. Is it not likely to be a statement that they wish the meat there in order to sell it for home meat?—I do not know. I am not going to commit myself to that aspect of the question. I think all meat ought to be sold for what it is. That is my own personal opinion. I have always had the courage of my opinions on that point too, everywhere.

579. That is what I am pleased to hear that you have so often done. You made the statement that human tuberculosis was very much on the decrease, can you give us any facts for that?—I will find you out the returns of the disease, if you like, but I think it is pretty well known.

580. I think it is well-founded?—Yes, I think it is pretty well known by all the medical authorities. I will give you data for it.

581. In the forenoon you mentioned a case of condemnation at West Hartlepool; are you aware that a considerable number of cows, which I may say are presumed to be affected with disease, come from certain districts and are daily or weekly exposed there, or in one or two other towns in the North of England?—I am not exactly aware of the local circumstances, and, as I explained, I could not be expected to be aware of all the different local circumstances, but I think I made use of this expression in a part of my examination, that there were certain localities in which this disease probably might be more rife than in others, and that that would be one of the reasons why the seizures and detections would be greater in that locality. I do not know that I said it in connexion with West Hartlepool, but I think I guarded myself by that statement in some portion of my examination. If I did not I say it now, but I think I said it before, and in that case I repeat it.

582. I know from certain districts there are at least one, two, or three waggons a week go to certain of the towns in the North of England, containing animals of that kind; and that would be a sufficient enough reason for a large percentage there?—I am not in a position to contradict you, nor am I inclined to contradict you, because I believe that what you state has common sense in it.

583. Then, coming to the Isle of Man system of protection, why did the classes of insurance which you have known tried, turn out a failure; I want to find out what you think of that?—How does that come in with the Isle of Man warranty?

584. The Isle of Man warranty was the boycott?—Practically that was what it was.

585. You mentioned, immediately after that, certain places where insurance had been tried, but it did not turn out successfully, but you did not say how it did not turn out successfully; I wish to know that?—I do not want to be taken as giving you this exactly as representing the facts, because I am not in a position to do it; but, as far as my knowledge goes, I think it was in Belfast they tried this system, by a levy of so much upon all the members. I was down in Belfast myself, in order to effect a union between the two associations there. One of those associations

was of men who killed really good meat, and there were very few tuberculous seizures amongst them. The other was composed of the poorer class of men who could not afford to come to Dublin, and who were obliged to buy the other class of meat. The result of this insurance business was that because the tribute was laid on a certain class of men, the other fellows seceded, and the end of it was, I believe, that it broke up the association. I do not know whether that is exactly the fact now, because I believe there has been some change since. That is one case. In another case that I heard of it worked very unsatisfactorily, and some men left the association. It had the effect of producing a good deal of friction. However, so far as I am individually concerned, I am entirely against a system of insurance, and nothing would bring me to believe in it, because we would be simply taking the ground away from our own doctrine of compensation. I am not concerned in its defence. Our motto has been "defence" and not "defiance"; that is all we want.

586. You mentioned once or twice about carcasses being seized in transit, how do you mean?—I am not aware that I made any statement of that kind.

587. Sent to a railway station and sent to a meat salesman?—After transit when they came to a meat salesman, not in transit but after transit. For instance, stuff comes from, say, any part of England or Scotland, here, to London, or to Manchester, or to Glasgow, and then it is seized; I think it is very unfair to the meat salesman, who has had no opportunity of knowing the condition of this stuff, that he should be fined and prosecuted, particularly where, as in some cases, they have a doubt about it. I know some very respectable men here in London who generally call round the meat inspector and say, "I do not like the look of this stuff; what do you think of it?" and they give it up, and it is surrendered and then it is put down as a seizure, although they are not prosecuted. Sometimes it is seized before the man has time to know anything about it, and I think that is a great hardship.

588. Do you not think that all carcasses of that kind, where there is an opportunity of examining them, should be submitted to examination before sale?—Decidedly, and I think that something should be done with hawkers in the country towns. It is a most extraordinary state of things which exists, I think, in St. Helens, where the hawkers kill their stuff outside the town, bring it into the town, hawk it there and sell it at a low price. If that stuff was killed in the town, it would not be passed by the meat inspector, and yet the hawkers are allowed to sell it. This is where I want uniform meat inspection, and where it comes in. I agree with you entirely about it.

589. Then your idea is that all meat should pass a certain inspection?—Certainly.

590. And then you would get clear of all this sort of thing?—I have no objection whatever to a meat inspection. I think it would be a safety.

591. To the general public?—To the general public, and to the respectable members of our trade.

592. In answer to Dr. Thorne, you mentioned, in reference to the experiments which have been carried on by Professor MacFadyean, Dr. Martin, and Dr. Woodhead, that guinea-pigs, pigs, and calves could not be taken as a basis on which we might deal with human beings?—I did not say they were a basis, but I said I thought they were rather a favourable class of subjects on which experiments of that nature could be tried.

593. I admit so, but do you think they are a more favourable class than human beings; have you any reason to think so?—Certainly. I believe that most of us here have been eating tuberculous meat more or less during our lifetime, and I believe that Providence has given us the means of resisting it. There is a certain class of people in India who live upon a class of food that is almost poisonous, and we all know perfectly well that if you begin to take poison in

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small quantities, by degrees, you can inure your organs to such an extent that you can take as much of it—arsenic, for instance—as would poison an ordinary individual who would take that dose at once. I suppose some of you have read the history of the very famous King Mithridates long ago, who said he could not be poisoned because he mostly lived on poison. I believe there is a good deal in it. There are a great many things which are poisonous more or less, and you get accustomed to them.

594. In the cases you have been referring to, you have been treating, practically speaking, of mineral poisons?—Yes.

595. This case is a disease having a germ origin, which is very different?—That is all right, but the bacteriologists who have this germ business in their minds, I think, are rather in a peculiar position; they tell us the danger is there and then they leave it, and they do not tell us how to relieve it, or what cure there is to be for it.

596. (Professor Brown.) I would draw your attention to the statement of the National Federation of Butchers and Meat Traders Associations. There is a case stated there in these words: "On another occasion half of the beast was certified as fit for food by the medical officer, but the magistrate refused to sign a certificate for the destruction of only one half of the beast." Do you know anything of that case?—That was in Hartlepool, and there will be a man from Hartlepool who can give you all that information.

597. You do not know anything about the case?—No, and I have said all along that I would prefer not to make any statement except I have some personal knowledge. I will make inquiries about it, and you can have a man from West Hartlepool to give you the information.

598. Are you aware that in some parts of Germany they have a particular system of slaughtering and dealing with animals that are suspected of tuberculosis?—Yes, I am aware of that.

599. And that, in the event of the carcase being condemned, they utilise as much of it as they can?—Yes.

600. They take those parts away which are not considered unfit for human food, and send the rest of

the carcase to a selling place which they call a freibank or free market?—Yes, I am perfectly well aware of that. We had an article on that.

601. I want to know from you, as a practical man, whether you think a system of that kind would succeed in England; that is to say, a system which implies that meat which has been condemned, meat from a tuberculous animal, but meat which is not in itself necessarily diseased, can be either sent raw, as the medical officer may determine it, or be cooked or be sterilized and sold avowedly as meat that has been so treated; do you think the people in this country would buy it?—I think it would be very difficult to dispose of it in England, and I think it would be impossible to dispose of it in Ireland. I am quite serious. The reason is—and I think it is well to bear this in mind—that on the Continent meat is a good deal dearer than it is here, and the disproportion between the prices might tempt the poorer people there to buy it and to be satisfied and put up with it. For instance, to-day I heard a very extraordinary thing that might bear on this. It is really a matter of great interest. I understand that a large number of horses have been imported into France for the purpose of providing horse-beef in Paris. Of course this is away from what you are considering, but it bears on it as showing how meat of an inferior character can find a market in foreign countries, when it would not here. 1,500 prairie horses—young horses, not brutes that have been working for 15 or 20 years, with plenty of sinew in them—but these young horses have been imported into Paris, and they are being made use of as horse beef. If this thing succeeds they will go on with that regularly. Now I say, in connexion with your question, that if this is the case, and if they are satisfied to take horse beef, naturally they would take cow beef if it were sterilized, and they understood that and they found it well enough, and they could get it at a cheaper rate; but I do not think there would be much market for it in England.

602. At any rate, as a practical man, you do not see any serious objection to an experiment of that kind being tried in this country?—Certainly not; but I doubt its being successful.

The witness withdrew.

Adjourned until to-morrow at 11 o'clock.

THIRD DAY.

At No. 7, Whitehall Place, Westminster, S.W.

Thursday, 26th November 1896.

PRESENT:

SIR HERBERT E. MAXWELL, BART., M.P. (CHAIRMAN.)

Dr. R. THORNE THORNE, C.B., F.R.S.
Professor G. T. BROWN, C.B.
SHIRLEY F. MURPHY, Esq.

T. COOKE-TRENCH, Esq.
JOHN SPEIR, Esq.

T. M. LEGGE, Esq., Secretary.

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Dr. W. SEDGWICK SAUNDERS called and examined.

603. (Chairman.) You are the Medical Officer of Health and Public Analyst to the City of London?—Yes.

604. Would you tell us briefly the powers under which the inspection of meat in the City of London is conducted?—It is conducted under two special Acts of Parliament, 1848 and 1851, by the Commis-

sioners whose powers were not interfered with and by the Public Health (London) Act, 1891. They have power to appoint such inspectors of slaughter-houses and meat as they may think necessary for the purpose, with authority to prosecute; and generally to deal with the subject of condemned meat in the public markets in the City of London proper.

605. Is that for dead meat only?—For dead meat only. Well, there is just one little limitation there; sometimes you get live animals in Leadenhall Market, but not in the way of meat supply. There is no livestock market in the City of London.

606. How many private slaughter-houses are there in the City?—About 14.

607. Does that include pig slaughtering?—Yes, all the slaughtering is done at Aldgate. There used to be eight or nine more, which were all in Aldgate, and they were destroyed by the District Metropolitan Circle Railway, so that at present we have 14.

608. And you have no cowsheds in the City?—None at the present moment.

609. The slaughter-houses are conducted under byelaws?—Yes, a copy of which I have given to the secretary, and which is now on the table.

610. What are your functions with regard to the exclusion of dead meat for sale?—Primarily the meat is delivered soon after one o'clock in the morning; it takes time, of course, to unpack it, and the inspectors are not required until 5 o'clock; but no meat can go out of the market until it has been inspected; no meat can leave the market until after 5 o'clock. Inspectors have the power of seeing every bit of meat that comes in, averaging in 1896 1,200 tons per day, but scarcely ever less than 1,000 tons per day.

611. And you have an adequate staff of inspectors?—I am obliged to say no. We have doubled the number lately, and we are getting the arrangements into better working order than before, but with such a bulk of meat it would take a very large staff to check carcasses by carcass.

612. You state here that you have six?—Yes, we used to have four, but one man was dismissed, or allowed to resign, who misconducted himself, and then in July last the number was made up at my representation to six. We are going to try that by giving them in turn certain duties to see how far it will work.

613. Do you find any difficulty in getting properly qualified inspectors?—No, it is done by public advertisement, and we get an immense number of applications for even a single berth. These are eliminated by a sub-committee of the Sanitary Committee, and then they are remitted to myself generally with the Chairman and Chief Clerk, in order that the applicants may be still further reduced. These candidates are generally reduced to about 12, and each of those 12 has to undergo an examination by myself in all the general characteristics in sound, unsound, and diseased meat [the distinction between unsound and diseased meat is that the unsound meat is putrid, from animals that have died from accident, and other causes, but not disease]. The great bulk of our seizures is from animals which are unsound or in a state of putrefaction. From my report the Committee calls the 12 men before them, and three are selected for attendance before the general Court of Sewers, who select one of them.

614. What is the process in the treatment of condemned meat?—The moment the meat is seized it is taken to the condemned meat sheds, which are, roughly, about the size of this room. Each shed contains three slate tanks of a capacity of 600 gallons each, into which is made what we call, for want of a better name, a chemical bath. This chemical bath prevents further decomposition, and so disfigures and discolours it as to make it unfit for use for human food. It is subsequently shown to me, and in all disputed cases I order it to be taken to the magistrate at Guildhall who deals with it under the Act of Parliament, and it is reported to the Commissioners of Sewers. It is then taken back and put into the bath, and awaits the arrival of what we call the contractor for condemned meat, who lives some five miles off in the terrible district of Ham and Bow. The meat is conveyed to him in sealed carts, with patent locks, to which no one has access but the people in his own premises at Bow, and our men at the other end. He pays a certain amount—

2d. per stone of 8 lbs. to the Commissioners for all the meat condemned [600 tons in the year, speaking roughly], and this goes towards reimbursing the very much larger cost of the inspectorial staff, the carriage, and wear and tear of horses, portage, and other things which we do at our own cost. He does nothing but convert it into manurial products and meat-fibre, and bone-dust, and that sort of thing.

615. A point made yesterday by a witness was to the effect that it was felt to be a hardship by the trade that no distinction was drawn between the surrendered meat and seized meat?—That is a fiction. It is surrendered in this way: an inspector goes into the stall or the meat salesman's shop, and when either of these see him they say, "We want to show you something." But as a rule he does not go to the inspector and ask him to come and look over his shop, although they take a great deal of credit for that. In some cases where the thing is a nuisance they do come. But my senior inspector will tell you that it is a very rare thing. They take a great deal of credit for it, but it is all moonshine. These men do not call as much attention to it as they ought to do, and that necessitates the action of the inspector going into the shops and asking how things are. I have been with him many times and he says: "I want to look at that," and it is taken and shown to him, and examined, and, if bad, put on one side till our porters who have charge of the business take it away out of the man's shop. As a rule they are glad to get rid of it.

616. The number seized in 1895 was very much in excess of those seized in 1894 by the Metropolitan Sanitary Authorities, although the number condemned was actually smaller?—I only know about the City, you know, and the number of carcasses seized I have got only in weight, unfortunately. The total supply for 1895 was 347,000 tons, of which 600 tons were seized.

617. Could you give any cause for the larger number of seizures and the smaller number of condemnations?—Yes. Again comes in the distinction between the unsound and the diseased meat. The failure of a very large consignment of New Zealand sheep, say 40,000 sheep, or a large consignment of Australian stuff, also arising from the refrigerating process breaking down, would very much increase our seizures, but we should not call that diseased but unsound meat. The distinction that should be made between the unsound and diseased meat is an unknown quantity. This year we have taken very largely in excess of any previous year—over 10 per cent.

618. You do not apprehend the point. The point is that although the number of seizures was very much larger, being 6,000 in 1895 against 3,800 in 1894, the number of carcasses condemned in 1895 was only 17 against 25 in 1894, which seems to point to greater vigilance or activity on the part of the inspectors?—There is no doubt that that proportion will decrease with the number of inspectors, because in 1894 we were working with four, and now we are working with six, and of course, an addition of 50 per cent. like that would make a great addition to the inspectorial activity; and I think we have a better class of men than before. We have experienced men, some of them were inspectors before, and all having a good practical knowledge of butchering and slaughtering, and with some elementary knowledge of diseases of animals.

619. You have 17 condemnations out of 6,096 seizures; might that not be complained of by the trade as indicating rather vexatious action on the part of the inspectors; in fact it has been so complained of?—You are reading those condemned by justices, and I should explain that the justices do not see all these 600 tons, but only such of them as are liable to prosecution. The butchers make no resistance; they are too glad to get rid of the meat in a state of putridity. We do not charge them with a criminal offence, we simply confiscate their goods; and it is

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only the cases that go before the magistrates that are tabulated in this Return, and not all these, because sometimes the solicitor advises, and very often, I am sorry to say, he says in the best of his judgment the evidence is conflicting, and there is a difficulty of attaching the ownership of the particular stuff. Sometimes the person puts it off on to someone else. If he is a farmer he puts it on to his bailiff, and the local butcher puts it on to the salesman, and unless the evidence is carefully welded together we do not get such evidence as will justify a prosecution; and there is a hesitancy in taking the matter up without getting a conviction, because that would involve the charge of a little harshness perhaps. If you could not convict they would say: Why seize it, and why take it to the magistrate and get it condemned. That is one explanation. Another is, and it applies to the foreign meat—large quantities of meat—some of which I have no doubt was tuberculous—comes from Belgium and other places, but we have no power beyond that of seizure, as we cannot go outside our jurisdiction, and therefore the senders escape scot free, beyond losing their goods.

620. Although the meat may be condemned?—Oh, yes; there would be no legal power. That applies to distant parts of Ireland too, where the cost of a prosecution and the disruption of the general business that would arise by sending experts down to prosecute or to get evidence, and that difficulty would be very great indeed.

621. The foreign meat exposed in London for sale is in the hands of a contractor or salesman?—It is in the hands of the assignee; that is, the salesman.

622. And he is responsible?—Yes, he is responsible for having goods found in his possession. But if it is found in the ordinary way of business it would be impossible to get several hundred tons in the shop looked over, and the consignee says to the inspectors "look round" (and they go without being asked), and then find, there being no resistance, he is not liable. The Act of Parliament says it shall be "in his premises and exposed for sale."

623. But in no case can you proceed against the producer?—Oh, yes, in the English counties we do. The man who sells the meat, not the absolute breeder, but the butcher who consigns it, we proceed against him if he has guilty knowledge. The local butcher sometimes says to his salesman: "Here it is, if it is not good enough, mark it 'cat's meat'"; but then it is dressed in the ordinary way for sale, and it is cat's meat if the inspector observes it there, but in the hands of an unprincipled salesman butcher's meat, if you or I go there to buy. We get again and again tricks of that kind.

624. Have you not statistics of the percentage of sound and unsound meat in the Central Market?—Yes, the proportion of good to bad in 1895 was 173 per cent.; that is less than 2 per cent.; and then the proportion of disease to that is about 1 per cent., sometimes 1.2.

625. And you have no means of telling what proportion of that disease arises from tuberculosis?—Well, a very small proportion of the declared cases; that is to say, in 1894, out of 3,889 carcasses five were tuberculous; and in 1895, out of 6,096, nearly double that number, there were only four cases of tuberculous meat. I need not say there is a great deal of cunning used by fraudulent persons to conceal the evidence of tuberculosis: for instance, they cut it carefully away and then rub it over with suet, and powder it, and it is done so artfully that you cannot tell the difference unless there is something in the flesh tissues to show it. They do the same thing with pleuro-pneumonia; they strip the ribs and cut off all the adherent pleura from the ribs, and then rub it over with suet. That we can tell, because the marks of the knife are so very apparent, and the stripping of the pleura shows that some tricks have been played.

626. Are there many old milch cows' carcasses exposed?—Yes, old cows.

627. And is tuberculosis seen among them?—No more than in the number of cases I have given you. We had a case last week in which we prosecuted a man for 11 pieces studded all over with tuberculosis along the lumbar glands, and the tissues and the joints and all the superficial and lymphatic glands, and it was one mass of tubercle from beginning to end.

628. Was that an old cow?—No, a piece of pork.

629. Foreign pork?—No, English pork. We prosecuted the man and got a conviction.

630. Would you condemn a carcass for the slightest appearance of tuberculosis?—Undoubtedly, I should not hesitate.

631. Even if it were only in the internal organs?—You cannot show that. Of course an expert anatomist can tell, and you have to take a high standard. I say you could not tell if it were confined in the ordinary way to the viscera. You might get local manifestations that would escape the eye of anybody except an expert anatomist.

632. (Professor Brown.) The question I want particularly to put is as to the principle on which meat is condemned as unfit for human food?—Well, the morbid appearance would be the general answer.

633. Of course it is necessarily a matter of sentiment?—Oh, no, I do not say that; it is a matter of fact. You get the general conditions; I can tell you the general conditions of flesh which would justify the condemnation.

634. But assuming the very worst condition of flesh conceivable, on what ground is that condemned as unfit for human food?—Of course that is a very wide question.

635. It is one that has been discussed very often?—I know, but that is a matter in which you go into morbid appearances. There is the growth of bacteria; it is much easier developed in tissue with putrefaction. Diseased meat never sets properly; it is wet and generally wasted, and soft; and an animal that is otherwise a healthy animal if slaughtered for a number of hours and hung up to cool, its flesh and tissues are firm, and altogether it is dry and hard. But in disease that is not so. You never see a rotten sheep, a wasted cow, or an animal that has died from parturition in which the meat sets properly; the flesh is soft and wet and generally pallid; that is generally the case in what are called "crokers," or animals that have been slaughtered "in extremis."

636. It comes back to our original point, that you condemn carcasses of that kind merely because it is unpleasant to the eye, the whole appearance is so disgusting?—Yes.

637. But there is no evidence at all that it would injure any number of human beings that might take it?—I would be sorry to try it.

638. (Chairman.) Have you any discretion under the statute?—We have no discretion. It shall be "in the judgment of the inspector"—that includes myself—"unfit for human food."

639. That is the definition?—Yes; we take the general condition of the meat. We say that in the seized meat we find a certain general condition of flesh, and in healthy animals we do not.

640. (Professor Brown.) That is quite intelligible. Is it not the case that an animal or carcass in the very worst condition is said to be unfit for human food, because it impresses the observer with a feeling of disgust, and that he has no evidence whatever that it is unfit?—He sometimes has the evidence of his olfactory and visual nerves, and in a great many cases by his putting a skewer into it.

641. We get that from a very high pheasant or a hare, but what I want to make out is this: Is there not direct evidence which could be advanced, supposing the point could be disputed, that meat in certain conditions is unfit for human food?—Well, it would take a very long series of chemical experiments to do that.

642. But there have not been any such experiments?—Yes, the Germans have done some, and I have done some myself with sausages.

643. You proved your case in that instance by demonstrating that it had a bad effect?—I cannot do that, I have no licence to kill.

644. If you take sausages and they disagree with you, then you think they are not fit for human food?—Well, I am not such a fool as to do that.

645. But the Germans put that amongst their reasons for disqualification, that the meat is—I forget the word—but it means disgusting?—Yes.

646. And that being certain they chose to condemn it for that reason; and the other principle is to condemn meat for similar reasons, because they impress the mind of the inspector with the idea that they are not fit for human food, but whether or not that is so he has absolutely no positive evidence. I wanted to bring that out because it would account in a large measure or the very great difference of opinion as to the results of inspection which are complained of by the meat traders, that the carcasses which are passed by one man are condemned by another, and it is undoubtedly the case. Did I understand you to say just now that an expert can judge by the appearance of the meat, whether or not the animal had tuberculosis?—No, I did not say so; in the slaughter-house he can.

647. Certainly, but it is not often that the inspector has a chance of seeing the animal in the slaughter-house?—Our men see them all; but then the slaughtering is to a very small extent at Aldgate. Of course it would be very much larger at Copenhagen Fields at Islington, and the Foreign Cattle Market at Deptford. But our slaughter is so small, as a matter of fact I insist on their stopping there when the animal is opened.

648. But in a place like Deptford the inspector cannot possibly see all the animals opened?—No.

649. Or indeed any public place?—No, the question of inspection is in its infancy.

650. (Chairman.) Before we leave that point I should like to ask you whether you do not act under the 116th section of the Public Health Act of 1875?—No, we used to prosecute under the Nuisances Act, 1866, but we do not now.

651. (Dr. R. Thorne Thorne.) Which is the Act under which you take those proceedings?—Formerly the old Sewers Act of 1851, but recently under the Public Health (London) Act, 1891.

652. (Chairman.) You cannot give us the terms of the section under which you exercise your powers of condemning certain meat?—Well, you see the inspectors do not condemn it, they seize it; it is the magistrate, technically, who condemns it. The inspector seizes the meat and takes it to the magistrate, and the magistrate condemns it and orders it to be destroyed. Those are only the disputed cases in which it is likely to lead to legal proceedings.

653. But Professor Brown's question seems to indicate that it was left to your discretion and your own personal feelings—you and your inspectors—as to what state the meat should be in before it should be condemned. Is there no corresponding direction to that of the 116th section of the Public Health Act of 1875, which says: "That such meat to be seized must be diseased, or unsound, or unwholesome, or unfit for the food of man"?—We call it unwholesome. It does not matter in what category it is; if it is not diseased it may be unwholesome, and if unwholesome it would be unfit.

654. Yes, but you cannot quote the section under which you act?—I cannot from memory; but I can send it to you.

655. Perhaps you can supply us with a copy of it?—Certainly. I cannot give copies of the Sewers Act; they are out of print.

656. (Professor Brown.) If I may say so, there is not much difference between experienced butchers and experienced inspectors—you believe that that is really, in effect, carried out?—I suppose so.

657. For similar reasons your inspectors would seize the meat?—Yes.

658. Would you consider it desirable that the list should be added to?—I should not think it desirable for this reason: the butchers have plenty of loop-holes, and they would give us a greater amount of trouble than at present.

659. You think it would lead to controversy?—Yes, because they are intelligent men, and shrewd sharp men of business, and they would fight for their property, because if the goods are seized he loses his commission, and the consignor loses his goods. When that arose on a former occasion they got some rebate for the fat, which we do not allow now.

660. You spoke just now of certain cases where carcasses of meat are condemned, and you suggested that they might belong to animals whose throats had been cut to save their lives?—Yes.

661. They might belong to animals you think a little too late for that?—Yes.

662. Would it follow necessarily that an animal was near death, or, that an animal which had had its throat cut after death must necessarily have a bad carcass?—I should think so, because the extravasation of the blood in all the tissues is different from an animal probably bled. There the meat is congested, and it gets dark and gets black, and tuberculosis very much more readily shows itself, and there are the albuminoid compounds.

663. In the case of an animal suffering from suffocation and found to be dying, which very often happens, does it follow that in such a case that meat would be held to be bad?—That is debatable. I should say that is rather an extreme case, and the meat might not be so unwholesome, but if it is a proper thing to bleed animals to death—

664. I am not suggesting that, but I only wanted to know as a matter of certainty whether an inspector would detect after an animal was dead from suffocation or mechanical causes, if its throat were cut, whether the blood runs freely under those circumstances, and whether under those conditions the inspector would be able to detect it and to say that it had been nearly at the point of death?—He would see the tissues congested.

(Chairman.) Are we not travelling a little wide of tuberculosis?

665. (Professor Brown.) My only question on tuberculosis was whether I had misunderstood the witness when he said that the inspector would be able to detect when an animal had died, or was killed, when suffering from tuberculosis?—No, that is not so.

666. But he might detect that if there were anything left in the case of pleuro-pneumonia in any part of the carcass?—Still, the butchers' term for it is "grapes."

667. Would he condemn a carcass suffering from pleuro-pneumonia?—Certainly; he does not condemn it, but he seizes it. He would say: "This animal is suffering from disease," and we should condemn it without benefit of clergy. I say again we must take a high standard, and carry out our duties fearlessly and effectually, to protect the public, and the butchers must take their chance, which they are well able to do.

668. Where there is a doubt, you give the public the benefit of that doubt?—Certainly.

669. (Mr. Speir.) You said a few minutes ago that you would condemn a carcass for the smallest symptoms of tuberculosis. Can you explain how your figures are so small in London as compared with those in different parts of the country, when slaughtering for pleuro-pneumonia. The percentage is 1·2, and off-hand, there might be 1 per cent., or very much less from tuberculosis?—Yes.

670. Say, 1 per cent. In the animals slaughtered during the last 10 years for pleuro-pneumonia, it has been found that somewhere about 25 to 30 per cent. of all ages have had tuberculosis. How does that

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compare with your figures?—It does not compare at all, because our figures are nothing like that.

671. That would seem to show that you were not condemning carcasses for the smallest symptoms. Your people must have been passing them, or else they were misled from the appearance of the carcasses?—I have no hesitation in saying—I said so at the first—that many a carcass has had minor manifestations of tuberculosis, and would pass the judgment of the inspector, because it is only at a certain stage that you get those general changes of tissues which go on as the result of advanced disease.

672. You are convinced that you pass unknowingly a large number?—I will not admit that.

673. You pass carcasses which you have no evidence which would compel you to stop them?—We seize carcasses in which we may be unable to detect the precise nature of disease, but which are diseased or unwholesome, or unfit for man. I must stick to the general terms.

674. Then what is your opinion with regard to public slaughter-houses as compared to private ones, from the public health point of view?—Undoubtedly they are better, and I do not think that a private slaughter-house should exist.

675. That is the thing I wanted you to say. Is there any valid reason in your opinion why private slaughter-houses might not be dispensed with altogether?—Well, in small districts it would be very hard; in large towns there is certainly no reason why they should exist.

676. Would it be any advantage from your point of view, as an inspector, to have a clearing-house in connexion with those slaughter-houses, so that you could have all the animals brought easily within your range?—All the animals slaughtered?

677. All the carcasses slaughtered?—Well, I do not know; that is a practical question; I do not quite grasp that—cooling rooms do you mean.

678. No; where every carcass would be brought under your notice within a modified area. I may refer to those Dutch carcasses—those would come to a certain point and then pass under your eye, and others are coming from other districts?—We might get 40,000 in one ship.

679. That is easily done, because you have it in one centre?—It takes a long time to do it. That is a question of inspectorial staff.

680. (*Professor Brown.*) I wish to ask another question with reference to this point: do you think it would be advantageous if the medical officer in his annual report were to publish a list of the diseases which would necessarily lead to the seizure of the carcasses?—No, I do not think it would be any practical good, and it would have this practical disadvantage that the butchers would cavil and cavil whether it was so or not; and there are medical officers of health and medical officers. I have known a medical officer of health who would go before a public bar and say there is no harm in fluke mutton or rot in sheep.

681. (*Mr. Speir.*) In connexion with what I said to you with regard to your percentage of tuberculosis seizures, and those which were found in pleuropneumonia carcasses. I find that in Leipzig, where 23,000 animals passed through the slaughter-houses last year, there was 33 per cent. of this tuberculous, which compares, roughly speaking, very much with our own figures. Then in oxen alone they find 28 per cent.; heifers, 20 per cent.; cows, 43 per cent.; bulls, 23 per cent.; and calves about 2 per cent.?—Yes; are you reading from a printed document?

682. Yes, official statistics. Even of these they have only condemned much about the same as yourself, about 1 per cent.?—Yes.

683. (*Mr. Cooke-Trench.*) Are these 6,000 carcasses you speak of as having been seized, cattle of all descriptions, including pigs?—Yes, pigs and sheep and calves.

684. I think you were asked a question as to whether the inspectors examined the organs as well as the

meat?—They do not see them. The meat comes into the dead meat market, and that I should emphasise first. We see the dead meat only, with all the viscera taken away, every quarter, and every joint, as it were, prepared for food as the butcher sells it to the retailer. We do not see the internal organs except in the offal shops, which are now moving out of the City.

685. That probably accounts for the difference in the number of tuberculous cases in your case, and in the country?—Yes.

686. Of the four that were condemned for tuberculosis last year, can you tell whether those were pigs, cows, or what?—No, I can find that out. I daresay my senior inspector will be able to tell you, because he is a sort of walking encyclopædia in this matter.

687. Of the 6,000 seized only 17 were condemned by the justices?—I have explained that the justices, as a rule, condemn everything that is shown to them.

688. That return is misleading?—It is thoroughly misleading.

689. The great bulk of those 6,000 were condemned by the justices?—No, they were seized by the inspectors, and there being no opposition on the part of the salesmen they are taken away and confiscated, but out of those 6,000, probably out of these 17—I venture to say that the justices did not see more than 17. I never knew a case in which they refused, because we take very good care not to show to a justice anything in which there is the slightest doubt; not wishing to deal harshly with the salesmen.

690. Out of the 6,000 were any afterwards released?—No, the moment they are taken away they are destroyed; they are put into the mechanical bath, and taken to the contractors, and converted, as I said before.

691. You either condemn them with the consent of the owner, or else bring them before a justice?—It is very much that way.

692. Are there good cases in which the owner has objected, and it has been brought as a matter of controversy before the justices?—I do not know a single case—I think there was one; but they often verbally resist the seizure, and then the senior inspector is called in as a referee over the ordinary inspector, and he generally convinces the salesmen that it is right and proper to do it.

693. He may take it for granted that those 6,000 carcasses seized were practically all destroyed?—Every one of them.

694. If you have not the organs how do you determine the presence of tuberculosis?—You see the remains of tubercle; very often you see it lying on the ribs, and by the glands, and on each side of the lumbar region, or the joint.

695. Only by the joints?—I put them under a microscope.

696. If you find the slightest trace of tuberculosis you condemn the whole carcass?—Yes, without hesitation.

697. Is the confiscation punitive?—No; the man does not resist; he simply loses his goods.

698. I daresay you will concur with the evidence given already that it is practically impossible in the early stages of tuberculosis for a butcher to buy a beast in the market, and to know whether it has tuberculosis or not?—I think the evidence points to that. I have read the evidence on tuberculosis—I know nothing of it practically—but I think that is so.

699. Then a butcher may be a practically innocent party, and at the same time you confiscate his goods?—He may be practically innocent up to the time of slaughter, but he knows at once when the animal is slaughtered that it is tuberculous.

700. But in buying the animal he is practically innocent, and believes it to be a practically sound animal, and he has no means of ascertaining whether it is unsound?—It is rather straining the quality of mercy to say that. An ordinary butcher knows there is something wrong in the temperature of the animals,

and something beyond the ordinary condition of health.

701. It is not possible for a butcher to take the temperature of any animal that he has bid for?—No, he must use his judgment, and if his judgment goes wrong he loses his goods.

702. But it is not intended to be punitive, but merely for the protection of the public?—In the strict interpretation of the law he is liable to a fine if it is found upon his premises; and then comes the question, was it exposed for sale, and if it is taken before the magistrates. You will find one man say I know nothing about this, it is my salesman, and one magistrate will say this poor fellow knows nothing about it, and he is let off. We have a great many prosecutions in the City. We had two during the last week.

703. You confiscate his goods which he has acquired without any means, or without being able to ascertain that the animal was suffering from tuberculosis, and you confiscate his goods in the interests of the public?—Yes, but we do not see him, we only deal with the salesman to whom he consigns the case. A man might send his animals from Cornwall, or any part of England or Wales.

704. It is the butcher, then?—We deal with the salesmen. The man sends his animals to salesmen; who sells upon commission; he is the man who is responsible for having it in his possession.

705. Not the butcher?—It is a matter of inquiry afterwards. If the salesmen say somebody sent me up some bad stuff we send down to him.

706. You mean the salesman of dead meat?—Yes.

707. And not of live cattle?—We have nothing to do with live cattle.

708. Can you mention any other class, except the producers and sellers of food, whose property is confiscated in the public interests without their getting full compensation for it?—I have not considered it; off-hand I cannot tell you.

709. I call fruit food, do you ever deal with fruit?—Yes, fruit and fish; colonial produce; tea, cheese, and milk. In one case I took 5,000*l.* worth of tea and absolutely confiscated and burnt it; it was a musty rotten tea that had been in a bonded warehouse, and no one could touch it. I analysed every sample.

710. (*Mr. Murphy.*) You have 14 private slaughter-houses in the city?—Yes.

711. They are of old date?—Yes, very old. There are one or two exceptions; there is one very good one indeed; a man called Kilby who has proper lairs, and everything that money will buy.

712. At any rate they are mostly old. Are they subject to annual licence?—No. I tried to get that in 1874, but the butcher's trade were too strong for it. Everywhere else they are subject to annual licence, and they ought to be in the City. When I tried to do that they did me the honour to burn me in effigy in Aldgate.

713. When you were discussing the question of the difference between the returns of the number of carcasses seized for tubercle, you stated that you did not get the internal organs before you?—Yes.

714. And as Mr. Cooke-Trench showed, that is the real difference between the percentage of tuberculous animals, as shown in the returns referred to by Mr. Speir, and the City returns which show a much smaller number?—That is so.

715. So that it really comes to this, that unless you had the internal organs you would not profess to decide whether an animal had been so far affected with tuberculosis as to warrant its being deemed unfit for food?—Unless we find it adherent to the tissues.

716. For proper inspection you ought to have the whole thing before you in slaughter-houses?—Yes.

717. That is the reason for not having private but public slaughter-houses where it could be done by proper inspection?—Yes under proper inspection.

718. With regard to the qualification of sanitary inspectors, you said you had a large number of applicants?—Yes.

719. In making your selection did you look for people who had veterinary knowledge?—No, veterinary knowledge as veterinary surgeons, but men who had had previous experience—a good deal of experience of the work—some of them a lifelong experience, and some of different experience besides. We took a man from Bradford, a very intelligent man; and another from Southampton the other day, and I particularly selected those who had prior experience and who were persons of education, and manner, and character that we could rely upon.

720. Do you recollect whether there were many veterinary surgeons who applied?—Well, I think out of 50 there were two, but they would be perfectly useless to us.

721. You would prefer a veterinary surgeon's knowledge as the basis?—No, I should think it a nuisance; he would be a nuisance practically in the market; he would cavil at everything that was done.

722. No doubt such an inspector would have to get experience of meat inspection, but if he had it would not you prefer a man with pathological training?—No, I do not think I should, looking at it practically. Theoretically you are quite right.

723. You know that in Germany you have veterinary surgeons acting as inspectors?—Yes, they are specially trained for that work. We have to do with a very rough class sometimes.

724. Is the inspection under your own supervision at Deptford Cattle Market?—It is entirely out of my ken. There is a veterinary surgeon—I believe there are two—and they take the general round of the slaughter-houses, so I understand, and they have recently appointed a competent young inspector to take the general charge of it.

725. Do they make seizures there?—I do not know.

726. I do not see any reference to them in this Return?—I do not think there is.

727. All the meat from Deptford does not come to the Corporation Market at Smithfield?—No. They belong to the Corporation of London under the Foreign Cattle Act; I do not know anything about Deptford.

728. You get a great deal of meat from Deptford in the Farringdon Market?—I daresay we do.

729. And you get a good deal from the railway?—Yes. A much larger quantity than from Deptford; a lot of it comes locally. Our best meat all comes from Scotland, and the foreign meats will come in now.

730. Do you know whether you get it from private slaughter-houses?—No, I do not know but it is very likely if they know salesmen.

731. It would be probably a small proportion as compared with the Deptford and country sales?—Infinitesimally. With regard to Aldgate they are a good deal in the hands of the Jews who are all about there, so that we do not get very much about, but my inspector knows about it.

732. I want to know what happens to meat coming up from the country. The carts come in the first instance to the Smithfield market?—Yes.

733. Do they deliver all their meat there?—All that they want to sell.

734. Those carts are the property of the railway company, I imagine; they are carrying carts?—Yes, enormous quantities come; under the Smithfield market there is an immense delivery.

735. Do they afterwards go to other parts of London?—Yes, butchers come all round those parts and the carts round there are as thick as blackberries; and the butchers take a beast, a dozen sheep, pigs, and so on away.

736. All the meat that comes from the country does not come to the Smithfield market?—No.

737. Some of it comes direct to the various places?—We cannot trace that; we have only to deal with

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them for a toll, and that is the check; there is a small toll for the Corporation for the enormous cost of those markets, and all that pay toll comes under my supervision. I know that a great deal of very bad meat comes into Holborn where their rules recently—not now—were nothing like so strong as ours. It is called “Rotten Row,” that is where all the bad meat did go.

738. What I wanted to know is whether you had any power of control over meat brought in a cart if the meat is not unladen at Smithfield Market. Supposing meat is brought up from the country, say, going to Charterhouse Street, what do you do then?—We should take it.

739. But as a matter of practice do you know whether it goes into Smithfield?—We know all that comes in comes before five o'clock, and has paid toll, and when that goes out we can keep a record of it; we have taken it *in transitu*.

740. Where does your jurisdiction extend, is it within the four walls of the market?—Yes, but sometimes we assume a virtue if we have it not; we take it on the way to Islington. If my inspector sees some bad meat that has escaped his attention he seizes it. I believe it is *ultra vires*, but we do it.

741. Taking the meat that comes up to the railway stations, there is no possibility under existing circumstances of examining it on arrival?—It is delivered on arrival directly into the market.

742. The railway being in the market?—It is under the market; I think they pay 3,000*l.* a year for that.

743. Are you able to inspect all the meat that comes in by that railway?—We are supposed to do it.

744. There is meat also that comes up in large quantities from the country that does not come into your market?—No, none of it; every bit that pays toll, which is 1,000 tons a day, is inspected more or less by the inspectors.

745. So that you are really inspecting a good deal of the meat of London?—A thousand tons per day; sometimes 1,200 per day.

746. Might it be that it might be taken straight from railway stations to the butchers in the suburbs without coming into it?—Certainly; we have no control over that.

747. Have you any experience of the effect upon meat of early removal after slaughter?—Yes.

748. It was told us yesterday that an objection in the minds of butchers to public slaughter-houses is, that they have to remove the meat to their shops so soon after the slaughtering, that it does not set, and then decomposes more rapidly?—I believe that to be strictly true.

749. Do you think that would be met if they had sufficient cooling chambers?—Yes, in Glasgow and other places, they put in a joint chamber to which two different slaughter-houses would have access, and in Deptford they have enormous chambers.

750. Would chilling the meat bring on *rigor mortis* more rapidly?—I cannot say that. It takes some time for the meat to get hard and firm.

751. But that is a difficulty to be got over?—Yes, by cooling chambers, and they ought to have them supplied to every slaughter-house.

752. Just one question about compensation; you said that an animal might be tuberculous without showing any particular signs during its lifetime; that is generally stated?—Yes.

753. And you are not prepared to dissent from the fact?—I admit it with a mental reservation.

754. Might the same thing probably be said with regard to the other conditions of the animal which would render the meat unfit for food?—Such as pleuro-pneumonia.

755. Well, matters for which you would condemn the meat in the market?—You would have wasting in certain diseases, as you do in sheep, and you get certain indications which would be quite different from a healthy animal.

756. What I had in my mind was this, supposing compensation to be given to persons owning tuberculous animals that were seized in this manner, would the same argument apply to other conditions in animals that were unfit for food, would you be obliged practically to extend the same principle?—I think so, undoubtedly.

757. You would not be able to make any distinction for tuberculous diseases?—No.

758. You sometimes get a magistrate's order for the closing of a house unfit for habitation?—Yes.

759. Do you compensate the landlord for loss of rent?—Not a bit.

760. (*Professor Brown.*) I forgot to ask you this point of which your answer reminds me just now. If an animal had any trace of tuberculosis you would condemn the whole carcass?—Yes.

761. If it were known to the inspector that an animal had pleuro-pneumonia, would the same thing follow?—Yes.

762. If you knew in any way for certain that it had pleuro-pneumonia, and you saw the lungs?—Yes, if the lungs were slashed out with knives and sprinkled with flour—

763. Would you condemn the whole carcass?—Yes, upon the general principles of pathology.

764. (*Dr. Thorne Thorne.*) You have been asked a number of questions with regard to the extent of tuberculosis that would lead you to condemn a carcass, and you have said that you would condemn it on the slightest evidence of tuberculosis. May I ask you, if I do not rightly apprehend that you are judging solely by the actual meat and not by the animal with its internal organs. That is, you condemn the carcass when the tuberculosis is such as actually to affect the meat which is sent in to the meat market?—Yes, and to leave certain deposits on the tissues which are visible.

765. Then may I also assume that if an animal had a slight deposit of tuberculous matter in the interior of its lungs, and nowhere else, such a carcass would not come under your condemnation, because you would not know of it?—Yes.

766. There has been a little confusion between animal and carcass?—Yes.

767. You only judge of the tuberculous carcass and not by the tuberculous animal?—That is so.

768. And that is probably the reason for the very great difference between the number of tuberculous animals, and that of tuberculous carcasses that have been condemned?—That is it exactly.

769. May I take it that you agree that a large number of animals which have some slight evidence of tuberculosis are, as a matter of fact, eaten as food?—Yes, I have no doubt they are.

770. Would you mind stating what your opinion is, if you are able to form one, as to the danger, or absence of danger to the public from eating a carcass which has some appearance of tubercle in the internal organs without any being detectable in the carcass when that comes before you?—I take tuberculosis to be represented by a certain bacillus in the blood of the animal, in the general tissue of the animal, and anyone eating any portion of the carcass through which the blood would flow would be liable to get a dose of bacillus; for the same reason I would condemn it *toto celo* as in the pleuro-pneumonia where there is inflammation.

771. You are hardly recognising, I suppose, the difference which many make between tuberculosis which is strictly localised and that which is general?—I should take it in a general sense, I do not quite follow that localised condition; it is convenient to do so.

772. Would you tell me where the slaughtering is done of the majority of the animals that come into Smithfield Market?—I could not tell you at all; they come from all parts of the Kingdom.

773. But the City have provided, I believe, large slaughter-houses in the north of London?—Yes, at Islington.

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774. Do you know under what supervision they are with regard to tuberculosis?—They are under the general supervision of a gentleman named Rayment, who has been there a great many years, a veterinary surgeon.

775. You cannot give us evidence as to the condition under which he would condemn the animal which, being tuberculous, is not allowed to go to that market?—No, I do not know anything about it.

776. In the earlier part of your evidence you referred to the fact that when your inspectors went to look at certain meat, they are told that it is for cat's meat only, whereas, if he had not come, it would be sold as meat for the human subject. May I ask whether the meat which is only fit to be used for cats, for example, is in the same stall and mixed up with human food?—No, in plain English, it is a trick; we have traced it to different persons, and they chiefly consign their meat to Charterhouse Street. They put on a label. It is consigned to certain salesmen in the Central Market to be sold, but if it is seized they turn the label and it is for cat's meat. We have had lots of instances of that kind, and we have spotted, so to speak, the men who did it to a very great extent. The iniquity of the thing is made apparent from the fact that they go to the extent of employing competent butchers to prepare it exactly as if it were for human food, which they would not do in the case of cat's meat, and so they convict themselves.

777. Well, then, I should like to be quite clear about the 6,096 carcasses that were seized in the City of London in the year ending 25th of March 1895; Out of these, 6,079—that is 6,096 minus 17—were never brought before the justices. May I take it for granted that in regard to these the butcher is prepared to accept your condemnation of the carcass rather than run the risk of going before the magistrates?—Yes, as a matter of fact.

778. That is the interpretation of it?—I should think that is so in 99 cases out of 100.

779. May I assume then that the butchers have very little hardship to complain of?—It does not affect the butcher, it is the salesman.

780. It is the salesman who has little or nothing to complain of if he accepts your judgment?—Yes, we give him a condemnation note which justifies him in the eyes of the consignor, and if the consignor send anything more we prosecute him, and if he does not, nothing is done.

781. But in every case he could appeal to the justices against your condemnation?—Yes, he could go before the justices at the time and say: I do not approve of this, and I shall bring evidence to rebut it.

782. If the persons concerned in all those 6,079 cases in which no appeal has been made in that one year had any real ground for feeling themselves treated harshly, would not so wealthy a body as the salesmen and consignors certainly have taken steps to appeal against your judgment?—Undoubtedly.

783. And, therefore, you are of opinion that they have not much to complain of?—I do not think so. In the case of a very large consignment of 65 tons, they wanted to know if they could not cut away the fat. There was a sort of rough justice in the claim, and we could not allow it, it would be doing an injury to have a lot of putrid meat about whilst the cutting away of the fat was going on, and would be destroying other good meat.

784. A deputation of the butchers to Mr. Chaplin some time ago appealed very strongly for uniformity of administration in this matter of condemnation with regard to tuberculosis?—Yes.

785. Is there any other method by which uniformity could be achieved, except by the inspection of meat by skilled inspectors in public slaughter-houses?—No, I do not see how else you could compass it.

786. Then you are strongly of opinion that even in fairness to the butchers, public slaughter-houses are necessary?—Undoubtedly.

787. Are the butchers the greatest opponents of public slaughter-houses?—The local butchers may be,

because it affects their pockets a little; they slaughter not only for themselves but for their neighbours to a certain extent. But I am not sure that this is a general feeling.

788. May I assume that you know that it was the butchers who secured the repeal of the provisions of an Act which applied to London, and by getting those provisions repealed they perpetuated private slaughter-houses in London?—That is so exactly.

789. Those private slaughter-houses otherwise would have disappeared a quarter of a century ago?—In 1874 they tried very hard indeed with the Under Secretary of State to get that Act to die a natural death, and I applied to the Home Office for annual licences, but the butchers' trade was very strong indeed and they said that I was a little exacting as to conducting the business and the construction of the slaughter-houses, and I think I rather damaged the case by asking for too much, so that there was a continuing Act. As a matter of fact in the experience in the City of London there has been no new licence asked for. We should not allow them to begin anew, we should interpose all kinds of objections. If they did they must be licensed but no one has asked for premises since 1874.

790. You are of opinion that both for the sake of the public and for the sake of the public slaughter-houses should as far as practicable be provided?—I think so. I do not think the proper inspection of meat can go on without it; not a thorough inspection.

791. You have been asked one or two questions with regard to the grounds on which meat is condemned. May I assume that there is already a sufficient amount of evidence to show that the consumption of diseased material by the human subject involves risk to the human subject?—I think so.

792. Is that one of the grounds on which you base your action in condemning unsound and diseased, and unwholesome meat?—Yes, we cannot trace it, as Professor Brown asked me, and I said just now, except in the case of molluscs.

793. Is not the experience that you draw in this matter almost precisely the same as that drawn for half a century, to the effect that it involved risk to drink excrementally polluted matter?—Exactly.

794. And that we cannot wait for an experiment *in corpore vili* in order to take action?—Certainly.

795. That is one of the grounds on which you act?—Yes.

796. I rather gathered that you have not formed an opinion as to the extent of danger to man from eating the meat of tuberculous animals?—No, I have never had an opportunity of poisoning my neighbours. I do not know how to get any experience.

797. Have you met with any particular difficulties in securing wholesome meat for the public by the present system of prosecutions?—Well, that touches upon a very delicate subject, and I am not sorry to say a word about it, but it depends so very much upon the idiosyncrasy of magistrates; they have very much discretionary power, so that one man may well give one decision and another another. I do not give you names but I may say that within the last ten days there have been two prosecutions: one was a man who sent some meat—it was nasty meat—I felt very definitely about it and he was fined 50*l.* and costs.

798. How much meat did he consign?—A side. Another man came with 11 pieces of the very worst case of tuberculosis I ever saw; that is to say, the flesh itself was embedded; all the glands, the diaphragm and all the superficial glands were studded with it, and this was made up into 11 pieces, and I think a worse case never went into a court of law, and that man was fined 10*l.*

799. Was one a poor man and another a rich man?—One was a little farmer, and another a smaller man.

800. Which was the smaller man?—The man let off with the 10*l.* But it is a curious thing that if a man is defended by a barrister he gets off, because

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the law is so elastic, and there are so many loopholes that the magistrates give way; but if he is not defended he takes his chance.

801. Apart from what you for the moment regard as the inequality of justice, have you any other difficulties to contend with?—No, the magistrates are very patient. But these discordant decisions upset all calculations, and make one hesitate sometimes what cases you will present for conviction.

802. But I suppose, on the whole, the meat that comes out of the Metropolitan Meat Market is meat that is in your judgment wholesome, and absolutely fit for human food?—The enormous bulk of it is perfectly good.

803. And without any real hardship to the salesman or the butcher?—Certainly; the sound meat is sold as sound, and the butcher distributes it to the public.

804. (Chairman.) Do you find that your inspectors have to encounter opposition generally on the part of salesmen?—Sometimes; but they are taught, and I am particularly anxious to say that they show the greatest possible courtesy and forbearance to the salesmen, because I point out that they are confiscating property, and they ought to be patient and forbearing. They have to deal with very rough customers, with a very curious vernacular; and the senior inspector is a man of singular discretion, and he smooths the matter over, telling them that they have a perfect right to do this, and it generally ends with the man being content with the inspector's judgment.

805. Are you aware that Mr. Field, of the National Federation of Butchers' and Meat Traders' Association, expressed himself very strongly of opinion that the trade generally are in favour of inspection, and efficient inspection?—Yes, I have heard that. I have no doubt that they are very honourable and upright and trustworthy men, but some of them have very elastic notions as to what their obligations are.

806. What I want to get at is the general impression in your own mind as to whether the traders, as a whole, would be glad to evade or get rid of restrictions, not from any dishonest motives?—I do not think they would, for this reason, that we relieve them to this extent: a consignee gets a large bulk of material which is absolutely putrid, and he is only too thankful to get rid of it, because we do not charge him for trade refuse, which we have a perfect right to do, and we have it taken away at our own expense. I could point out, but I do not want to do it, a dozen men in the market who would be very difficult people to deal with; the great bulk of them are honourable, straightforward, and wealthy men.

807. (Mr. Cooke-Trench.) You say that when a house is condemned as unfit for human habitation no compensation is given to the landlord?—That is so.

808. But it is the landlord's fault that the house is in that condition?—Exactly, and that is only after there has been repeated neglect of certain orders for amelioration.

809. He cannot be looked upon as an innocent offender?—No.

810. You have talked of the bacillus of tuberculosis being conveyed by the blood. Did I understand you so?—Yes, speaking generally.

811. Is it within your experience that the bacillus is found in the blood?—I do not know of my own personal knowledge. I do not think it has been.

812. You said that butchers and salesmen have nothing to complain of in this matter of compensation. You refer to London only; you form no opinion whether in other places butchers have grievances in the matter or not?—It depends entirely upon the competency of the inspector and his honesty. His men are subjected to great temptation.

813. You expressed no opinion as to whether at St. Helens the butchers may have very great grievances to complain of, or not?—I do not say anything about it.

814. (Mr. Speir.) In answer to Mr. Cooke-Trench you seem to infer that a first-class judge of stock would be able to know an animal which might be sufficiently tuberculous to warrant its being condemned by you. Did I understand you to mean that?—Within certain reservations, yes; that a man who knew anything of diseases of animals—I do not believe that an animal that has got tuberculosis could appear to be in a healthy state; you get an exhalation of temperature with it, which would be visible, and there is a condition of the skin, and a general aspect of the animals' eye, which would indicate some *materia morbi* which would be only the beginning of the end.

815. (Mr. Cooke-Trench.) In the early stages?—I will not say in the very early stage.

816. (Mr. Speir.) That is scarcely the opinion of those working with stock, both from the stockowners and the veterinary surgeon's point of view?—With great deference, I have no practical knowledge about it.

817. There is another remark which you made which I would like you to explain. You said that if veterinary surgeons were appointed inspectors they would become a perfect nuisance, I think that language was at least too strong, and you might want to qualify it?—I meant to say that veterinary surgeons, as a rule, are gentlemen, and they would have to do a great many troublesome things, and they would have to deal with a very rough class of men, with butchers and drovers and slaughterers, and it would be a very disagreeable task for them. Then, they would become a nuisance—they would become too exacting; they know too much, and they would not know where to stop.

818. Would not these men be able to deal with the difficulties of the situation?—You must modify the whole system. I am speaking of it as it exists, and I do not pretend that the inspectorial staff should be anything like what it is to carry on efficient inspection, nor do I claim that for Smithfield.

819. For even veterinary surgeons would be better men than those you have, would they not?—I do not admit it.

820. There is another point to which I wish to draw your attention. Have you seen details of the experiments carried out by the experts on the previous commission that was appointed upon this subject?—Yes, they are all embodied in Dr. Russell's report in Glasgow.

821. Not all. They have made tests with flesh of a great many animals, "Cow 20 and 21, table A. 26 and 27," and some others which had tuberculosis in some of the internal organs?—Yes, I believe so; the meat from these animals was plunged for a few minutes in boiling water, it was then given to so many test animals.

822. In some cases without being plunged?—Yes, I recollect.

823. In nearly every case where this meat was plunged there were no bad results?—I heard that.

824. Would not it be possible in your inspection to make a more rigid examination, and still give up some of that meat under certain conditions for public use?—That I should never do. The men that you are quoting experimented on a number so small that it was not satisfactory.

825. In the one case to which I refer there were eight guinea pigs experimented upon?—A very small number—too small—to generalise upon in my opinion.

The witness withdrew.

GEORGE PATRICK TERRITT called and examined.

826. (*Chairman.*) You are the senior inspector of meat in the City of London?—Yes.

827. And your labours chiefly lie in Leadenhall and Smithfield markets?—The whole of the city markets are under my care; that is, under Dr. Saunders's direction. They consist principally of the dead meat market and slaughterhouses at Aldgate, the market at Leadenhall, and the general meat market at Smithfield.

828. We have heard from Dr. Sedgwick Saunders a very lucid account of the system of inspection carried on. I should like to ask you a question or two on what takes place when you take an unsound carcase; is there any objection on the part of the salesmen generally—any defence offered?—It is very seldom that any objection is raised. Sometimes we have a case which we have to fight out.

829. I suppose sometimes the salesmen say they are not to blame?—The salesmen will assert that they are not to blame at all, and in the majority of cases probably they are not, as the goods are consigned to them. They do not see them until they arrive on their premises, frequently from a considerable distance some hundreds of miles away, say from Aberdeen or some distant part of England.

830. If that meat is seized and condemned, have they any remedy against the consignor?—In some cases we take proceedings against the consignors. The salesman is not in that case an aggrieved person as he refuses to pay any carriage upon it, and the railway company refer to the person who sends it for the carriage, and excepting the fact that we take it from his premises and that he gets no commission on the transaction, the salesman is not an aggrieved person.

831. It does not reflect upon the character of the salesman to have his goods seized?—There is an implied understanding, that the salesman should draw the attention of the inspector to any doubtful meat that he receives.

832. There was a distinction drawn yesterday by a witness on behalf of the meat trade, between meat surrendered and meat seized; do you think there is any real grievance in seizing condemned meat from a salesman?—I think many of the trade regard the word "seized" as reflecting to some extent upon them, but it is a mere sentimental grievance; there is no actual grievance.

833. You think the substitution of another word would be sufficient?—There is so little grievance that many of them have told me that they would not object if the word "condemned" were used.

834. Is an inspector exposed to any pressure on the part of salesmen to shut his eyes to unsoundness of meat?—A salesman wants to sell as much as he can, and sometimes he says a little in the way of argument, then frequently he will appeal to myself. But I do not think that there is anything that can be correctly regarded as amounting to pressure.

835. In reporting the case of unsound meat, are you allowed to indicate whether, in your opinion the salesman has shown that he knew of the state of the meat, or was able to have taken due precautions against it?—If I considered the salesman to blame in the matter I should report it specially.

836. Therefore, it would be possible to give the inspector power of signing the certificate, that in his opinion the salesman was not wilfully exposing unsound meat; would that be any protection to salesmen?—I do not think it would. If the salesman exposes unsound meat which he receives from some one at a distance, he himself would be liable to prosecution, but we find in practice that few of them will run that risk.

837. (*Dr. Thorne Thorne.*) On that word "seize." May I assume that that word is used by you, and in the market because it is the word employed in the Act of Parliament?—That is so. All that we are empowered by the Act of Parliament to do is to seize

meat; the act of condemning is the act of the justice of the peace.

838. And I assume from returns which we have, that there are very few instances in which the salesman appeals against your decision. Am I right there?—The instances are very few.

839. I notice that there are only 17 cases in the year ending March 1895, in which the condemnation was carried out by the justices. What was the character of those 17 cases? Were they very gross ones, or was it because the salesman, thinking he was aggrieved, appealed; could you tell us at all what they were?—I should think there were more than that in which the condemnation was made by the justices.

840. That is an actual return if you look at it?—I have not those figures at hand, but those would be cases in which the preliminary facts would lead us to suppose that a prosecution of the persons for sending that meat would be successful.

841. Were the proceedings taken against the consignor as well as against the salesman?—I expect in the majority of cases against the consignor. I know that it is so; I was going to say that I think in all cases, but that would be manifestly incorrect.

842. They seem to imply that you and the salesmen work hand in hand without difficulty; that it is supposed that the consignor is at fault, and the salesman deems anything like an appeal to the justices unnecessary?—We work with the salesmen with very little friction.

843. I wish to know whether any instructions are issued from the Public Health Department of the City to the inspectors of meat as to the conditions which should lead them to condemn meat whether for tuberculosis or for other reasons; or whether that is a matter of your own judgment acting in personal conference with a medical officer?—It is a matter of judgment and of special direction from the medical officer of health.

844. Special directions in the individual case or in general terms?—In the individual case.

845. (*Mr. Murphy.*) Do those salesmen themselves direct your attention largely to the meat that they have in their possession, and say that it is bad?—They very frequently call attention to the meat which they have.

846. You have charge of the fish market also?—No, I mean to say that we have charge of the fish market only in a minor degree. The inspection of the fish markets in the City is carried on to a great extent by the Fishmongers Company, but we are sometimes appealed to.

847. I believe it is the practice that when fish is sold people cannot see it in the baskets, and quantities of the fish are bought in the expectation that it is good?—Yes, we hear very singular things about the fish trade in that way, and I have not much doubt that the greater part of them are correct.

848. I know that it is the practice in some districts for the certificate to be given to the person who himself points out the meat, and from that he recovers the cost of it from the person from whom he received it. I wonder whether any such practice obtains in the meat market?—We have nothing of that kind.

849. Do you think that the knowledge of salesmen is enough to hold them responsible if they expose meat for sale that you would condemn, or would there be some quantities of meat which you would condemn and which the average knowledge of a salesman would not condemn?—I think that the whole class of salesmen are thoroughly acquainted with what they are dealing with, but of late years there has sprung up another generation which are not as well up in their business.

850. Then I suppose there would be only a prosecution where the individual was felt to have wilfully neglected to use his knowledge, and it would

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be anticipated that he would know that the meat was bad?—I think it would be assumed; I think that the law assumes that there is a knowledge on the part of the person dealing with the meat.

851. If you are dealing with tuberculous meat it might be found that the knowledge of the salesman was less adequate for the purpose of determining whether he should expose the meat for sale; would not that be so?—Their practice is to show us meat of a doubtful character, and then to abide by the judgment which we pass upon it.

852. Then with regard to poultry, have you ever had your attention directed to tuberculous disease in poultry?—I have seen it.

853. And poultry seized on that ground?—Well, no, I cannot say that I have; I have not seen it in my official capacity. I have seen it privately.

854. (Mr. Cooke-Trench.) If I understood you right the loss when a carcass is seized falls upon the consignor?—On the consignor.

855. Can you tell us what class of men in the main are the consignors, are they country butchers or the producers?—They are chiefly country butchers. There are some few farmers who combine the business of dealing with that of farmer, but they are few in number compared with the butcher and dealers who make a regular business of providing for the London market.

856. Cattle that are slaughtered in London, not sent up dead, but slaughtered in London, upon whom does the loss fall there when they are condemned?—If they are consigned alive for slaughter it falls upon the person who consigns them.

857. If they are consigned alive?—If they are consigned alive for slaughter, but if they are consigned to be marketed alive, then it falls upon the person who purchases them in the market.

858. (Mr. Speir.) I want to know exactly how much tuberculosis or appearance of tuberculosis would be on any animal before you would condemn it; what would warrant you condemning it in the carcass?—If we saw the appearance of tuberculosis in the carcass at all we should condemn it.

859. No matter how small or where?—In view of the fact that a great many carcasses are affected and show no sign, if they show any sign visibly we should condemn the carcass.

860. This seems to apply particularly to carcasses sent into the market, but what about those animals that are killed in the slaughterhouses?—Those are very few in number.

861. If you were present when any animal was killed, and you found a very small portion of say the lung diseased. Would that carcass be condemned or not?—It is a case which we have not met with. The few cases which we have met with in the slaughterhouses have been bad cases, but they are very few indeed.

The witness withdrew.

Mr. S. J. RAYMENT, M.R.C.V.S., called and examined.

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874. (Chairman.) You are a veterinary inspector of the Corporation of the City of London at the Metropolitan Cattle Market, Islington?—Yes.

875. How long have you held that appointment?—Thirty years, within two or three weeks.

876. Can you give us any idea of the number of cattle you have in the market?—Yes, during the year 1895 we had 105,728.

877. What becomes of those cattle?—They would be distributed through London and the provinces.

878. Would any be slaughtered on the spot?—I think about 300 weekly within the market.

879. Then the carcasses of these cattle would come under your inspection?—Yes, I should see those which were under my charge.

880. You have nothing to do with the live animals?—Oh, yes. I am, as veterinary inspector under the

862. Cases in which the carcasses were wrong as well as the internal organs?—Yes, as well as the internal organs.

863. (Dr. Thorne Thorne.) You speak of few cases being met with in the slaughterhouses. Have you control of the slaughterhouses as well as the meat inspection?—No. We inspect the slaughterhouses for the purpose of seeing that they are kept clean and also with regard to the fitness of the meat which is slaughtered in them for human food.

864. Are you referring to the slaughterhouses which are public?—I am referring to the 14 slaughtering-houses, the private ones.

865. You are not speaking of the public slaughtering done under the supervision of the Corporation of London?—There is no such thing so far as the City is concerned.

866. (Mr. Speir.) Have you no public slaughtering houses inside the City?—No.

867. (Professor Brown.) You were speaking just now of cases of tubercle found in the carcasses, and there was a question as to whether it meant carcass or animal; would you understand by tubercle found in the carcass that it was in the lean of the meat?—We have no means of ascertaining whether it is in the lean of the meat, but we examine the pleura and the peritoneum and the diaphragm, and such parts as we have access to. We have no right to cut any man's meat, we may find it in the glands in the lumbar regions, and by making some small incisions we sometimes learn something from that.

868. At the time of finding tubercle in these positions, do you remember whether it is usual or is it frequently the case that you find this meat in bad condition and soft and moist?—No, the condition is various; sometimes the meat is in a very good condition.

869. You find cases of tubercle when the character of the meat is unobjectionable were it not for the existence of the disease?—From the fact of its being tuberculosis.

870. What is the process when you submit the matter to the justices. We understand that it is only in a small number of cases, and it would be the case where there was any dispute; do you take large portions into the court?—We usually take the whole of the subject-matter in dispute.

871. What do you do in the event of a carcass being very bad, the whole carcass or the side say?—In the event of a carcass of beef being bad before being destroyed the carcass is submitted to the Medical Officer of Health, and taken before the justices.

872. The whole carcass or the side?—The whole of the carcass.

873. (Mr. Speir.) Do you mean to infer that you take the carcass into court?—The Magistrate usually looks at it before going into court.

Diseases of Animals Act of 1894, entirely responsible for the health of those animals respecting contagious disorders.

881. Is the number slaughtered within the market annually on the increase or decrease?—Considerably on the decrease.

882. Why so?—I attribute it practically to the large importation of foreign cattle which are slaughtered at Deptford, and, of course, do not come into the market, and to the large increase in the foreign and colonial dead meat supply, which is transacted at the dead meat market at Smithfield.

883. That does not affect the number of live cattle in the market?—Yes, persons who were in the habit of coming to the live cattle market go to Deptford and purchase at Deptford; that is the carcass butchers.

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884. I suppose, in the discharge of your duty, you have got to condemn a certain number of those carcasses as unsound?—Yes.

885. Can you give us any estimation or statistics to show how many of these are affected with tuberculosis?—Of those slaughtered in the market I have only a record for this year, and I find that I have condemned from the 1st January to the 14th of the present month 253 carcasses, and of those 133 were affected with tuberculosis. Would you like the other number of animals that I have condemned this year?

886. Our inquiry refers purely to tuberculosis?—We have had 133 carcasses affected with tuberculosis.

887. Out of 253 condemned?—Yes.

888. (Mr. Cooke-Trench.) Out of how many inspected?—About 300 weekly.

889. (Mr. Murphy.) And the time covered is nearly a year?—From 1st January; I can also give you, in respect of tuberculosis, the number of animals which I inspected for the Board of Agriculture during the stamping out of pleuro-pneumonia. On that occasion I examined 3,709 animals by post-mortem as carefully as possible, and I was especially directed by the Director of the Veterinary Department of the Board of Agriculture to pay attention to tuberculosis; and of those I found 723 affected with tuberculosis; that gives something like 19½ per cent.

890. (Chairman.) How many of these 3,709 were affected with pleuro?—257.

891. A much smaller percentage?—But then it was not supposed that they were affected at all, but they were contact animals, and found to be affected on post-mortem examination.

892. Do you condemn the carcasses for the slightest trace of tubercle?—No, I will tell the Commission my action in respect of tuberculosis. If I find an animal is in good condition and the tuberculosis not too much generalised I pass it; but if I find the animal in poor condition, the carcass generally affected, I condemn it.

893. By the organs you do not mean the tissues generally?—The lungs, the liver, and the various viscera; but I take it, generally speaking, that unless an animal gives evidence of wasting through interference with nutrition, that the carcass is passable, but when I find any evidence of want of nutrition I condemn the carcass as unfit for food; and in many cases I find in young animals although the other organs are very little diseased the mesenteric glands are affected.

894. What is your opinion as to the necessity for veterinary training as a meat inspector?—I hold that in the case of a medical man or a veterinary surgeon or even a first-class butcher he should have special training in respect to the class of animals which are likely to come under his observation. In a market like the Metropolitan for instance we have a very large number of what are called rough cattle, cattle which are dry, and come from all parts of the country, and many of these animals may have disease of the liver and some adhesion, or the pleuro may give evidence of adhesion, and many carcasses may be condemned which, in my opinion, are perfectly fit for human food, the lesions being of old standing and local; and unless an inspector has had sufficient training in distinguishing between one that is serious and one of this character, he is not capable of pronouncing an opinion which may submit the unfortunate owner of the animal to very serious penalties.

895. Then you think it is well to leave a certain amount of discretion in the hands of the inspector and not bind him down by hard and fast rules?—So long as you get a man of sufficient knowledge. I take it as a matter of course that a man should have a scientific and practical training before being entrusted with powers of that kind.

896. (Professor Brown.) You had, before you were inspector at the Metropolitan Market, a long experience as a veterinary practitioner?—I had been some years a practitioner, and I was all through the old cattle-plague time.

897. You were engaged in the cattle plague time in 1865, 1866, and 1867?—Yes.

898. And since that time you have had large opportunities of seeing diseased animals of all kinds?—Very large opportunities.

899. You have been for a good many years inspector at the Metropolitan Market?—Thirty years.

900. Where at one time it was quoted as the great receptacle of diseased animals from all parts of the country?—That is so.

901. Have you been present on any occasion when foot and mouth disease has been dealt with?—Yes, I should think many hundreds of times.

902. And, therefore, you have had no lack of opportunities of ascertaining exactly the condition of those animals under those circumstances?—None whatever. I have had every opportunity.

903. And your experience extends to the animal itself and to the carcass, and the appearance after slaughter?—Yes, I have seen a very large number because we slaughtered so many at that time.

904. Knowing what you do and with your experience as a veterinary surgeon, have you found that your veterinary knowledge has been of very great assistance to you as a meat inspector?—It has been of very great assistance.

905. Do you think from your knowledge of the members of your profession that a veterinary surgeon without any training with reference to meat inspection, would be a good man to entrust with that duty?—Not without special training.

906. But given that there is a special training, you believe he would be perfectly competent?—Most certainly I think he would with special training.

907. That is to say that he would be better than even a practical butcher?—Yes.

908. Or anyone, however technical his knowledge might be, with reference to the quality of the meat only?—Most certainly.

909. We were told by one of the witnesses, that the fear was that the veterinary surgeon would rather incline to object to undertake the dirty work connected with it?—I do not think so. I think any man, if he is a practical man, an ordinary practitioner, never minds the performance of post-mortem work; it is part of his professional duties, and I take it that he would do it; at least I should myself.

910. Then in reference to another point, do you think that given proper training, if a man undertook an ordinary practice in a small place for example where there was not enough to occupy him entirely in meat inspection, do you think he might with advantage, with an ordinary practice, still act as meat inspector when called upon?—I do not see any reason why he should not; you could not appoint such a man in small places unless he had that privilege.

911. Do you not think that a veterinary surgeon would undertake the necessary training and pass the necessary examination merely with the view of occupying part of his time?—I think in these days when men are so desirous of finding new channels to which to devote their abilities, that there are plenty of men only too glad, if the opportunity offered, to go through any amount of training if they could see a sufficient return for their labours.

912. But on the whole you would consider the veterinary surgeon would have the very best opportunity of doing credit to his office if he were permanently engaged, and were even prevented from engaging in private practice?—If he were paid sufficiently.

913. Of course that follows. The 253 animals which you say you condemned during a certain period this year, 133 were affected with tubercle?—Yes.

914. Do you happen to know how many of those you condemned?—I condemned the 133.

915. Were those the only animals that were affected?—There were 253 animals that I condemned through being too poor, or from some cause or other, but of these 133 were actually affected with tuberculosis, and badly affected.

916. They were all badly affected?—Yes.

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917. All that you condemned?—Yes, they were cases in which I had not the slightest hesitation in condemning them on post-mortem examination.

918. Would you consider it very desirable that the complaint which is made of the want of uniformity in inspection and its results should be met if possible; the allegation constantly is that carcasses which would be condemned at one place would escape at another?—The same thing might occur to myself. I might pass an animal and consider the carcass, although affected with tuberculosis, perfectly fit for human food, the organs having been removed, and everything removed from the carcass as suggested in the first Report of the Royal Commission, and I take it that it goes without saying that I thoroughly agree with that report. I think it is highly probable that many inspectors might condemn such a carcass.

919. But my question really is, do you consider that it is very important that that want of uniformity should be remedied?—Undoubtedly I do.

920. Do you see any way of doing it?—Only by training men in such a manner that they all arrive at something like the same opinion.

921. We have been told by one witness that if it had pleuro-pneumonia sufficiently marked when the lungs were cut, he should condemn the carcass?—Yes.

922. Is that the practice that you would follow?—No, it is the very opposite; I should do nothing of the kind, the lung only being affected.

923. Do you see any possible way of arranging such a discrepancy as that?—No—if the man has not the knowledge of that which is good after slaughter and that which is bad. I hold, of course, that meat is not necessarily unfit for human food because the animal has been affected to a certain limited extent with pleuro-pneumonia.

924. But if affected to such an extent as to interfere with the quality of the meat, what then?—Then I should condemn it.

925. Then the greatest dependence is placed on the quality of the meat, irrespective of the conditions of the organs?—Undoubtedly, and that is the only means that any man can judge by, because with the vast majority of the meat sold for consumption in London at the present time there is not the slightest opportunity of seeing any of the viscera.

926. But given the opportunity, would you prefer, yourself, to see the animals slaughtered and examine the animals, and then, when the carcass has had sufficient time to cool, come back and examine the carcass?—Most certainly I should prefer to see the condition of the organs before I condemn any carcass. In many of those animals where the mesenteric glands only are affected, if they were removed it would be impossible to tell what was the matter with the animals, judging from the carcass alone.

927. You have, of course, to inspect other carcasses besides those of cattle?—Yes.

928. In the case of pigs, do you find tuberculosis very common?—No, I do not; and I think, about this period last year, I examined for the Board of Agriculture 2,500 pigs very carefully indeed in respect of swine fever. I opened and examined all the viscera very carefully indeed, and there was only one case where there was any departure from health.

929. Was that in a case of tuberculosis?—No; some slight lesion of the intestines.

930. Have you found tuberculosis in the lung of a pig or a sheep, a case of milary tuberculosis?—A milary condition of the lung is very uncommon to the sheep.

931. If you found milary tuberculosis, would you condemn the whole carcass if the carcass were in good condition, would you?—No, I should not think of condemning it.

932. I asked one witness a question, which I propose to repeat to all the meat inspectors who come before us, as to the evidence on which they condemn meat as unfit for human food; I want to find out

what is the mental process which they undergo before they make up their minds that the meat is unfit?—The mental process is simply seeing the condition of the meat.

933. The impression that it makes on your mind, that you would not like to eat it?—No, I beg your pardon. I take it, as a meat inspector, I have to consider not what I should like, because I prefer the best Scotch beef if I can get it; whereas someone else would like to have an inferior quality of meat, and that meat ought not to be condemned, and that never operates; but the fact of the animal being free from disease, and the tissues in a firm condition, and the flesh likewise.

934. I do not mean mere fancy when I say you would not like it, you would be incurring an amount of risk?—I thought it was giving the effect of what was operating in my mind.

935. No, because you do not explain why, if you see the fat firm and the lean also, you may still consider that meat unfit for food. If you were in the hands of an Old Bailey barrister, he would want to know why you say it is unfit for food; what evidence you have?—Honestly, I could give you none.

936. That is what I expected. I do not want to convey the impression that I object to your own way of doing it, but I want to know the grounds on which you say why it is done?—I could not give you any reason why that meat is unfit, and I know of none.

937. (Chairman.) Is it not the case that you distinguish between meat in a sound condition and meat in a morbid condition?—Yes.

938. And you class the morbid meat in the morbid condition as unsuitable for food?—Yes, as unsuitable for food.

939. (Mr. Speir.) You have given us your opinion of the proportion of tuberculous animals as being 19½ per cent. of those slaughtered for pleuro-pneumonia?—Yes.

940. One other inspector of meat in the City, in passing carcasses, suggested something like one per cent.; on such a figure as that you would be under the impression that he must have been passing a great many carcasses of which the organs have shown tuberculosis?—I cannot say that they have the opportunity that I have. I have very exceptional circumstances, and I very carefully examine every lung that passes through my hands like a piece of sponge, and when I found tubercle it was returned as a case of tubercle.

941. You would come to the conclusion that a very large proportion of these animals would very likely have had tubercle?—In a general market?

942. Yes?—Judging from the return I have given you, there must have been something like that.

943. Then provided that a great many have been passed, do not you think that there are many more, where animals are slaughtered under an inspector's eye, which might be used for human food?—Do I think that many might be used for human food?

944. Yes, because several inspectors who have been here have given us their opinion, that when they see a carcass on which there is the smallest portion of tuberculous matter they condemn it. You disagree with that?—Yes, I do.

945. In some of the experiments made by the experts of the previous Commission, in summarising their evidence, they say that it is quite evident that often infection is conveyed from probably the tubercular matter of the lung, or pleura to the carcass?—Yes, through the action of the knife.

946. You would be under the impression that the class of animals with the carcasses carefully trimmed were quite suitable for food?—I thoroughly concur with the report of the Commission.

947. And you agree with their suggestion that, if animals were carefully stripped and dipped for four or five minutes in boiling water, practically speaking the risk would be got clear of?—Entirely so.

948. And you are, apparently, strongly of opinion that gentlemen who have a veterinary surgeon's train-

ing would be more suitable as meat inspectors than anyone else of the general public?—Yes, I think so.

949. Do you think it would assist those gentlemen when appointed inspectors, or anyone also when appointed as inspectors, if the Local Government Board, or any other board, were to draw up certain regulations as to what they might condemn or not?—I think so.

950. That carcasses similar to what we were talking about just now might be dipped, or some other precaution taken, instead of leaving everything, as some people do, to their discretion?—Yes, I think that the Board might draw up some regulations on the lines on which we should condemn a carcass.

951. In a rough sort of way?—In a rough sort of way.

952. That would get rid of the objection of the butcher's that there is a want of uniformity?—Yes.

953. Do you, as an inspector, think there would be any great hardship in all cattle being slaughtered in public slaughter-houses?—Well, in London—I am only able to speak of London—of course there has been always among butchers a very strong objection to slaughter in public slaughter-houses. I think in 1844 the Act was passed to get rid of them permanently either in 30 or 40 years afterwards. Dr. Brewer was on the Metropolitan Board of Works at that time, and an Act was passed continuing private slaughter-houses at that time, and I think Dr. Brewer was one of the most prominent leaders of the movement.

954. Yes, but is it not the reason that butchers are probably too closely looked after?—No, not for a moment. You might take one or two men who would be so, but the majority of butchers in London kill very good meat, and I do not think they would allow for a moment—many of them would not let the carcass of a cow be slaughtered on the premises.

955. But do you not think that considerable improvement, at any rate, in the way of examination, could be carried out very much better in a public slaughter-house?—Undoubtedly, so far as that is concerned, it would be.

956. Do you think it would be possible to keep a thorough supervision of every carcass that passed through this district, or any other, as long as you have private slaughter-houses?—I think so. I think, under the regulations of the County Council, the slaughter-houses are watched very closely. I do not know more about it, and I think that they are wonderfully well conducted.

957. In smaller districts do you think it would be any hardship to the butchers if, say, a butcher were appointed as an inspector, and there was a carcass over which there was some dispute, if that carcass was compelled to stand, say, half a day, until it was seen by a veterinary surgeon who had higher qualifications?—No, I do not; in fact, it is a thing I have very often done myself in the slaughter-houses. I have said "You had better let this carcass remain over for a certain time," and I have examined it later on.

958. And in small rural districts the veterinary surgeons could probably examine all carcasses either in the morning or evening, or at any other stated time of the day, and still attend to their ordinary duties besides?—Yes.

959. And do you think that the work would be carried out well, and probably by the best men?—I think very likely a scheme of that kind might be worked very well.

960. (*Mr. Murphy.*) With reference to the use of veterinary surgeons as meat inspectors, if you had a large slaughter-house do you think that it might be possible for a veterinary surgeon to act as director, and to leave a good deal of actual inspection to subordinate officers, who would not themselves be veterinary surgeons; it might be found expensive to employ veterinary surgeons through a large administration?—So that a veterinary inspector should call once or twice a day, and see the condition of the carcasses and pass them or reject them.

961. But it might be set aside if they had any doubt about it?—Yes I see that, that is practically, if I am not travelling too far, what I wanted to introduce into our market. In our market we have a large number of things, sheep especially coming off the railway, and they get dead in the truck, and they are sent to the slaughter-man at once. I have a man about the slaughter-house, who is likewise looking after these, they will say there is the sheep, we should like you to look at it, and I walk in, and if it is unfit I condemn it. I think these men under my control do practically what Mr. Murphy has suggested—they keep them back for me to examine before removing them from the slaughter houses.

962. Then with reference to the proportion of cattle that you found had tuberculosis amongst the total examined for pleuro-pneumonia, 723, you say there was 19½ per cent.?—Yes.

963. Could you say what proportion of that 723 you would be disposed to say was unfit for food?—No, I cannot. I had a very free hand at that time, the director requested me under no circumstances to allow any meat to leave the slaughter-houses that I had the slightest doubt about, so that there should be no bother; and unless an animal was in an exceedingly good condition that was affected with tuberculosis, I condemned it, but I could not tell you what proportion.

964. Not approximately?—No, but I passed a good few of them that were affected with tuberculosis. I have not the slightest hesitation in saying that.

965. You would not condemn an animal if it had only the organs affected and these organs could be removed?—Not unless they gave evidence of wasting through malnutrition.

966. You get a number of milch cows from the London cow-sheds?—Yes, a great many.

967. Do they come to be sold again as milch cows, or to be killed and sold for meat?—To be sold as meat, and I think I can quote a couple of salesmen who will sell probably between them 180 cows weekly, but I think quite three-fourths of those cows go into the large towns of the north, the manufacturing districts; they are cows, as a rule, in very good condition.

968. They go there for what purpose?—For meat; in mining districts they prefer cow beef, but I do not know why; they seem to be very fond of it.

969. Have you any idea as to the proportions of those animals that may be found to have tuberculous udders?—No, as often as I examine those I never examined the udders of those cows, but I do not think the percentage would be very large. I think if a man in a shed finds the udder of a cow becoming indurated he gets rid of the cow pretty speedily; of course, there has been danger for the time.

970. Would it be a tedious piece of work to observe that for a number of months?—At the present time, personally I do not see many of them like that, but it would be. I do not see how you could do it very well. People kill their animals and cut out the udders, and remove them from the carcass.

971. And then the meat is afterwards dressed?—Yes, and seen by me.

972. You would not condemn the flesh of a cow because the udder was affected?—No, I should not think of it.

973. It would not affect it?—I do not think it would, it would take so long, and you would require someone to be in various slaughter-houses to get sufficient data to form any opinion upon it.

974. Those slaughter-houses are separate places?—Yes, Dr. Thorne, in respect of the slaughter-houses at the Metropolitan Market, said they were under the control of the Corporation of London, but they are to all intents and purposes private slaughter-houses. I have the control and inspection of them, but they are practically private, and a man can close the doors when he pleases and open it again.

975. Have you visited any of the public slaughter-houses on the continent?—I only walked through

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them two or three years ago in Brussels, and I was not particularly impressed with the condition of those, the few towns I have been in, as a matter of fact, I really avoid their slaughter-houses when I go into those towns.

976. You know it is very much the practice to slaughter in large halls, not to have separate compartments such as they have at Islington?—Quite so.

977. Would that give much better facilities for supervision?—I do not know that it would so long as they were all on the same spot.

978. Your difficulty with regard to the inspection of the animals that are killed at Islington does not arise from that?—Oh, dear no. I have no difficulty with them there, because I believe that the men if they find anything wrong will ask me to see anything that is sent away.

979. You do not see every carcase?—No, I think I can rely upon the men. The men will not send it away. Only the unfortunate thing is, supposing I, as a veterinary surgeon, if I were to pass a carcase affected with tuberculosis at the market to-day, that carcase might go to London or anywhere else, some man without any scientific knowledge might imagine that it might have tubercle, and the man might be prosecuted, and I think that is a very grave thing in our midst. I do not know how it is to be got over.

980. (Mr. Cooke-Trench.) Have you any knowledge that would enable you to say whether the milk from cows whose udders are tuberculous, is dangerous?—Well, as to the last report, I will not venture any opinion. I think it is almost conclusive—the examinations were so carefully conducted, and on so large a scale.

981. The cowsheds are all registered?—Yes.

982. You are only speaking of London?—In London I know that they are.

983. You probably know as a matter of fact that they are?—Yes.

984. And that there is a systematic examination of those places?—Yes.

985. Would there be any difficulty in having the udders of the cows in those dairies examined, say, once a month?—No, I think it would be very desirable.

986. Would not such an examination secure the public against milk coming from tuberculous udders?—I should think once a month or once a fortnight was the evidence given before the last Commission; that would meet the case for all practical purposes.

987. And secure the public against tuberculous milk?—Yes.

988. (Mr. Murphy.) You spoke of 723 tuberculous animals amongst the pleuro-pneumonia cattle?—Yes.

989. Can you tell me, and if so, what proportion of these cattle would be in such a condition that during their lifetime they would have no obvious sign of the disease?—I should think very few give any signs during life.

990. The large majority would be apparently healthy animals?—Yes. In inspecting cows of that kind in the market you have not the same opportunity as in the case of a man called in to an animal who was able to put various questions which would tend to form an opinion on the case.

991. (Mr. Speir.) Mr. Trench referred just now to tuberculous udders, and you also referred to indurated udders?—Yes.

992. Do you mean if you were appointed an inspector to do that work, and you found the udder hard, that that would be the course of procedure that you would follow?—Well, considering the report of the recent Commission, I think it would be obviously the duty of any inspector to put that animal on one

side until there had been a scientific examination of any small quantity of milk that might come from that indurated portion, and so prove whether it was free from bacilli.

993. Do you easily find bacilli in milk?—That I cannot say, I have made no special examinations in respect of that.

994. Might not an indurated udder arise from several other sources than tuberculosis?—Yes, an old foot and mouth complaint may, we have no end of them.

995. What I want to suggest is what is to be done to prove tubercle or not?—Under the present scientific conditions it should be submitted to some expert, the milk should be submitted to some expert who could definitely state whether bacilli is there or not.

996. Is there no means of a veterinary surgeon finding it out without submitting it to a microscope?—I hardly think so.

997. What about the tuberculin test?—Well, I have no personal knowledge of that, but from my reading I find grave difficulties in connection with it. Animals become refractory after becoming inoculated two or three times.

998. Have you any reason to believe that any animals, I will not say become inoculated, but injected with tuberculin become refractory after two or three times?—Personally, I know nothing whatever of it, and I can give no opinion on whatever other people have done.

999. (Professor Brown.) Supposing an animal with a knotty udder, does that prove that the knotty udder is tuberculous?—I think not.

1000. Cannot you find many indurated udders in the animals?—During the life.

1001. Yes?—I do not see why you should lose parts of it, but if compatible with modern views you might do it.

1002. That would not affect a man with a licence—cutting a piece out, which is a common way of testing a tumour—it is a very harmless thing—that could be done?—Yes, I have usually found that when a man has a cow with an indurated udder he sends it to the market.

1003. I will ask you that question; would not it be desirable in the interest of public health that a cow with any kind of disease in the udder should be eliminated from the dairy altogether as a milk supplying animal?—Undoubtedly, that is what I wished to convey just now.

1004. (Mr. Speir.) Might not it be a very great hardship to many dairyman?—Well, I do not know that it would, I really think it would be an advantage to him.

1005. As a dairyman myself, or at least a dairyman to a certain extent, I have any number of animals that often have indurated udders, and yet I am quite positive in saying that they have no tuberculosis; as they have been subjected to the tuberculin test and they have not shown it; what would you do under those circumstances?—If I found an udder slightly indurated, I should first use cold evaporation lotions, and wait a few days to see the result, and if the udders did not become soft I would put it on one side; and in the interest of the owner of the cow I should say, the sooner the animal was got rid of the better.

1006. Would it not meet the circumstances of the case, so far as the general public are concerned, if owners were compelled to report such animals, and enable the authorities to say whether they were dangerous to the public or not?—Possibly so.

1007. And you see no objection to carrying that out?—I see no objections to their reporting cases of that kind; the responsibility would then rest on the authorities and not on the dairymen.

The witness withdrew.

Adjourned until to-morrow at 12 o'clock.

FOURTH DAY.

No. 7, Whitehall Gardens, Westminster, S.W.

Friday, 27th November 1896.

PRESENT :

SIR HERBERT E. MAXWELL, BART., M.P. (CHAIRMAN).

Dr. R. THORNE THORNE, C.B., F.R.S.
 Professor G. T. BROWN, C.B.
 SHIRLEY F. MURPHY, Esq.

T. COOKE-TRENCH, Esq.
 JOHN SPEIR, Esq.

T. M. LEGGE, Esq., *Secretary*.

Dr. E. W. HOPE called and examined.

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1008. (*Chairman*.) You are the Medical Officer of Health for Liverpool, and have held that office for two years?—A little more than two years.

1009. Previous to which you were one of the assistant officers?—I was Deputy Medical Officer for about 10 years.

1010. You are the author of an article on "Inspection of Meat" in the "Treatise on Hygiene and Public Health," edited by Dr. Stevenson and Mr. Murphy?—Yes.

1011. We shall be obliged for any information you can give us as to the method of meat inspection in Liverpool, and of the staff employed?—The great bulk of the meat sold in Liverpool is sold at the public abattoir; besides which there are 28 private slaughter-houses within the city in which a certain amount of meat is prepared and sold. The staff employed exclusively in the examination of meat consists of five inspectors. These men were all butchers by trade and training, and they were selected with care as being men of intelligence and integrity.

1012. Have they to undergo an examination?—They were selected by a committee who, when examining them as to the technical knowledge in diseases of animals, put certain questions to them as to their general fitness.

1013. Have they no veterinary qualifications?—No. There are five—one chief, and four assistants; the chief having been something like 25 years in the service, and his wages being 290*l.* a year at present, with uniform and certain allowances. The wages of the assistants commence at 120*l.* a year, and rise to 140*l.* These men, I may say, were carefully trained subsequent to receiving their appointment, and should any case of doubt arise they always have the opportunity of referring to the veterinary surgeon or his assistant as well as to myself.

1014. Are there any regulations to guide them in dealing with unsound meat?—The principles which govern their action are those laid down by the Public Health Act, Section 116, which instructs them to seize any unsound meat which might be exposed.

1015. The terms of that section are a little vague, are they not?—Hardly. I think that they indicate a very definite principle.

1016. Take, for example, the subject which most concerns this inquiry—the tuberculous meat—how is that dealt with by the inspectors?—The inspectors act under instructions, the instructions being in the main those which are now, I see, quoted in the more recent papers from Germany and France and elsewhere.

1017. The instructions emanate from whom?—From myself; those have been followed for a very

considerable period; and with regard to tuberculosis they are, first of all, that the inspector should seize any animal the flesh of which is deteriorated. Whether that be from tuberculosis or not, of course, is a matter of secondary consequence, but if the flesh of the animal is deteriorated and unsound that would be a sufficient ground for seizing it. Then, with regard to tuberculosis, the presence of tubercle to any considerable extent would be ground for seizing the carcass. There are, as you know, rare cases in which tubercle may be somewhat extensively diffused without a great deterioration of the flesh. In a case such as that the carcass would be seized.

1018. The mere detection of tubercle in a carcass is not sufficient to warrant its destruction provided the flesh is firm?—Not necessarily; provided that the disease is localised, and provided that the flesh is sound.

1019. Supposing a single organ is affected, you would not consider it necessary to destroy the carcass?—Not unless, as may be the case, the flesh is also slightly deteriorated by that disease. In the case of an extensive disease of lung, for example, the flesh of the animal would probably be deteriorated, and would warrant the seizure of the carcass; but if the disease is limited, and there is no extensive suppuration and breaking down, and the flesh is sound, the carcass would not be interfered with.

1020. We have in that return the number of seizures?—Yes.

1021. The Return in my hand was made to the House of Commons, and it only shows the number of carcasses condemned for tuberculosis which are on the order of a justice?—Yes.

1022. But that does not represent the total number destroyed from that cause; could you supply us with the number?—Yes, I have it here. I can supply it for the year 1895, and up to the present date, and also for 1894. In 1894 there were 214 carcasses destroyed, the animals having suffered from tuberculosis. In 24 of those cases the carcasses were condemned by a justice.

1023. Is that in 1894?—Yes, in 1894.

1024. That does not quite tally with our figures here?—Those figures relate to the whole year; I see that your Return ends on the 25th March, so that the two, perhaps, do not correspond altogether.

1025. Then the following year, what was there?—In the following year 103 were condemned in consequence of the animals suffering from tuberculosis.

1026. (*Dr. R. Thorne Thorne*.) Destroyed, you mean, not condemned?—Yes, destroyed; but none of those were condemned by a justice.

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1027. (*Chairman.*) Do your inspectors find any difficulty in dealing with those unsound carcasses?—In what way.

1028. On the part of the salesmen?—No, I think not.

1029. Do they facilitate an inspection?—Yes.

1030. Upon whom does the loss fall if the carcass is diseased?—Upon the owner.

1031. Upon the consignor?—Yes; the owner of the animal—it may be the butcher possibly, or it may be the cowkeeper. I may say that tuberculosis is very exceptional excepting in dairy cows; it is very seldom that we get any other than dairy cows in the abattoirs which have suffered from tuberculosis.

1032. When you say that animals rarely suffer from tuberculosis, excepting cows, do you mean that fewer are seized?—Fewer are seized. I am speaking exclusively of animals sent for slaughter to the Liverpool slaughter-houses or abattoirs, or of imported carcasses; I am giving no expression as to what happens beyond.

1033. Do you find any discontent on the part of owners of animals when those carcasses are seized?—No.

1034. I suppose that as you only destroy those in which the flesh is really deteriorated and shows positively signs of the disease the owner is generally aware of the state of the animal?—Yes, generally speaking.

1035. It does not come upon him as a surprise?—No.

1036. In the carcasses do you ever detect tuberculosis?—No. Perhaps it would be convenient *apropos* of your previous question, if I explained the local practice in the case of animals which are sent to the abattoir suffering from any form of illness, including tuberculosis. The owner of the animal, a cowkeeper, we will say, finds that the cow is not in good health, and he is advised to send her away for slaughter. If, in that case, upon examination the animal is found to be suffering from tuberculosis to an extent which renders it impossible that the flesh should be used for food there is a local practice of very great age, from time immemorial almost, of getting what is called a jury of the trade. The first reference that I find to the practice is in an Act dated 1842; but evidently it was in use long before that. The jury of the trade at the request of the owner and inspector examine the carcass, and in the event of the owner, and the jury of the trade, and the inspector all concurring, a certificate of that kind is signed, and the carcass is taken away and destroyed. No compensation is given, but the juries are paid by the Health Committee for their services; each man has a small sum given him.

1037. The jury, as I understand, are composed of butchers?—Yes, that is invariably done when meat is sent to the abattoirs in good faith, and in which no prosecution would be instituted.

1038. You are aware, are you not, that considerable complaints have been made on the part of the National Federation of Butchers against the confiscation of carcasses without compensation?—Yes; but I understand that that complaint arose at a time when it was the practice in certain cities to seize carcasses of apparently perfectly sound animals, excepting that some small nodule of tubercle was found in the lung. In those cases the seizure was regarded as a hardship and complaints were made, but I have no recollection of any complaints being addressed to the Health Committee of Liverpool, or to myself, or to any other official of Liverpool in respect of the seizure of animals.

1039. When your inspectors examine a carcass have they an opportunity of examining the viscera and other parts?—They have of all animals slaughtered in the city, but in the large number of animals imported they have no such opportunity.

1040. (*Dr. R. Thorne Thorne.*) Might I ask the witness to distinguish between "animal" and

"carcase"—the animal as a whole, or a carcase?—The live animal or the carcase we will say.

1041. (*Chairman.*) Do you set a direct value upon public abattoirs?—Yes, I think that public abattoirs are most desirable.

1042. Do you find the private slaughter-houses in Liverpool less easy to regulate?—Yes, they are less easy to regulate; they take more time of the inspector.

1043. Are they diminishing in number?—Yes.

1044. (*Dr. R. Thorne Thorne.*) How many public abattoirs have you in Liverpool?—28, we reckon.

1045. Public?—I beg your pardon, private; just the one public.

1046. You were telling us that during the calendar year 1895 although 103 carcasses were seized and destroyed for tuberculosis, not a single one was condemned by the action of the justices?—No.

1047. May I take it that the carcasses were in such a condition that the butchers themselves assented to the destruction?—Yes. At the same time I may modify the reply by saying that it is not to be inferred that the carcasses were absolutely rotten, they were unfit for human food, but that is all; there was no opposition raised to their destruction.

1048. But then the trade themselves admitted the justice of the seizure, and made no complaint about it?—Quite so.

1049. In all those cases was the amount of tubercle such that the flesh, to use your own term, was sound, though the disease was not merely localised?—In all those cases either the disease would be fairly extensive, involving the glands and so forth, or the flesh would be obviously deteriorated.

1050. As regards the live animal in these cases, cases in which the disease or the unsound condition of the meat was so obvious, can you form an opinion as to what judgment an ordinary skilled butcher or salesman ought to have formed of the animal before it was slaughtered?—In a considerable number of cases I should think that it would be obvious during life that the animal was ill; the wasting would have been apparent.

1051. Were the majority of them milch cows?—Yes.

1052. And would it be reasonable to assume that the dairyman had practically got all that he could out of the cow, and that it was merely a desire to make something more out of the meat after he had got all that he could by way of milk?—In some cases it would be so, undoubtedly.

1053. Would that be so generally?—Probably he would be advised before it got to that length to send it away.

1054. Then financially the animal was of very little value?—Very little. On the contrary, the presence of a diseased animal on his premises would prejudice his trade. It would be a matter of knowledge that he had a diseased cow, and his customers would probably get to hear of it.

1055. How would that become known?—It would become known by means of the inspectors. There would be no desire to conceal the fact from the public.

1056. You are saying that tuberculosis in so far as the seizure of meat is concerned has been very exceptional in Liverpool, except in dairy cows?—That is so; it has been most common and most frequent in dairy cows.

1057. Should I be right in assuming that no dairy cow is sent to the market until it is pretty obvious that it ought no longer to be used as a dairy cow?—I should hardly be prepared to go quite so far as that, because the condition of dairy cows sent to the market has improved very considerably within the last two or three years.

1058. But I am speaking of those condemned; those that are believed to be diseased?—Those that are diseased, I think that one might expect that.

1059. If I understand you, you do not seize and destroy unless the meat is unsound?—Or unless the disease is extensive.

1060. Then in such cases would it be too strong an inference to say that in the vast majority of cases tuberculous cows do become practically useless as dairy cows?—Yes, useless as dairy cows.

1061. Then we have had the question of compensation before us several times; can you tell me so far as the experience of Liverpool is concerned, the reason which arises for demand for compensation?—No, I cannot tell you why there should be any just ground for compensating a man who keeps an animal under, generally speaking, unwholesome conditions, with the result that the animal becomes diseased.

1062. You are aware that in the provinces of England the action is taken mainly under section 116 of the Public Health Act of 1875?—Yes.

1063. And that the section relates not only to carcasses and meat, but to a large number of other articles of food?—Yes.

1064. Would your experience of Liverpool, and I do not wish you to go beyond your own observation, lead you to think it right that a carcass or meat should be separated from the other articles of food for the purposes of compensation?—No.

1065. In other words may I take it that you are so careful not to condemn anything that is proper for food that the carcasses which you seize are literally unsound and unwholesome and unfit for food, and that you see no reason for compensation?—I see no reason for separating them from the rest. Now, perhaps, I may add to that, that there are cases, no doubt extreme cases, in which, in spite of every care, the disease may appear in a cow-house, the owner of which has adopted every possible means to comply with the requirements. Should such extreme cases as those arise, there might then be grounds for compensating the owner of the cow.

1066. Does that apply to meat?—Are you speaking now of the live animal, which would rather come under milk, would it not?—It does hardly apply to meat.

1067. We shall come to that. You were saying that you had never seen tuberculosis in frozen carcasses?—No.

1068. Did I gather rightly that you have no right of inspection of imported carcasses?—I have exactly the same inspection of imported carcasses that I have of carcasses of animals killed at the abattoirs; very large numbers of them are taken there for the purpose of sale.

1069. I suppose that these frozen carcasses in which you have never seen tuberculosis might possibly have had localized tuberculosis in some of their organs, but that the condition of the flesh has not been affected by it?—Yes. Then again another point arises from that; it is merely hearsay, but I may mention it; that is that the price of animals in the country from which they come is so low, that none but thoroughly sound ones are sent. That circumstance has a bearing upon the question, I think.

1070. Would you mind putting in, if the Chairman agrees, your instructions to inspectors, to be printed in connection with your evidence?—We have no printed instructions clearly defining those points; but those matters, I may say, are under my daily observation; every day I see the chief inspector of meat, and very frequently see the carcasses taken.

1071. (*Mr. Murphy*) I want to know whether in the slaughter-house any separate part is set aside for the killing of the tuberculous animals?—No.

1072. The killing of an animal that is known to be tuberculous is conducted just amongst the others, without any special precautions?—There is no special place set aside for the slaughter of diseased animals.

1073. Your own decision is limited to whether meat is fit for food or unfit for food?—Yes, that is so.

1074. You do not have a third decision which permits food to be sold after being cooked?—No.

1075. You have no personal knowledge probably of the amount of inspection that foreign meat is submitted to which arrives in the markets?—No, I have no personal knowledge, excepting of what is

sold in Liverpool, and an enormous quantity of foreign meat is sold in the city of Liverpool.

1076. (*Mr. Cooke-Trench*.) You spoke of meat sold in public abattoirs; is that chiefly cattle slaughtered there, or does it include dead meat?—It is chiefly dead meat imported.

1077. What inducement is held out to owners of either live cattle or dead meat, to take it to the public abattoirs for sale; they can sell it elsewhere, I suppose?—Yes, they can sell it direct from private slaughter-houses, but the greater facilities of the trade seem to centre at the public abattoirs.

1078. There is no special inducement held out to people to send their cattle there?—There is no special inducement.

1079. When you bring cases before the justices, are they condemned almost as a matter of course?—I have never known an instance in which the justice has not condemned carcasses upon the evidence brought before him: I do not recall one.

(*Chairman*.) Are you speaking of tuberculous cases, or of diseased animals generally?

(*Mr. Cooke-Trench*.) My question referred to all diseases but chiefly as applying to tuberculous cases.

(*Chairman*.) It so happens that none were brought before the justices in 1895.

1080. (*Mr. Cooke-Trench to the Witness*.) You were asked upon whom the loss falls; you said upon the owner; that is, I presume, that the loss in the case of animals slaughtered at the public abattoir fell upon the butcher?—Generally, I imagine so, but not always.

1081. It would not be always?—No, by no means.

1082. Do farmers send cattle to be slaughtered there?—Sometimes; and cowkeepers within the city also send them there to be slaughtered.

1083. If I understand you right, you do not condemn for tuberculosis in the lungs, nor even slightly of the flesh, unless the carcass is obviously unfit for food otherwise?—The question is entirely one of degree; if there is extensive destruction of lung, it would be condemned.

1084. It is one of degree?—Your question hardly implied that; your question was that we did not condemn, if the tubercle is confined to the lung.

1085. Yes?—That is hardly the point. The tubercle may be confined to the lung, and the whole lung may be destroyed practically, and the whole carcass greatly deteriorated, in which case we should certainly condemn.

1086. The carcass may be greatly deteriorated, but you say not unless the carcass is greatly deteriorated that you condemn?—Even if not greatly deteriorated, if the disease is very extensive, we condemn.

1087. The evidence that we have got is that except by applying the tuberculin test, or otherwise by scientific means, it is impossible for farmers or butchers to tell whether an animal may not be slightly affected with tuberculosis?—I believe that is so.

1088. That is your experience?—Yes.

1089. Now, if a butcher buys in perfect *bona fides* an animal which is apparently perfectly healthy, but after slaughter displays tuberculosis and is condemned in consequence of it, does not great hardship arise there to him?—Probably it would, he buying an apparently sound animal.

1090. Which he has no means of testing?—Yes.

1091. Do you not think that compensation ought to be given there?—It would be a matter for consideration. We have so very few of those cases coming under practical knowledge that one could hardly say definitely.

1092. Is not withholding compensation a great inducement to parties to conceal the existence of disease?—I hardly think so. What is he to do with it; he wants to have it slaughtered or suspects that it is diseased: what can he do with it if he does conceal it?

1093. Is it not possible for persons sending up dead meat, and having removed the internal organs, so to prepare the meat that it would be very difficult to detect that the organs had been diseased?—In a case of that

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nature I take it that the disease would have been so extremely limited that it is questionable whether there would be any need to interfere with the disposal of the carcass.

1094. But we have had it in evidence before us that the whole carcass is confiscated if there is the slightest appearance of tuberculosis in any part of the carcass of the meat. Would it not be very easy for a butcher in such a case, the country butcher sending up meat, to conceal the fact of there having been such?—It appears to me that if the disease is so limited that he need not conceal it, the carcass will not be diseased.

1095. But in some cases it is, that is the evidence we have. Would not the withholding of compensation be a very strong inducement to him in such case to conceal it?—I cannot answer a question which relates to a practice with which I am not familiar; we do not do these things in Liverpool.

1096. Is not the sale of the fat cow a substantial part of a dairyman's incomings, a part to which he looks for profit?—I daresay it is.

1097. So that if this is cut off a dairyman would have to give up the trade, or raise the price of milk, is that not so?—That is an assumption.

1098. With which I think you agree?—Hardly. I have no experience of such conditions. Perhaps I may mention here the condition of dairy cows sent into the market. I have a letter from the superintendent of the market which bears out my own experience, that their condition improves very considerably; that in their own interests the cowkeepers send away an animal which they think is ailing from any cause, and consequently get a better price for their cows than they would do if they kept them longer running the risks of disease.

1099. (*Mr. Speir.*) You have told us that you have five butchers who act as inspectors. You have also said that those inspectors have no veterinary qualifications, or no veterinary knowledge, I presume, of disease?—They have no veterinary qualifications, but two at least of them are generally admitted to have an exceptional knowledge of disease of cattle.

1100. Then would it not be of benefit in the matter of detection if they all had some knowledge of diseases?—No doubt the more knowledge a man possesses, the better and more valuable he is.

1101. Then would the position such as these men hold be anyway improved if they had the training of a veterinary surgeon?—Not necessarily. I take it that however the man is trained he must have a subsequent special training for his special work.

1102. For the detection of the disease in the carcass of an animal?—Quite so.

1103. Is not that a special part of the training of a veterinary surgeon?—If I may make a simile, it is on all fours with the case of a young doctor who has a general training, but when he is put to special work he trains himself still more for those special duties; whether the man is a veterinary surgeon, or a butcher, or a doctor, I take it that you would want special training for the examination of meat.

1104. You have also told us that in 1894 you destroyed 214 carcasses from tuberculosis. I should like to know what percentage that is, because the number itself gives us very little direct information?—The number of carcasses slaughtered in the city during that year was 16,340.

1105. (*Chairman.*) That is exclusive of the imported carcasses?—They are excluded, and they in that year amounted to 36,915.

1106. (*Mr. Speir.*) Have you any record of the number of cows?—No, I have not for that year.

1107. Then you find the disease very seldom in carcasses other than those of cows. Now, presuming that the practice had been followed, or was necessary to be followed, in Liverpool as it is in some other districts where a carcass is condemned owing to a small portion of the disease, I presume that you would agree with me in saying that if you examined only carcasses, that you would be compelled to pass many carcasses which

you would not pass in ordinary slaughter-houses?—Do you mean that there would be some of them that would be slightly infected?

1108. Yes?—Probably so.

1109. You could not detect them in the carcasses as in the ordinary slaughter-houses?—No.

1110. Do you think it would be any hardship to compel the suppression of private slaughter-houses?—I think it would be a very costly proceeding. Some of the private slaughter-houses for example in Liverpool, where there are very few comparatively to what there are in some cities, do a large business.

1111. (*Professor Brown.*) You said that whether a man is a doctor, or a butcher, or a veterinary surgeon, he would require special training?—Yes.

1112. Who undertakes the training of the inspectors that you speak of?—These men are trained by experience. For example, our senior men have been a great many years at that kind of work; any new man is primarily under the senior; this is an opportunity to see and to study exactly what practice is carried out, and in that way he acquires training.

1113. Speaking of the principle on which meat is seized, you said that you thought the terms of the Public Health Act pronounced a tolerably definite principle on which they could act?—They announce a definite principle in a general way. I do not mean to say that they specify forms of disease, or anything of that sort. What I meant to state was that they placed a certain onus and responsibility upon the owner, and they specify what the inspector's general duty is. For example, it is not the duty of the inspector to examine and pass meat; to say to the butcher that that is fit for food and that is not, and to tell him that he is to sell this and not the other; it is no part of the inspector's duty to teach the butcher his trade. If anything is exposed unfit for human food it becomes the duty of the inspector to seize it, that is what I mean.

1114. But in deciding that the meat is unfit for human food, what I want to know is, what is the principle on which he proceeds?—You mean as to whether it is unsound or unwholesome.

1115. Yes?—His general knowledge would guide him.

1116. Have you heard that there are great complaints of want of uniformity of inspection?—In different cities, do you mean?

1117. Yes, what one man would call sound meat, another calls unsound?—There are, from time to time, conflicts of opinion.

1118. So that it depends upon the individual idea as to what is good and what is bad?—Subject, of course, to the instruction given him by his superior.

1119. Which may also differ according to the views of his superior. (*Chairman.*) And also to the opinion of this jury.

(*The Witness.*) That is a generally accepted state of affairs. In conditions such as these there is no divergence of opinion; that is quite a different point, I take it, to Professor Brown's. Professor Brown's point is this, that in a certain city the carcasses may be seized, in the lung of which a small nodule of tubercle is found.

1120. (*Professor Brown.*) Generally from any cause a man may condemn meat as unsound which was passed by another inspector without hesitation?—I do not agree.

1121. You have not met with an instance of this sort?—I have met with instances of difference of opinion, but very rarely.

1122. But still they do occur?—I have heard so.

1123. Your principle seems to be, to pay the greatest attention to what you call the soundness or unsoundness of the meat?—That is one very important point.

1124. So that, if you found an animal with advanced tuberculosis in the lungs, perfectly good meat as far as you could detect in the carcass, you would pass that?—The condition would be a very rare one, I venture to think.

1125. Surely there are plenty of cases where the carcase is exceedingly good meat, to all appearances, and in which the tuberculosis in the lungs has advanced to a very great extent. I am speaking of observation on many thousands of animals in the last 40 years?—It is a difficult matter to reply to a question relating to a hypothetical pathological condition as to what is meant by advanced tubercular disease.

1126. When both lungs are so filled with deposit that you could not put the point of a pin upon a particularly healthy spot. What would you do then?—I consider it should be seized.

1127. And unfit for food?—Yes, and I should expect to find the flesh deteriorated.

1128. There are no obvious signs of tubercle in a carcase from which all the organs have been removed?—No.

1129. Have you seen a deposit of tubercle in a muscle?—I saw a case about 10 days ago; I was surprised I did not see the viscera; I saw the glands; almost all the glands one could see were filled with tubercle, but the flesh itself seemed to be sound, and the weight of the heifer—it was a heifer—was over 800 lbs.

1130. But, in any case, where you found actual tuberculous deposit in the flesh, that indicated the necessity of condemning the carcase?—Quite so; this carcase was condemned.

1131. You say, in reference to the jury system, that, if the owner and the jury agree, the meat is at once condemned. What happens if they do not agree?—Then it would be a matter for the magistrate to decide.

1132. But, in certain cases, you call in a veterinary surgeon, when is that?—That would be in a case where the inspector might have some doubt, for example, in a living animal.

1133. Not in connection with the jury?—No.

1134. If the jury disagree what is done?—The point then would be this, that the man says: "This carcase is perfectly sound, and I am going to sell it"; and then under the Public Health Act the proceedings would be plain; he would be prosecuted for exposing it for sale.

1135. In answer to one question, you remarked that it would be to the interest of the owner of a diseased animal to get rid of it because it would be prejudicial to his trade?—Are you speaking in reference to dairy cows?

1136. I mean in reference to a dairy cow. You have not met with a case in which a man refused to take a fair price for an animal believed to be tuberculous, because it was so very valuable to him, and gave a large quantity of milk, and ate very little food?—No.

1137. If a case of that kind came under your notice would you take any action under your present powers?—Only indirectly. We want powers very badly. I am quoting a case of a man who had a cow which was reported by one of the inspectors to be diseased; a veterinary surgeon confirmed the view; in fact, it was apparent to anybody, and the man refused to allow it to be taken away—refused absolutely. However, I sent for him, and he came to my office, and I interviewed him, and he finally consented to let it go, and the carcase was destroyed.

1138. But you had no power to make him?—No, but probably I told him that his customers would probably learn of the circumstances.

1139. It is the case, I believe, with what people call a "waster"—it is not necessarily a tuberculous animal?—Quite so.

1140. The animal which you consider highly dangerous?—The fact of emaciation would suggest disease.

1141. So that it would be really true that, because a dairyman has an animal in his possession which is not in a very emaciated state, it is not necessary that he should know of the existence of tubercle when

he sends that animal to the slaughter-house?—By no means.

1142. And it is to the interest of the owner and the public that he should send it in that way?—I think, too, that it is useless to the owner to keep it.

1143. It is more desirable to send it to the slaughter-house, where it is likely that they will find out whether it is tuberculous or not, than that he should keep it, and supply the public with the milk from it?—Of course.

1144. In reference to the inspection of the foreign meat, of course there is an immense quantity of foreign meat landed at Liverpool you do not inspect?—It is landed in the port of Liverpool and slaughtered on the Birkenhead side.

1145. I mean the frozen meat, not the animal?—A great deal is landed there which we do not inspect.

1146. It is sent off by rail?—Yes, it is in transit.

1147. (*Mr. Speir.*) In connexion with this jury of the trade, in the event of your saying a certain carcase was unsound and the jury saying that it was quite sound, what is done in that case?—That would be matter for the magistrate and evidence.

1148. Would you carry that point?—We would proceed with the case, unquestionably.

1149. And if you had first said it was unsound, what is the use of referring it to a jury?—These are never cases for prosecution; these cases are simply those which Professor Brown suggested to me. Where a man in good faith sends the cattle to the slaughter-house there is no guilty knowledge or guilty intent; he sent it there for the removal of the hide and to get what value he could for it. There is no intention on his part to sell it for human food; it must go somewhere to be slaughtered, and in cases such as those the jury certify in that manner. We never call a jury of the trade if we propose to prosecute; in those cases we follow the Public Health Act.

1150. Then I understand that if you had submitted any carcase to the jury of the trade you had made up your mind that if they said it was sound that you would agree with their decision?—No, the owner will concur that it is unsound. The owner admits it and the inspector states that it is unsound—the two agree. Then, perhaps, to protect the inspector this custom may have been followed out. The owner cannot afterwards say: "You have seized the carcase of my animal and you do not prosecute me; you simply take that action and dare not take it into court." What would prevent the man doing that afterwards except we had some such safeguard as the jury system?

1151. (*Chairman.*) Now we come to the milk trade; the milk houses you call "shippons" in Liverpool?—Yes, we do; it is a corruption of the word sheep-pen, I believe.

(*Mr. Speir.*) The same word is used over the north of England and the Midlands.

1152. (*Chairman.*) Have you any system of inspection of the shippons?—Yes, we employ two special sanitary inspectors, who are qualified men; they hold a certificate from the Sanitary Institute of Great Britain; their business is to report upon the condition of every place proposed to be occupied as a shippon. These two men are assisted in certain details by the district sanitary staff; they have no part in the examination of the cows, that matter being part of the duty of the meat inspectors and the deputy veterinary surgeon. With regard to the examination of the milk a special inspector with certain assistants proceed under the Sale of Food and Drugs Act, and at the present time the Health Committee have ordered a bacteriological examination of the milk, more especially with reference to tuberculosis.

1153. Then, of course, Liverpool depends largely upon an external supply of milk?—Very largely.

1154. You have no power or control over that source of supply?—Only very indirectly and to a very imperfect extent.

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1155. So that with the utmost care in the inspection and control of urban shippens within the municipality you would still be liable to any danger that might exist in milk from the rural source of supply?—That is so, and a most serious difficulty it is.

1156. You have no suggestion, have you, to offer in regard to that?—Well, I would suggest in regard to that, and, of course, in reference to tuberculosis, that power should be given to examine any shippens external to the municipality from which milk is sent into the city, provided that there are grounds to believe that that milk is likely to be dangerous to the public health or prejudicial to the public health.

1157. You have that power now, have you not, under the fourth section, under the Notification of Diseases Act, 1890?—We have it in regard to infectious disease, but not in regard to tuberculosis. We have it in regard to all diseases scheduled under the Notification Act, but not in regard to this important matter.

1158. Dr. Thorne has some questions to ask you on this particular subject, and I shall just examine you very briefly on the general question. Have you directed any attention to the statistics of phthisis in Liverpool?—Yes, to the general mortality from tubercular disease; and extending over a considerable number of years we find a steady diminution of deaths from tubercular disease. The record of mortality per 100,000 is before you.

1159. I have it here; it was 313·4 for the decade from 1885 to 1894?—Yes.

1160. It was 355·1 in the preceding decade from 1875 to 1884?—Yes.

1161. And 441·6 in the decade from 1865 to 1874?—Yes.

1162. Do you hold any opinion as to the cause of that diminution?—I attribute that diminution to general sanitary measures, more especially the improvement in the dwellings of the poorer classes. I do not think it has any great bearing on this special matter.

1163. Has there been any improvement in the diet of the working classes during that time?—There has been in recent years beyond question owing to the greater cheapness of wholesome meat.

1164. There has been a larger consumption of meat?—Yes, and of meat of a much better quality.

1165. Has the supply of milk improved?—Undoubtedly it has, and also the condition of the places in which the milk is stored and from which it comes.

1166. I do not know if you are prepared to answer the general question whether you connect the existence of tubercular disease in butcher's meat and in dairy cattle with its existence in the human subject?—I have formed opinions more especially in regard to the communicability of tubercular disease by the milk. My own impression is that the milk is a more probable and more fruitful source of infection than meat, and I base that opinion upon such facts as that the tubercular bacillus is found in milk which is destined for ordinary consumption; that milk, probably, undergoes no cooking; it is taken by very young children, and the seat of tubercular disease in young children is very frequently in connection with abdominal organs which would suggest infection by swallowing.

1167. And yet in spite of a larger milk supply and a larger consumption of milk the proportion of tubercular disease in human beings shows a marked decrease?—It does; probably, as I said before, largely owing to general sanitary improvements which have been very great. But at the same time the amount of tubercular disease is still very great, and any possible source of it should and must receive attention.

1168. (Dr. R. Thorne Thorne.) I should like to ask you a question as to the age incidence of tuberculosis. You give all ages in the statistics which you have just mentioned?—Yes.

1169. On the question of milk, which we are dealing with, would the all-ages death-rate from tuberculosis give a fair impression of the mortality from that cause, referable to milk on the assumption for the moment that milk of tuberculous cows may have produced tuberculosis?—I think that the other measures which influence the disease would quite swamp the milk one, taking the deaths at all ages.

1170. Take the tuberculosis deaths, say under five years of age; have you worked them out to see if the diminution in mortality at this age-period is at anything like that at all ages in Liverpool?—No, I have no statistics to show that.

1171. Assuming for a moment that the milk of a cow with a tuberculous udder is capable of conveying tuberculosis, at what age would you expect to find the results expressed in the tuberculosis death-rates?—Probably in the earlier ages, the young infants and children being greater consumers.

1172. Do you happen to know what the statistics of the Registrar-General for the whole of England are with regard to the age incidence of tuberculosis in its various forms?—In its various forms, speaking from recollection, I should say the greatest incidence would be about adult age, or early adult age that the greater number of deaths have taken place. Out of the total deaths the greater number would have taken place between the ages of 25 and 30, and 40 and 45.

1173. My point is this. Assuming that there has been a diminution in tubercular disease at all ages, do you know that the Registrar-General is enabled to show nothing like the same diminution below five years of age that he shows above that age?—No, I have not noticed that.

1174. Do you think as the result of your experience in Liverpool, and with such precautions against the use of tuberculous meat as you take, that tuberculous meat causes any substantial amount of the tuberculosis which we have been speaking of, in those who are meat consumers?—I do not think that it causes any. I have no evidence to show that it causes any.

1175. Can you say the same thing with regard to milk in its effect upon infant life, at ages where milk is largely consumed?—I think that the evidence of danger with regard to milk is very much stronger.

1176. You agree with the previous Royal Commission on that subject?—Yes.

1177. May I assume you also agree that even a comparatively small nodule of tuberculous matter in the udder of the cow involves very grave danger to those who drink the milk of that cow in an uncooked state?—I think so; that is my opinion.

1178. Have you any experience of cows, otherwise in good condition, which present tuberculous disease of the udder?—I have no experience of cows, otherwise in good condition, with tubercular disease of the udder alone.

1179. What would be your view with regard to compensation in the case of a man who has an animal, which is apparently in good health, which is of real value to him for milking purposes, and yet he is told by an inspector that the cow has some tubercular disease of the udder; what would be your view in such a case on the question of compensation?—I should consider whether that man was himself in any way to blame for that condition; if, for example, he had kept his shippen in good order in conformity with the requirements of sanitation, and if the disease had evidently arisen through no fault of his own, I think his claim for compensation should certainly be entertained. But if on the other hand, he is a man whose shippen is entirely bad, ill-ventilated, and so forth, I do not think that that man would deserve to have compensation; that he himself has been the cause of the illness of the animal probably by placing it under insanitary conditions.

1180. But I gather that you see some distinction between the question of tuberculosis in carcasses as regards compensation and tuberculosis in a milch cow which is available for the purposes of milk?—

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Yes, I think that the man, provided that he is in no way to blame, has certainly a claim for compensation.

1181. Have you regulations as to shippens and cow-sheds in Liverpool?—Yes.

1182. How would a man be to blame if you look after the shippens and see that they are properly kept?—Unfortunately instances are too frequent in which, although one insists upon certain structural conditions, windows, cleanliness, and so forth, yet unless there is a constant and incessant watching, someone at the man's elbow, he closes up every ventilator and gets his shippin in a filthy state, and the consequence is that the conditions are not consistent with the health of the cows. It is a very common thing even if the structure is good enough.

1183. Would it not be very difficult to make the question of compensation and non-compensation dependent upon your view, we will say, as to whether a man was to blame or not in such respects?—There might be difficulties; but at the same time there are men and men. I could take you to shippens in Liverpool which are in every way creditable places, that are excellent in every particular; and then on the other hand there are some very far removed from that condition, chiefly from want of attention and care of the keeper. From year's end to year's end the same thing goes on.

1184. What cubic space do you require in shippens in Liverpool?—600 cubic feet.

1185. Do you think it enough?—No, I should like to see more very much.

1186. Then, if the regulations could be amended in that respect the danger of tuberculosis in cows kept in your shippens would be materially diminished, would it not?—That is my opinion. But the difficulties from the trade point of view are very considerable in increasing the cubic space, and we endeavour as far as possible to make up for that deficiency by improved ventilation.

1187. Do you agree that the keeping of cows in vast communities, like Liverpool, is in itself bad and tends to the production of tuberculosis?—I think that it would be better if the same supervision could be exercised over cows in a purer atmosphere, but I should be very sorry to see the milk trade removed from Liverpool where we can now, to a great extent, supervise it, and placed outside under conditions which we could not in any way control.

1188. Are you aware that some authorities have asked that they might have power of inspection over dairies beyond their district for the purpose of detecting tuberculosis, if the supply to their towns comes from outside their area?—I believe that is so in Glasgow now.

1189. If that power were given would not that remove your objection very considerably?—Very considerably; it would remove it to a very great extent.

1190. They have that power now as regards other infectious diseases?—Yes, in regard to other infectious diseases.

1191. But not as regards the one we are discussing now, namely, tuberculosis?—No.

1192. (Professor Brown.) In reference to the difficulty which you have just suggested in apportioning the compensation, does it occur to you that it would be possible to have some such arrangement as you have with your jury of butchers in order that they might decide whether the circumstances justified the payment of some reasonable amount?—The difficulty would be, or one difficulty would be, I think, that the cowkeepers, the dairy-keepers, as a class, are men of a somewhat different class, in regard to intelligence, to the butchers. I think they would be more difficult to deal with in that particular.

1193. But if it were arranged that compensation should be given it would be done under the terms of the Animals Diseases Act; as they apply to certain animals diseases. It provides that the local authority shall pay compensation to a certain amount of an animal's value, but not exceeding; it leaves them a very large discretion so that a great deal of that difficulty

would vanish if in all cases of the kind the local authorities were to appoint proper persons to inquire into the circumstances, and then advise as to the amount of compensation to be paid?—That would remove any difficulty on that score; it would apply also to the whole country. If it applied only to Liverpool I am afraid we should have a considerable number of tubercular cases sent in to get compensation.

1194. Clearly any regulation of that kind must be applicable to the whole country. Would you consider it desirable, if you had power, to eliminate from a dairy a cow with any disease of the udders?—Yes, any disease of any kind or description.

1195. (Mr. Speir.) You said that your Health Committee had ordered bacteriological examinations in regard to milk. How do you propose to carry that out?—It is carried out by procuring samples under such conditions as the bacteriologist considers necessary, and the samples are then forwarded to men of repute to carry out the investigations in their laboratories. Dr. Woodhead and Professor Boyce are engaged at the present time on this matter.

1196. Supposing that you found that a particular sample of milk was infected with tuberculosis, what course do you propose to follow?—I make investigations as to the conditions existing at the place from whence this sample comes, because it would be simple if we found the sample in our own city, but it would be exceedingly difficult when we find that the tubercle comes from outside as we have done.

1197. Then what would you do if you found it outside?—In the case in which we did find it outside, I wrote to the medical officer of health of the county in which the place was situated, and received from him an assurance that he would give every attention that he could to the condition of the shippin.

1198. But the most scrupulous attention to the condition of the shippin would do no good, provided you found the animal was wrong?—Quite so; you must take it out; it is a source of danger to the other cows, I take it.

1199. Then, I find, in your own area you say you have adopted a cubic space of 600 feet, and you have also said that you do not consider that sufficient. Might I ask you what you do consider sufficient?—I should prefer 800 feet as a minimum.

1200. Then do you think 800 feet would give continuous fresh air, provided any shippin is shut up, say from 6 o'clock in the evening to 6 o'clock in the morning?—No. Of course, the question of ventilation would be still as necessary, and as strong as ever, but there would be less likelihood of draughts; it would be more easy to ventilate a shippin of larger cubic space and there would be less likelihood of draughts.

1201. What would be the difference between the air of a 600 cubic feet space and an 800 cubic feet space after it had been shut up, say for a couple of hours?—There would be little or no difference.

1202. Then is it worth while making this difference in the space?—I think that it would facilitate the ventilation. The essence of the whole question is ventilation, the renewal and exchange of air.

1203. I was going to ask; would it not be better to go in for ventilation altogether, and see if that can be carried out?—That is the most difficult point we have to contend against in regard to shippens. We are now endeavouring to get ventilators which cannot be shut. The windows are invariably shut, and they stop up the air-shaft, and so forth.

1204. Might I be allowed to correct a slight error that you made in the last answer to Professor Brown. You said that Glasgow had the power of going to outside dairies and interfering there if they thought fit. I rather think that you probably were in error in making such a statement. In all probability, what has been passing through your mind is, that Edinburgh applied some months ago to do so, and then withdrew the request?—My authority is the Medical Officer of Health of Glasgow, and he says: "A clause of a local Act of 1890 gives power to the medical officer or sanitary inspector to enter any byre

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" wherever situated, provided the milk produced therein was being sold in Glasgow, in order to examine and determine whether the cows, or any of them, suffering from any disease which might render the use of the milk dangerous or injurious to health."

1205. I am quite well aware that that power has been exercised with regard to the milk supposed to be polluted by enteric and other fevers, but I am rather afraid they have not exercised the powers with regard to tuberculosis.

1206. They seem to have a power which I do not know?—The definition may be limited as with us.

1207. Yes there probably is a clause in the local Act limiting it, or not including tuberculosis?—Quite so.

1208. (Mr. Cooke-Trench.) Is it easy to detect a tuberculous condition in the udder of a cow?—I should think not, unless in pronounced cases; I should think that it is a matter of difficulty.

1209. (Chairman.) "Except in pronounced cases"?—Yes.

1210. (Mr. Cooke-Trench.) In your inspection of shippens, do you inspect the cattle as well as the building?—Yes; the cows are inspected by what we call the leave-lookers, the meat inspectors.

1211. How often?—They examine about 150 a week roughly, and the total of cows in shippens in the city of Liverpool is 4,500, so that it is not as often as could be wished.

1212. That will be only something like once in six months?—Yes.

1213. Are you of opinion that a periodic inspection of the udders of the cow would practically display any existing tuberculosis?—I think probably not; but it would be a step in the right direction, because it would detect any advanced case of illness.

1214. (Mr. Murphy.) The power to examine cowsheds outside the area of the authority should, to be effectual, be accompanied by some power of action where the cow-shed is found to be unsatisfactory?—Yes, it should, of course.

1215. Have you thought at all what such action might be?—I take it such action would be in the main based on the requirements, say, set out in the model byelaws of the Local Government Board, so far as the structure of the shippen went; but in order to apply it to the health of the cows, I take it that it should also include the power to examine cows by a veterinary surgeon, or some other competent person.

1216. So far as the structure of the cow-shed is concerned, the cubic space, and drainage, and ventilation, and so on, that is now subject to a regulation made by the local authority where the cow-shed is

situated?—Yes; subject to the approval of the Local Government Board.

1217. Would you suggest that the Town Council of Liverpool should be able to proceed against a cow-keeper who was infringing regulations made by another authority elsewhere?—That would be a difficult matter for the lawyers to decide, as to the drawing up of the order, or the Act, or whatever it was.

1218. But the chief use of such a power would be to enable you to exclude it from your own milk coming from a cow-shed which was unsatisfactory?—It would be extremely difficult to exclude milk from a place under existing powers, even if we knew that it was unsatisfactory.

1219. Could you say, as a matter of fact, whether it is a practice of farmers to mix milk of several sheds; do you get the middleman buying milk from the farmers, and introducing it into Liverpool mixed?—I think most milk is mixed. The contractors bring it in from various farmers, and it would probably get mixed.

1220. (Mr. Speir.) In connection with this, do you not think that if you were having the power and you were interfering with outside districts, that it would make those local authorities very lax in the carrying out of the law in regard to their districts?—Possibly it might have that effect, but, on the other hand, it might put them on their mettle, and make them think that they would not have outside interference—that they could keep their own place in order, and not wait to be dictated to by a neighbouring local authority. I was asked for a return of the carcasses of cattle from Liverpool dairies sent to the abattoirs and private slaughter-houses which is as follows:—

CITY OF LIVERPOOL.

Carcasses of Cattle from Liverpool Dairies sent to abattoir and private slaughter-houses.

—	Total Number of Cows sent for Slaughter.	Carcasses Condemned.		Total.	Carcasses of Animals slightly affected with Tuberculosis, passed into Market.
		Tuberculosis.	Other Causes.		
Year ending 1894.	383 (from Oct. 20th to Dec. 29th.)	—	—	—	—
Year ending 1895.	2,329	59	186	245	201
Up to Nov. 16th, 1896.	1,592	83	158	241	115

The witness withdrew.

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Professor J. McFADYEAN, M.B., B.Sc., F.R.S.E., called and examined.

1221. (Chairman.) I believe you are a member of the Royal College of Veterinary Surgeons?—I am.

1222. And a graduate in medicine and science of Edinburgh University?—Yes.

1223. I think you used to lecture at the Royal Veterinary College in Edinburgh?—I used to do so, but I am now Principal of the Royal Veterinary College in London.

1224. And Editor of "The Journal of Comparative Pathology and Therapeutics"?—Yes.

1225. You are also the author of a treatise on the comparative anatomy of domesticated animals?—Yes, of two.

1226. You did not appear as a witness before the last Royal Commission on this subject, did you?—No, I was employed by the Commission to carry out some experiments, and to report regarding the diagnosis of tuberculosis in the living animal.

1227. I think you gave evidence before the Departmental Committee on Pleuro-pneumonia and Tuberculosis in 1888?—Yes, I gave evidence before that Committee.

1228. Of course, if, in replying to any of the questions we may put to you, it would save you trouble to avoid repetition, you could refer us to any part of your evidence before that Committee rather than go into the same story again?—I do not recollect having read that evidence since I gave it.

1229. The subject of tuberculosis in animals divides itself into two branches, namely, the question of unsound meat and the danger of tuberculosis in milk. I think we will take the milk question first. Is the public exposed to any peculiar risk owing to the presence of tuberculosis in dairy stock?—Yes, I think that all those who consume milk in a raw state, that is, unsteamed or unboiled, are at present exposed to a decided risk of contracting tuberculosis, inasmuch as we know that, although tuberculosis of the mammary gland is not exactly a common disease, still there probably never is a moment when there are not a few animals with tuberculosis of the udder to be found in dairies here and there. In every such case the milk furnished by that cow would be highly dangerous to the person consuming it; I think I

might go further and say that, if the milk were taken undiluted with milk from other cows, it would be a very certain method of infecting the individual. To show that that is not mere theorising, I might mention that, within the last 12 months, I was asked to examine a sample of milk from a diseased udder with a view to diagnosis. I had no difficulty in detecting tubercle bacilli in it, and, to my horror, I learnt a week or two afterwards that the milk from that cow was still being sent for sale into the adjoining city.

1230. Have you any reason to suppose that that was an exceptional case?—I do not think that is exceptional.

1231. Have you any suggestions as to the safeguards or means of prevention that might be adopted?—I think that the evidence justifies us in believing that there is no danger from the milk except when the disease is actually present in the udder itself. I do not think that a cow with a tuberculous lesion in the lung, and with the lesions confined to the lung, would yield milk at all dangerous. I cannot conceive that the milk would be dangerous in such a case. That minimises the danger to a certain extent, because there is not one cow in a hundred that is the subject of tuberculosis that ever gets the disease in the mammary gland.

1232. When it is in the udder, do you say it is easily detected?—The disease cannot exist in the udder for any length of time without attracting the attention of the person milking the cow, because it leads to induration of the gland, and, in the course of time, to a very considerable enlargement of it. In that way it has characters that enable veterinary surgeons to distinguish this form of mammary inflammation from almost any other. But there is a distinct danger connected with it in this way, that while the milker would be sure to recognise that there was some disease in the quarter, he might attach no importance to it because, for some considerable time after there is a manifest hardening of the udder, the milk may continue to be perfectly normal in appearance, and also not appreciably diminished in quantity, notwithstanding the fact that, when tested at that time, it is found to contain the germs. I think that the present danger would be considerably reduced if all milch cows were submitted to veterinary inspection at intervals. Unfortunately, that would be rather expensive, because such a method of inspection is of little or no value unless the intervals are rather frequent; if the inspections were made at longer intervals than two or three weeks, then it would not be a very reliable safeguard, for in less than two or three weeks a tuberculous inflammation of the mammary gland might develop into quite a dangerous condition. I would suggest that it should be made penal for any person to sell milk from an udder that is manifestly diseased in any form.

1233. In your opinion, might that disease be easily recognized by any person working the stock or by any person connected with dairy stock?—Of course the thing must start from a point of disease of microscopic size, and then it would not be detectable; but it must soon attain such a size as would make it detectable; and as a matter of fact in every case that is discovered by veterinary surgeons, the person milking it has known that there was something wrong with the quarter for some considerable time before.

1234. Would it be necessary to employ a veterinary inspector?—I think so.

1235. The last witness described the system in Liverpool which, in his opinion, was efficient, under which shippens, byres, or lairs were placed under the inspection of inspectors who were not qualified as veterinary surgeons but were technically instructed?—My experience of these men is that they are extremely ignorant. To me it seems a perfectly irrational system to depute the inspection of animals with the object of detecting disease to any other class of men than veterinary surgeons; as irrational as it would be to set a sanitary inspector to examine human

beings with a view to the detection of cholera or scarlatina or anything of that sort.

1236. As a practical question, if you were to employ veterinary surgeons to inspect every cow throughout the country once in three weeks, the expense would be prohibitive. You have already told us that tuberculous disease in the udder is easily recognized by anyone milking the cow; would it not be possible to have inspectors sufficiently instructed for that particular purpose?—What I said was that it was impossible for the disease to exist for any considerable length of time without its attracting the attention of the milker. I did not mean to say that the milker would recognise it as a tuberculous inflammation of the udder. What I said was that tuberculous inflammation of the udder has characters by which veterinary surgeons can distinguish it from other forms of inflammation. I admit that it might be possible to take an intelligent man and train him with reference to this one point, just as it would be possible to take a man who has had no education in human medicine and educate him in the diagnosis of cholera or scarlatina. But I do not think that is advisable, and I do not think it would be a very reliable safeguard for the public. Of course, lay inspectors might be employed to detect disease of the udder in any form—they might be deputed to ascertain whether all the cows whose milk is being sold have, as far as can be ascertained by them, healthy udders; then supposing there were a case of disease discovered, I think that would be a case to submit to a veterinary surgeon.

1237. How many cows could a lay inspector examine in a single day?—If they were all in connected premises, I should think that he might without difficulty examine 60 in an hour.

1238. Sixty in an hour?—A minute's examination is quite sufficient to ascertain with moderately quiet cows whether the mammary gland is healthy to the touch or not, and in regard to size and so on.

1239. It would be a hard hour's work, would it not?—I think I have inspected more than 60 myself in an hour. Again I might say that I am not theorising, because I examined for the Royal Commission on a previous occasion 1,800 cows, particularly with reference to the state of their udders.

1240. Do you think that inspection—prevention in short—is better than any form of cure, such as sterilizing milk?—No. I think that steaming the milk is the best of all precautions. I do not care what steps may be taken in this country short of the absolute eradication of tuberculosis from cattle; I should not allow any child of mine to consume uncooked milk. That is a precaution which is inexpensive and absolutely certain.

1241. Turning to the other branch of the subject to which that precaution is applied, namely, meat—have you any observations to offer for our guidance in that? In the first place, I believe you hold some views about private slaughter-houses?—That question, I think, is connected with the present inquiry in this way, that so far as safeguarding the public is concerned, it is absolutely unimportant whether the Commission decides that this class of flesh is safe and that class is dangerous, unless there is instituted the machinery to detect the carcasses that are dangerous. It is no use declaring that such and such a degree of tuberculosis in cattle renders the flesh dangerous to the consumer, as long as there is an almost unlimited facility for a butcher to slaughter an animal so affected and place its carcass on the market. Therefore, I think that this is really part of the general question of the inspection of meat. I think, that not only through the bearing of tuberculosis on human health, but through the bearing of other diseases, the public ought to be safeguarded by skilled inspection of slaughtered animals. That I suppose would be next to impossible in any place where there are private slaughter-houses—I mean, that in a city of any size with private slaughter-houses, skilled inspection of the slaughtered animals is next to impossible,

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on the ground of cost. Of course, when the slaughter-houses are scattered all over a city, it requires rather a large staff to carry out the inspection. I therefore think that, if it is a possible course on the ground of cost, private slaughter-houses ought to be abolished, and that there ought to be instituted a compulsory system of general meat inspection.

1242. Have you any cause to believe that the disease is communicated to human beings through the meat supply—I do not mean exceptionally, but frequently?—No, I do not think it is communicated frequently. I think it is probably very rarely communicated through the flesh. I think in the past the danger to human beings in this way has been by some people a good deal exaggerated. The great question which has been under discussion for the past ten years—in fact, ever since it was proved beyond any doubt that tuberculosis of cattle is the same disease as tuberculosis of the human subject—is whether, given an animal that is the subject of tuberculosis, every portion of its carcase is dangerous, or whether there are many cases of what are usually called localised tuberculosis, in which the flesh might with all safety be sold. For a number of years, those who were in favour of what was called total seizure—that is the condemnation of the whole carcase, no matter what the apparent extent of the lesions—seemed to be rather in the ascendancy. At the Special Congress for Tuberculosis, which was held in Paris in 1888, a resolution in favour of that was carried. Then at the subsequent International Veterinary Congress which was held in Paris in 1889, again a resolution in favour of total seizure was carried, with, I think, only three or four dissentients. The thing came up again for discussion at the next International Veterinary Congress, which was held at Berne last year. There it would have been quite impossible to re-affirm the resolution carried at the previous Congress. It was ascertained, by private discussion in the intervals of the meetings, that opinion was much divided; and they passed a series of a sort of compromise resolutions, but they would have nothing to do with the question of total seizure. The exact resolutions which they did pass I have here in a translation of the proceedings of the Congress. The resolutions which were passed were: “The flesh seized shall be excluded from consumption: (a.) If it come from an emaciated animal; (b.) If it presents a bad appearance; (c.) If lesions are present in the muscular system; (d.) If important lesions are present in the other organs.” These were carried either unanimously or with considerable majorities. They, of course, practically affirmed that in some cases at least the flesh of an animal, which was the subject of tuberculosis, might be sold. But then, the next resolution carried was that: “It is desirable that when the flesh of tuberculous animals is considered fit for consumption, it ought not to be exposed for sale except in special shops, and with a declaration indicating its source, or after it has been submitted to efficient sterilization.” There were 57 voting for that, and 35 against. Finally, on this subject, they passed a resolution to the effect that: “The Congress records its opinions that in each country a commission ought to be appointed, to determine with precision in what cases the inspectors of abattoirs and private slaughter-houses ought to pass the entire carcase, or seize it in part or entirely, when the existence of tuberculosis has been discovered at the autopsy of the animal.” Although, at the Special Congress for the Study of Tuberculosis, held in Paris, and at the National Veterinary Congress which followed it there, they passed a resolution in favour of total seizure, total seizure has not been, so far as I am aware, introduced in any country—certainly not in any of the principal European States, and even in France it has not been instituted. What was promulgated in France was a system of partial seizure, which, I think, would really sufficiently safeguard the health of the public, provided there were a system of compulsory meat inspection everywhere. The rule which is fol-

lowed there is that: “The flesh of tubercular animals shall be excluded from consumption (1.) If the lesions are generalised—that is to say, not confined exclusively to the visceral organs and their lymphatic glands; (2.) If the lesions, although localised, have invaded the greater part of an organ, or are manifested by an eruption on the walls of the chest or abdominal cavity.” I have suggested a regulation which is practically to the same effect, though in somewhat different words.

1243. What date is that Order; can you tell us?—I have not the date of it here, but I think it was introduced in 1888, I can give you the exact date if you wish it. It is an Order which has been in operation for the last four or five years. The carrying out of a system of total seizure would be simply impossible at the present time, provided that the machinery which I suggested were introduced, that is to say, machinery which would catch the tuberculous carcasses. If that were introduced and total seizure were put into operation, then it would lead to the confiscation of probably 15 to 20 per cent. of all the adult cattle. In my experience it would lead to the confiscation of nearly 30 per cent. of the dairy cows of our principal dairying breeds. Whether that were to be accompanied by compensation or not, I suppose it would be impossible. On the other hand, partial seizure, following somewhat the same rule as has been enforced in France, would, I have calculated, not lead to the destruction of 1 carcase in 200—or not more. I have here some statistics which will give some information, or enable one to form an opinion, as to what proportion of carcasses would have to be confiscated under such a rule. It is an abstract which I made recently from the last Annual Report regarding tuberculosis in Saxony. They have not a system of general meat inspection in Saxony, but in 29 towns they have public abattoirs with veterinary surgeons as meat inspectors, and the search for tuberculous disease and for other diseases in the slaughtered animals is very efficient there, and—I suppose explained by that—it is also found that the proportion of tuberculosis that is detected there is very high. The exact figures are given in this abstract, which appears on page 253 of “The Journal of Comparative Pathology and Therapeutics” for the current year. It will be seen that only a comparatively small proportion of the tuberculous carcasses were entirely condemned. Tuberculous lesions were found during the year 1895 in 22,758 carcasses, which gave a proportion of 27.48 per cent., and of these 22,758 carcasses 21,062 were passed as fit for food—that was 92.54 per cent.—while 1,256 of the carcasses were allowed in the Freibank, that is, in special shops where the nature of the flesh had to be declared, and 440 or 1.93 per cent.—nearly two per cent.—were condemned as totally unfit for food, and destroyed, but that is only two per cent. of the tuberculous carcasses, not two per cent. of the cattle slaughtered. I attach, if you will allow me to say it, great importance to the question of abolishing private slaughter-houses, and of instituting some system of meat inspection—instituting something that will make it impossible, or at least difficult, for a person to put on the market a dangerous carcase.

1244. Do you attach importance to the system of inspection being made uniform?—Yes, I think there ought to be introduced a general system of meat inspection, if it were possible. It is highly desirable, at any rate, that animals intended for food should be slaughtered only in public slaughter-houses, and that no carcase should pass out until it has been inspected by a man who is competent to do that sort of work.

1245. On the general question of the two sources, from which do you think the greater danger is to be apprehended, the milk or the meat?—I think that the meat is seldom dangerous, and inasmuch as that is in this country always subjected to cooking in some degree, in that way again the danger is much reduced.

1246. Have you drawn any inferences from the diminution of tubercular disease in the human subject as shown by the Registrar-General's Returns, in connection with the admitted increase in meat and milk consumption by the population?—That would seem to indicate what on other grounds I strongly believe, namely, that there is practically no connection in the gross between the prevalence of tuberculosis in the human subject and the prevalence of tuberculosis in cattle. I feel quite satisfied that if tuberculosis were absolutely eradicated from the cattle of this country, it would not sensibly affect the percentage of tuberculosis among human beings.

1247. I understood you to say that you would not allow your own children to drink raw milk?—I do not want them to be among the small number of people who do, I think, in all probability annually contract tuberculosis through milk. I said in the gross; I mean that it would not make a fraction per cent. of difference, and I doubt whether there are ten people in this country in the year who contract tuberculosis through meat; I think even one might doubt whether there is one.

1248. It is an infinitesimal risk?—It is a very small risk, I think.

1249. But it is more appreciable in the case of milk?—It is decidedly more appreciable there; I think that is a distinct danger.

1250. (*Mr. Murphy.*) I would like to know whether, if an administration were framed on the basis of only seizing carcasses where there was a good deal of tuberculosis, it would be fair to assume that with that condition there would be appearances in the animal recognisable during life indicating that some disease existed?—No; I think, in fact I know as a matter of experience, that an animal may be tuberculous to a degree that would entail the total confiscation of its carcass, even under the system of partial seizure, and that animal have passed for healthy up to the time of slaughter.

1251. And that would be not an exceptional matter?—Yes, I think it would be the exception rather than the rule.

1252. But the case would frequently occur?—I would not say it would be frequent. When one deals with all the series of cases of tuberculosis occurring at a given moment, not, I mean, those that force themselves on the attention of the people through their being ill, but if you try to find out from examining the animals at slaughter-houses how many of them are affected, then you find that a high percentage of animals slaughtered as being healthy are affected in a minor degree. I think it would only be a small proportion of apparently healthy cattle that would be found to have lesions so extensive as to entail the total confiscation of their carcasses. I think that in any system of seizure which might be enforced, total or partial, there ought to be compensation, but I would give no compensation for the carcass of an animal that exhibited symptoms of illness before it was slaughtered. I think that to do that might lead to a regular trade in the purchase of animals suspected of tuberculosis and the putting of them on the market to get compensation; not only that, but it would remove from the owners of tuberculous herds an incentive which they have at the present moment to get rid of the disease absolutely, to eradicate it. If a man could rely upon sending his animal to be slaughtered when it showed symptoms of illness, and getting compensation for it, then the present incentive would be removed.

1253. Now, turning to the question of milk, I understood you to say that you would exclude from the milk business the milk of any animal showing tuberculous disease of the udder?—I went considerably further than that; I said I would suggest that it should be made a crime punishable by a considerable fine to sell milk from an udder that was visibly diseased in any shape; because in addition to this particular form of inflammation of the udder which is caused by tubercle bacilli, it is now generally recog-

nised by pathologists that nearly all forms of mammary inflammation are caused by germs of one sort or another; and while we do not know for certain that many of these, besides the tubercle bacillus, are really dangerous parasites to the human subject, we are very far from having an assurance that they are not, and the assumption is that many of them would be harmful, not perhaps in the sense of setting up a disease like tuberculosis, but that they would so alter the milk as to make it liable to derange the alimentary canal of the person taking it. On that account, and because it would do away with the necessity of always distinguishing between the tuberculous inflammation of the udder and others, I would suggest that no person who has a cow with an inflamed udder should sell the milk from it.

1254. What would you do if you found a cow presenting symptoms of tuberculosis, but not in the udder?—I think it ought to be made compulsory to notify symptoms of tuberculosis in a milch cow, and then I should prohibit the use of that cow's milk.

1255. Is it a fact that if you have tuberculous disease of the cow, but not of the udder, the disease may very rapidly extend to the udder; do I make myself clear?—That is to say, given a cow with tubercles anywhere, may it rapidly extend to the udder?

1256. Yes?—Perhaps it might; it would depend on where the disease was. Given a cow with a tuberculous area in her lung, I cannot imagine it rapidly extending to her udder. That is a point that I wish to bring before the Commission. Tuberculous disease of the udder is seldom, if ever, a primary disease. It is exceedingly rare for a cow to be attacked with tuberculosis in the udder first, it is also rare to get a cow that has tuberculosis of the udder, and only slight tuberculosis elsewhere. Tuberculosis of the udder is usually found in advanced cases of tuberculosis. Even if all cases of tuberculosis in cattle were allowed to die, as human beings are, only a small percentage of them would ever get tuberculosis of the mammary gland; they would die from disease of the lungs before that. There is not a great tendency to invade the udder.

1257. I was thinking of the practicability of requiring notification of tuberculosis of the udder. Is the disease sufficiently recognisable to make it possible to put such an obligation on the owner of cows who has no professional knowledge?—I do not think we could rely upon the stockowner to diagnose tuberculous inflammation of the udder; I think not, but he would always know it as a diseased udder. Unfortunately, it is usually that form of disease of the udder to which he attaches the least importance. The ordinary forms of inflammation of the udder, what dairymen call weeds, he attaches a great deal more importance to, because they come on acutely, and within the course of a day or two the cow's udder is enormously swollen, and not only that, but she has no milk at all, or what she has is so mixed with blood or matter that he would in most cases not think of adding it to his other milk. The tuberculous inflammation of the udder starts rather insidiously, it is not painful, the animal is not usually visibly ill from that lesion, and the milk is quite unaltered in appearance to start with.

1258. Speaking of the veterinary inspection of cows in cow-sheds, would it be better to employ solely inspectors of the rank of veterinary surgeons, and put the duty of notification of disease very generally on the owner, or to have more frequent visits by somebody who had not the professional standing of a veterinary surgeon, with a view to seeking for this?—I do not think that that would be a good way of meeting the risk. You really could not get, outside the class of veterinary surgeons, men who possess sufficient knowledge to discriminate between the different forms of disease. You may get people who can say "that is not a healthy animal," and perhaps it might be possible to employ a certain number of lay inspectors in that way; but I would suggest that the danger would be very greatly reduced if notification were made

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compulsory in the case of udder disease of any sort, and of any symptom pointing to the animal being tuberculous, because whilst few stockowners or milkers are able to distinguish a tuberculous udder from another, the most of them know symptoms of tuberculosis as affecting the animal elsewhere, such as wasting, loss of condition, cough, and so on. I think it ought to be made compulsory, at least in the case of milch-cows, to notify that.

1259. Then in addition to that, I take it you would have periodical inspection of cows by a veterinary surgeon?—Even supposing it were made by laymen, it would be a great task to inspect all the milch-cows in this country, and I am not sure that that is possible. I think, perhaps, as a beginning, you might try notification, to be followed of course by the visit of a veterinary surgeon. In many cases he might find, certainly in the case of mammary inflammation he would find, that the majority of them were not tuberculous. The majority of inflammations of the udder are due to other causes. Probably he would find that many of the cases reported as having the symptoms of tuberculosis were something else. But no person, whether he were a layman or a veterinary surgeon, when summoned to look at an animal suspected of showing symptoms of tuberculosis, could give an opinion that was really of much value in the great majority of cases, unless he used tuberculin. We have all recognised that within recent years. If the animal is in the very last stages of the disease, one may make a diagnosis that has little chance of error, but in the great majority of cases it is only a guess. With tuberculin, it is practically a certainty. I should like, if I am not going too fully into that, to give evidence regarding the reliability of tuberculin as a test. I made a number of experiments on that, and reported them to the previous Royal Commission. These, however, were not entirely favourable to the use of tuberculin, because in a considerable proportion of cases the indication afforded by the tuberculin was wrong. But since that, experiments and observations made in somewhat different circumstances have yielded entirely different results, and I have the most implicit faith in tuberculin as a test for tuberculosis, when it is used on animals standing in their own premises and undisturbed. It is not a reliable test when used on cattle in a market or in a slaughter-house, or on any cattle that have been shipped or trained or otherwise excited. That has been found out since I made my report. Other observers have had similar results under similar circumstances. Unfortunately the Royal Commission set apart a very small sum to test this question of diagnosis, I think it was 100*l.*; and tuberculin was only newly introduced then, and I could not get anybody who would submit his cows to the test. It was only through the kindness of Professor Brown, who allowed me to use the test on animals condemned under the Pleuro-pneumonia Slaughter Order, that I was able to make the test. I got these animals at slaughter-houses, and after they had been trained, or otherwise brought there, tested them, and then they were killed the next day, and a considerable proportion of errors were found; but since that, using it on animals in their own premises, I have found that it is practically infallible. I have notes of one particular case here that I might put in, where in a dairy 25 animals in all were tested, and afterwards they were all slaughtered. There was only one animal that did not re-act, and it was the only animal not tuberculous when they were killed.

1260. Then would you propose to supplement the physical examination of the udder by a tuberculin test, unless those physical signs were sufficient for diagnosis?—Yes.

1261. Can you tell me how soon after you have tested an animal with tuberculin you could subject the animal to the same test?—You can get a reaction, often nearly as high as the first one, within three or four days; certainly you can re-test it within a week.

1262. After repeated inoculations, might that be said to be the case? I mean, supposing you inoculate

an animal every week for a series of weeks?—The test would then cease to be reliable.

1263. (Mr. Cooke-Trench.) When you talk of the inspection of dairies, I suppose you mean public dairies?—Yes, dairies the milk of which is to be sold to the public.

1264. You propose to prohibit altogether the use of milk from cows with indurated udders?—Yes.

1265. What do you anticipate, or propose, that the owners of those cows should do with them? I thought you used the words, "Get rid of them," or something of that kind?—I do not remember that I expressed any opinion as to what they would do with them, and I do not think I have been asked before with reference to that point.

1266. If a dairyman is prohibited from using a particular cow, what does that imply; does that imply that he must send her for slaughter, or that he must sell her to somebody else, or what?—If the cow had a tuberculous udder, then I should have thought the owner would have been doing the best thing for himself, probably, if he shot her and buried her. Supposing it were not a tuberculous inflammation of the udder, the best thing he could do then would be to keep the cow for a week or two, and her udder would probably be well. The inflammations of the udder that are incurable are the tuberculous ones; they go steadily from bad to worse, and a cow with a tuberculous udder is of no value.

1267. You anticipate it should be destroyed altogether?—Yes.

1268. Is that not imposing a very heavy penalty on the owner?—I do not know.

1269. I only ask you as a matter of fact?—Sometimes it would not be a very heavy penalty, because as a rule the tuberculous lesion of the udder is found in cows that are advanced in tuberculosis in other parts of the body. But if an animal that is supposed to be a healthy animal, and that is of considerable value for the butcher's purposes, has to be killed, it would be reasonable to compensate him.

1270. You think he ought to be compensated?—Yes.

1271. (Mr. Speir.) I was very well pleased to see you draw our particular attention to the fact that owners might be compelled to give notice of every indurated udder; but immediately after that you happened to say you would prevent the sale of milk from every indurated udder. Did I understand that correctly?—Yes.

1272. Might that not be a hardship?—Really I have not considered the hardship at all. I am looking at what is necessary from the public health point of view. If it is a hardship, then that raises another question, the question of compensation; if things are done in the public interest I suppose the public will have to pay for them.

1273. Might the Government not be exactly running into the same blunder which you say the Veterinary Congress did in 1888 if they subjected every indurated udder to suppression or to extinction?—Perhaps I might answer that in this way: that I should on no account myself, if I knew it, take milk that came from a diseased udder, and I do not think I have ever met anybody who would. That seems to me to be just another way of stating that such milk ought not to be sold.

1274. Decidedly so, but you must be quite well aware that very many of these which are called indurated udders occur from colds, and some other causes such as that; and you do not mean to say that an indurated udder occurring from that cause can have any bad effect?—No. Assuming that an indurated udder occurs from a cold, of course it would not be dangerous, but I very much doubt whether there is such a thing as an indurated udder occurring from cold. I said that the almost universal opinion among pathologists and those who have concerned themselves with inflammations of the udder

is that all inflammations of the udder are due to germs of one sort or another. Besides, I do not think the question is so important as it appears at the first sight. It may be said it is a great hardship to prohibit the use of milk from an udder that is diseased in any way; but I suppose it is a fact that in most cases of udder disease the milk is greatly altered in appearance.

1275. In the most of cases when an indurated udder occurs from cold, the milk, as far as that quarter is concerned, generally ceases altogether?—Quite so.

1276. But the question then comes, would you allow the milk from the other three quarters to be used?—At the most, it would probably be only a two days' loss of the milk, at any rate; the thing is to be notified.

1277. Excuse me, I am certainly under a misapprehension with regard to what you mean. You apparently mean while the udder is bad; not in the future, probably after its recovery. (*Chairman.*) I think you have stated distinctly that in the case of any disease other than tubercular disease the disease will pass away in two or three days?—Sometimes weeks.

1278. (*Mr. Speir.*) I beg to differ from you in that, because many indurated udders that are caused by cold may in great part go away, but many of them do not?—I am quite aware of that. They often lead to the wasting of the udder, and there is no question of compensating the owner of that creature, because it would not yield any milk. What I really meant was this: that unless one had a general law that all forms of mammary inflammation ought to be reported, then a man may to-day or to-morrow be dispensing tubercle bacilli with his milk. We should make it a rule that whenever there is anything wrong with the udder he should notify that, and the veterinary surgeon should come and ascertain whether it is tuberculous inflammation or not.

1279. I can agree with that; in fact, I can agree with it thoroughly. Presuming that that was distinctly settled, what proportion of diseased udders do you expect you should find? Some time ago you said that you had inspected 1,800 animals, particularly with regard to the state of the udders?—Yes.

1280. Now these 1,800, although a small number compared with the whole stock of the country, will give us at least some indication of the extent of this disease?—Yes. I am sorry to say I cannot charge my memory with the exact number, but it is stated in the report which I furnished to the Royal Commission.

1281. You might get these figures for us?—Yes, I should be very pleased. It is in my report on the question of diagnosis furnished to the previous Royal Commission on Tuberculosis.

1282. Presuming that we had got that length, that we have compulsory notification of indurated udders, and that the matter should be referred to, say, a veterinary surgeon; if referred to you, what would be the first course you would follow?—To decide whether it was a tuberculous udder or not?

1283. Yes?—I do not know what I should do first; but what I would do before leaving the byre would be that I should try to get what we call a clinical history of it. I should find out from the owner or milker when they first noticed it, what the progress of the enlargement had been, and whether it had been painful or not on pressure. I think that in the great majority of cases I should be able to say whether it was tuberculous or not, but I should not pretend to give a positive diagnosis without examining the milk microscopically or experimentally.

1284. Then you would ask permission to employ the use of tuberculin if you had a strong suspicion?—I would.

1285. If the use of tuberculin pointed to the animal as being tuberculous, it might be possible that the udder was free, and probably that some of the other organs were wrong?—Yes, certainly it would.

1286. What would be the next course you would follow there?—You mean if I were in a state of doubt?

1287. Yes, and had full liberty to do as you thought fit?—I suppose I should give the public the benefit of the doubt, but I think such cases would not often occur.

1288. Would it not be possible to employ, say, a needle or something of that kind for piercing the indurated portion?—That is all dealt with also in report. I have suggested different methods of my diagnosis. One method I did use was to take a hollow needle and gouge a piece out from the tuberculous udder. I showed that it was possible in that way to get tubercle bacilli; but I think there would be a great deal more objection raised by the owners of animals to the gouging of their cows' udders than to the use of tuberculin.

1289. Decidedly there would; but as far as you are concerned as an inspector, would you not get very much greater satisfaction from that course than from a bacteriological examination of the milk?—I should think it expedient in the public interest, in the case of an udder manifestly diseased, particularly if I were not sure that it was not tuberculous, that the milk from it should not be sold.

1290. Yes, that is as far as it goes, and I will agree with you with regard to the particular quarters; but what about the other quarters which are supposed to have no connexion with the one that is diseased?—A cow which has a tuberculous disease in one quarter, does not yield safe milk from the other quarters, because we know, as a matter of observation, that when the disease starts in one quarter, if you allow the animal to live on, it very often invades one of the others, and you could not tell the day when it had actually invaded a piece of the others.

1291. Am I not right in supposing, that in some of your recent tests—which I look upon as being the best the world has yet produced—you found—either yourself or Dr. Sims Woodhead, I forget which—that the milk from other quarters of a diseased udder was in no way infected?—Yes, I admit it is the rule, that when the disease is apparently confined to one quarter the other quarters are not infective.

1292. What reason is there for condemning those other quarters then?—I have tried to explain that observation shows that disease of one quarter, if the animal lives, is usually followed by disease in one of the others, and very frequently in all three. So when we know a cow has disease in one, that is a case in which we could never assert, say, to-day, that it is not invading the other one. That is of special importance from the fact, which I have mentioned two or three times, that at first the milk is not visibly affected in quality.

1293. Most of your remarks have had reference to milk; is it not a fact that the butter or cheese produced from that milk would just be as infective as the milk itself?—I would not like to say it would be as infective, but it is not a matter of doubt that the butter would be infective if made from milk containing tubercle bacilli.

1294. Presuming that that opinion is correct, if it is advisable to supervise cows whose milk is being sold for human consumption raw, it would follow that it would also be advisable to supervise all cows that produce milk of any kind, either for butter or for cheese?—Yes. I certainly intended that in the case of all dairy cows in the country—that is, all those except such as are used for supplying milk to their owners and for rearing stock at foot—notification should be compulsory.

1295. Presuming we have got that length, what becomes then of the large amount of foreign butter and foreign cheese which is landed on these shores without any supervision? We could not exercise such supervision over our own stock and allow that to come in without any?—If we could not, then I admit the other does not seem feasible; but it is a question of weighing the risk and deciding how far

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we are prepared to go to diminish it, although we might not absolutely be able to remove it.

1296. In connexion with this butter and cheese or even with the milk, has it ever occurred to you that the juices of the stomach and the intestines might not have a considerable effect on the bacilli in passing through the body?—It is generally recognised that the gastric juice may kill some organisms; it is a pretty certain way of killing some. But there is abundant experience to show that it is a very unreliable thing to trust to in the case of the human subject, or the experimental animal I perhaps should say.

1297. Is that owing to the difference in the strength of the juice of one stomach from another, or what?—No. It has never been proved that there is any animal whose gastric juice can certainly be relied upon to kill tubercle bacilli.

1298. Have you arrived at any opinion as to how the disease is generally caused amongst farm animals?—Certainly, I have a very distinct opinion that it is caused by the neglect of the precautions which should be enforced to prevent the spread of contagious disease.

1299. What are those; you might explain them to us, if you please?—You mean, what should a man do to get rid of it, that is, to prevent its spreading?

1300. Yes?—I know what I should do myself if I had the misfortune to possess a tuberculous herd. In the first place I should kill every animal that was visibly tuberculous. Now many people do not; they keep them on for a time when they are coughing and visibly ill, and distributing the germs all over the premises. At the earliest possible moment I should have every animal tested with tuberculin, and I should separate those that were in that way shown to be infected from those that were healthy. Then what I should do with those that were affected might vary with the nature of my stock; if they were not of very great value, any of them, perhaps I should kill them too. Most of them I should with all possible haste fatten and get ready for the butcher, and send them into the market. If it were in the spring or early in the summer, then I should keep those that re-acted out of doors entirely, and feed them there.

1301. I am very well pleased with that description of what you would do, but how do you account for the disease having spread to such an enormous extent as it has apparently already done in the country, if we are to judge from the tests which have been made through tuberculin?—Account for it! I think it would have been marvellous if it had not spread as it has done.

1302. What is at fault then in the present case?—The fault is that until quite recently it was not recognised to be a contagious disease. A man who owned a tuberculous cow did not think there was the least hurry about getting her out of the byre, and owners often kept them on as long as they were in milk, until they were perfect skeletons. Then even supposing, prior to the discovery of the diagnostic value of tuberculin, a man had been ever so anxious to get rid of tuberculosis, he could not, because while he might kill all those that were visibly ill, he would always leave a considerable portion of those that were affected but which really appeared to be healthy, and they would continue to spread the disease.

1303. How do you think the infected ones or the affected ones—I do not know which is the proper word to use here—communicate the disease?—The common method of communication is that those that are affected in the lungs, when they are coughing, project the germs through their nose or mouth, and the stuff, the mucus in which those germs are contained, if it is taken in in the moist state, may infect cattle by the alimentary canal; but if it is left for a time, even for a day or two, it gets dried and may rise as powder in the air, and may infect any animal that inhales it.

1304. We have a great many cases where animals are not affected in the lungs, they are infected we will

say in some other organs; how do they cause infection?—Which other organs?

1305. Probably the bowels, it may be the liver, and occasionally the kidneys?—Very rarely, I should say, in the kidneys. There is no difficulty in explaining the infection of the alimentary canal, because they simply take in this material (which is projected out from an animal already infected) with their food from the manger, or the like of that. Experience shows that the disease is far more frequent in the lungs and its glands than in any other place.

1306. In this country, as a rule, the most of the breeding stock are kept in fairly well ventilated houses during the night, and they are out during the day for the winter, and they are, practically speaking, out the whole 24 hours in the summer; yet in stocks where few old animals are kept, we have percentages running from 30 up to 70 or 80 as reacting under tuberculin. How do you account for its having got to such an extent as that?—My experience is not in agreement with that. My experience is that you can with impunity keep cattle out of doors, and they will not become tuberculous in a high proportion. The proportion of tuberculosis which you will find anywhere in animals about a year old in this country is very low, a long way less than one per cent. In proportion as you house them, you find that the prevalence of the disease rises. I have never yet met it very prevalent in a herd where there had not been abundant opportunities for infection.

1307. You said in proportion to the way in which you house them; but at the Berne Conference, to which you referred, a delegate from Portugal said that amongst the wild cattle of Portugal, which were kept for the bull rings, they found a very large percentage of them diseased?—He did.

1308. How do you account for that?—I cannot account for that; if Portugal had been nearer I should certainly have gone to make an observation of that myself, it is so utterly at variance with our experience at home.

1309. You have repeatedly referred to the use of tuberculin; do you think that stockowners, as a rule, would derive any benefit from the free use of tuberculin, and probably from the free use of a veterinary surgeon, if the Government were to give any assistance in that matter under certain conditions?—I think that a man who has tuberculosis in his stock would derive great benefit from the use of tuberculin, even supposing he had to pay for it and to pay for the veterinary surgeon.

1310. What has occurred to me is this, that provided the Government were to give the free use of a veterinary surgeon and tuberculin, and asked for certain returns, would not those returns themselves be sufficient for the value given?—No, I do not see that; there would be no great value in the returns, but I think that every encouragement ought to be given to the employment of tuberculin.

1311. Then if you give many facilities for the use of it, you get into the very difficulty you have already alluded to?—What is that?

1312. Or at least what Mr. Murphy alluded to, namely, the probability of injections having been made previous to a sale?—No.

1313. You may?—Yes, but really I do not think there is much force in that. At the present time anybody who wishes to use tuberculin can do so, and I imagine that it is highly improbable that it will ever be made penal to employ tuberculin. I think that it is not likely that it will ever be to any considerable extent abused in that way; it is too troublesome, and it would not be certain even then that you would make the animal cease to re-act.

1314. I think you said that as far as your experience was concerned, one week at least from the previous injection did not make very much difference. Did I correctly understand you to mean so?—Yes. Six months sometimes may not make any difference. In order to make the tuberculin test in this way unreliable, in order to make it give a wrong indication,

you would require to use it at very short intervals, and I should think on a large number of occasions..

1315. It is a general impression that if it has been used once it cannot for a very long period be used again?—That is entirely wrong.

1316. I wanted to have it made definitely clear that you have not found it so?—I am quite sure it is not so.

1317. I feel decided on that point myself that it is not true?—It is not true. It is probably an erroneous conclusion founded on the observation that you may test an animal with tuberculin to-day and get a reaction, and you may test that same cow six months afterwards and get none, and therefore it is assumed that tuberculin has told you wrong; but I am quite satisfied myself that a considerable number of cases do end in actual recovery.

1318. There is a supposition to that effect at any rate?—Yes, but I should trust tuberculin in every case, provided the interval were one of months.

1319. Coming to the meat question, you put very little stress upon the danger from the use of tuberculous meat, unless the disease has progressed to a very large extent. On page 112 of the Report of the previous Commission there is a reference to some tests made with plunged meat; did you make those?—No; Dr. Woodhead, I think.

1320. According to the table here, out of 108 animals fed, only three became infected with tuberculosis, and out of 19 animals inoculated there were only two infected; do you think that if in mild cases of tuberculosis the carcasses from such animals were treated in the way indicated on that page, there would be any effect got from them?—I really find it impossible to understand what is meant by mild tuberculosis. It is a perfectly impracticable method of classifying cases of tuberculosis, which was adopted by, I think, Dr. Sydney Martin.

1321. Supposing we take it in another way, namely, that these cases here were presumed to refer to carcasses which had been polluted by the use of the knife when cutting off the tuberculous matter?—That also is a point I would like to express an opinion about. The danger through contamination of a carcass by the operation of the butcher is a thing that might be neglected, the risk which it involves being so slight. There is not one case in ten of tuberculosis in animals that are slaughtered when apparently healthy, in which the butcher's knife ever cuts the tuberculous lesion. In bad cases of tuberculosis, with adhesions between the organs and the wall of the abdomen, and in disease of the pleura, and so on, his knife does of course; but then that is a carcass that would be entirely condemned at any rate. In most cases of tuberculosis, certainly in 60 or 70 per cent. of those that one detects in a slaughter-house when one searches for the lesions, you find there is a little spot in the lung here and there which the butcher never thinks of cutting into with his knife; or in a great many cases, he actually never sees the lesion at all; it may be a gland at the root of the lung that is diseased and he does not cut that as a rule; nor even in the case of the liver does he as a rule cut into the lesions.

1322. Your opinion apparently, therefore, is that no matter how bad we will say the internal organs are, provided that the flesh to every appearance is sound and healthy the danger is infinitesimal?—No, I should not like to go anything like so far as that.

1323. What general rules would you draw up to guide an inspector in regard to what he should condemn and what he should not?—That is what I am prepared to make a recommendation upon. I have said that I thought the rule which has been in force in France for the last four or five years might with all safety be introduced here, but that rule is not exactly the same as the suggestion I make. The carcass ought to be condemned. "(1.) When the lesions indicate that the germs have been carried throughout the body in the blood." To a veterinary surgeon or a person acquainted with pathology, that

is clear enough. There are certain places in which if we find lesions, that indicates that the disease has become generalised. An unfailing mark in my experience of the disease having been generalised is that the lungs are filled with what we call miliary tubercles—there can be no case of generalised tuberculosis without that, and all such cases should be condemned entirely. "(2.) When the lesions are present on the walls of the chest or abdomen," in other words when the lesions—and that means the tubercle bacilli—are present in the edible portions of the carcass, then it should be destroyed. "(3.) "When a tuberculous carcass is emaciated" I would destroy it, though I do not think it is specially dangerous on account of its emaciation.

1324. Then do you think it could assist inspectors in any way to give them, say by the Local Government Board or by any other board, a sort of general instruction something similar to that?—I think that the general public, meat inspectors, medical officers of health, and butchers will be very much disappointed if this Commission does not—

1325. Suggest something of that kind?—Lay down regulations intended to indicate when they are to condemn and when they are to pass.

1326. (*Professor Brown.*) One witness told us that in his opinion whether a meat inspector were a doctor or butcher or a veterinary surgeon, he ought to have some special training before he could be considered to be competent to inspect meat; would you agree with that proposition?—I should think it was superfluous in the case of a veterinary surgeon at any rate, because he already gets the training which, above any other that he is likely to subject himself to, fits him for meat inspection.

1327. Do you mean that all veterinary surgeons have that claim?—Yes, under regulations introduced by the Royal College of Veterinary Surgeons three years ago, no person can get his diploma who has not been specially taught and specially examined on meat inspection.

1328. But that only applies to the men who are studying under that system, not to the veterinary surgeons of former times?—No, not to those who passed before.

1329. That is what I meant; then it does not follow that because a man is a veterinary surgeon, therefore he is competent to be a meat inspector?—No, it does not follow if you take any one possessing a veterinary diploma. But at the same time I am strongly of opinion that no man who has not had a veterinary training is competent to act as a meat inspector. Meat inspection is simply a search for the lesions of particular diseases of the lower animals, and the only man who is competent to give an opinion as to whether these diseases are present or not is a veterinary surgeon.

1330. What is the kind of training that is given now at the Royal Veterinary College?—They get a theoretical course of lectures on every disease of the lower animals that is communicable to man, indeed I may say that they get a very full course of lectures dealing with the pathology, the naked-eye appearance, and the microscopic structure of all sorts of lesions in cattle and other domestic animals. Not only that, but they are all taught the application of modern methods to the diagnosis of those diseases, such as the use of the microscope, and the identification of the germs which are the cause of the various diseases.

1331. Do they get any practical teaching in regard to meat inspection in general?—They get it in this way. There is hardly a day at the London Veterinary College that specimens are not sent, sometimes a considerable number of them, from veterinary surgeons in all parts of the country—of diseases of one sort and another, usually sent for diagnosis by me. These are invariably used to teach the class as to what the appearances of these particular diseases are. In addition to that each man will get a series of demonstrations in a slaughterhouse.

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1332. And the opportunities have been extended to the enormous number of animals which have been experimented upon at the Royal Veterinary College for the purpose of the former Commission, and for various other purposes?—Yes, I feel sure there is no place where greater facilities are afforded than are afforded there, and, what is more, I feel sure that the facilities which are available are quite sufficient to ground a man in meat inspection.

1333. The objection has been urged as to the cost of employing professional men with those qualifications for the purpose of inspecting meat, probably in small slaughter-houses; but is it not the case in all probability that a man in practice in a town or in the country would take that kind of work as a part of his daily duty for a very moderate annual salary?—I think that is really not a serious objection.

1334. It need not be a serious objection?—No. In large towns you would have a public slaughter-house, and in villages the number of carcasses being slaughtered in a week is very small, and the local veterinary surgeon would be very glad to visit there for a moderate fee, as he goes to see a live animal for a moderate fee.

1335. But there is no doubt that the cost of inspection by these competent men would be materially lessened if we had an abattoir system in this country?—Yes. I think it is next to impossible on the ground of cost to introduce it without the abolition of private slaughter-houses. On the other hand, I think that an inspection by men who are unskilled, would be to a large extent merely deceiving the public, and that it would not afford a reliable safeguard.

1336. There is one point that was mentioned which includes a very common fallacy. You were asked if you would not impose a heavy penalty upon offenders in certain cases, and I think you agreed that you would; is it not the case that in all penal statutes, the penalty is fixed at the maximum, and the actual amount is left to the justices?—Yes, I believe that is so.

1337. And that there is no machinery as far as we know at present, excepting, I believe, in cases relating to the excise, for fixing that a man who commits a certain offence shall pay 20*l.* or 5*l.*; but the law says that he shall pay a certain sum to be fixed by the justices before whom he is tried, and that sum shall not exceed a certain amount?—Yes.

1338. That is the case, at any rate, in the Acts under which we proceed?—Yes.

1339. Have you considered at all the possibility of working that system of a "Freibank" in this country?—I think it is not a possible system in this country.

1340. Do you think the prejudices of the people would be entirely against it?—Yes, I think so.

1341. The fact of knowing that the meat came from a diseased animal would prevent even a poor person from buying it?—Yes, I think so, and besides, if it is not safe to be issued without such special precautions, it ought not to be issued at all, I think.

1342. But at the same time, I gathered from what you said that you admit the desirability of saving a very considerable portion of meat that is now wasted by being sent to the destructors?—As a matter of fact, the proportion of tuberculous carcasses in this country condemned—that is, to the whole number of tuberculous carcasses—is quite insignificant, because no machinery exists for detecting them, but here and there a spasmodic effort is made to control the thing, and very often, I think, carcasses that are really not dangerous are condemned. I think that only a small proportion of tuberculous carcasses require to be absolutely confiscated in the interests of the public health.

1343. And that fact was proved in your experiment which you made for the last Commission, and in the whole of the experiments that were performed, as to the extent that the meat from tuberculous animals was eaten and used for inoculation for the lower animals without producing any result?—Yes; nearly all the experiments made within the last six or seven years

point in the same direction. There have been one or two exceptions; one or two men have got peculiar results, and one cannot explain that unless there was some negligence in the way in which they performed their experiments.

1344. You do not attach a great deal of importance to surface infection?—I think not, for the reason I have mentioned, that, in the great majority of cases, the butcher's knife would not be contaminated, or that the contamination would all be on the surface, and in any method of cooking employed in this country at least the outside reaches a sterilising temperature.

1345. You remember, of course, the two sets of experiments, one of which I carried on and the other of which was handed to you, where you carefully used sterilised instruments for collecting your meat from tuberculous animals, and where I equally carefully trimmed tuberculous matter from the meat and cut it up with a knife which I had used for trimming it; and that while my fed animals suffered to the extent of 75 per cent., the whole of yours escaped?—Yes, but that was raw meat, was it not? Mine was at any rate raw, uncooked meat.

1346. Yes, it was all raw?—I have just said that even if there were surface contamination, under any method of cooking, the outside of the meat is subjected to a sterilising temperature.

1347. Exactly, and that was the result which Dr. Woodhead arrived at, and the only exception he took was to those cases where people had the meat boned and rolled; he issued rather a warning against persons eating rolled beef?—Yes. Besides, I might point out that in these cases you refer to, where the meat was cut for your experiments and mine, very probably they were bad cases of tuberculosis.

1348. All mine were?—In those cases I admit the knife would be contaminated, but then such a carcass would be entirely condemned under the suggested regulation, and it would be easy to issue instructions—and to see they were carried out—if we had only public slaughter-houses, directing that a butcher who had dressed a tuberculous carcass should put his knife and his cloth in boiling water—a minute's immersion would be enough.

1349. You said in one of your answers that a free use of tuberculin ought to be encouraged?—I think the use of tuberculin ought to be encouraged, and I have been doing everything I can to encourage it by preaching that the man who has tuberculosis has a comparatively inexpensive means of getting rid of it.

1350. You mean by that that it should be used by competent persons, and with the definite object of dealing with the disease for the purpose of arresting its progress?—Yes, certainly.

1351. Not that anyone should be at liberty to inject all his cows, and send the whole of those that reacted into the nearest market?—Certainly, I think he ought to be allowed to test all his cows, or other class of animals to find out those that are tuberculous and fatten them and send them into the market. I do think he ought to be allowed to do that. At present he is allowed to do it whether he uses tuberculin or not, and to insist that he shall not use it, appears to me simply a case of shutting one's eyes to the fact that tuberculosis is prevalent and that tuberculous cattle are being sent into the market.

1352. Would you encourage him to send a lot of cows into the market that he found to react to tuberculin?—Yes, I should encourage him. If you do not encourage him, he will send them in any case, only later, and when the disease has made considerable progress. I would encourage him to get them fat with all rapidity and to send them to the butchers as soon as possible.

1353. To the butcher for the purpose of slaughter, you mean?—Yes, certainly.

1354. Not to send them in to be sold at once as dairy cows?—No.

1355. (*Mr. Speir.*) Several dealers just now are selling dairy cows guaranteed to stand the test; I myself am purchasing a very large number of them. I have several submitted to me. I take out those which stand the test and reject the others. What have you got to say with regard to the other man who gets those I have rejected?—It serves him right. He is in just the same position that you are, and he can make the same bargain, I suppose.

1356. They are sent back to the dealer; he must then put them on the market, knowing that they are tuberculous, or at least he has the information that they have re-acted to the tuberculin test, and then they fall into someone's hands who is not so particular?—I will put it in another way. Any man in this country who owns 20 cows, one may say, knows that he has got some tuberculosis in them.

1357. That is pretty near the fact?—The law does not prevent him from selling them.

1358. (*Professor Brown.*) He does not know it to the extent of being able to say which particular cow has it?—As a matter of experience, it is difficult to get 20 cows without one being tuberculous.

1359. Does it not come to this, that the suggestion implies that a man may, conscientiously or not, find out as a matter of fact which are the tuberculous cows, send those into the market for somebody else to buy, and keep the sound ones for himself?—I think that would very soon remedy itself.

1360. It does imply that, does it not? I mean that is the actual fact that he may do that?—I think he probably would make more by fattening them in most cases.

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The witness withdrew.

Adjourned until Wednesday, 20th January 1897, at 12 o'clock.

FIFTH DAY.

At 7, Whitehall Place, Westminster, S.W.

Wednesday, 20th January, 1897.

PRESENT:

SIR HERBERT E. MAXWELL, BART., M.P. (CHAIRMAN).

Dr. R. THORNE THORNE, C.B.
Professor G. T. BROWN, C.B.
SHIRLEY F. MURPHY, Esq.

T. COOKE-TRENCH, Esq.
JOHN SPEIR, Esq.

T. M. LEGGE, Esq., *Secretary.*

Mr. JOHN TATHAM, M.A., M.D., called and examined.

1361. (*Chairman.*) You are the Statistical Superintendent of the General Register Office, I believe?—Yes.

1362. You were formerly Medical Officer of Health to the City of Manchester, and Lecturer on Hygiene to the Owen's College, Victoria University?—Yes.

1363. You were also for several years public examiner in State Medicine to the University of Cambridge?—Yes.

1364. You have, I believe, devoted considerable study to the incidence of tubercular disease in the population of England and Wales?—I have.

1365. Since the year 1851, I think?—Yes, since then.

1366. And you have prepared certain tables on the subjects which are before us (*see Appendix*)?—Yes, I have.

1367. Perhaps you would kindly guide us through them.

[*Mem.—The witness subsequently supplied a memorandum in answer to this question. See Appendix C.*]

The witness withdrew.

Mr. WILLIAM HEATON HAMER, M.D., called and examined.

1368. (*Chairman.*) I believe you are Assistant Medical Officer of Health to the county of London?—Yes, I am.

1369. You have been so since 1892, have you not?—Yes.

1370. You have been concerned in the work of the Public Health Department relating to slaughter-houses, dairies, cow-sheds, and milk shops?—Yes.

1371. What has been the action of the London County Council as regards slaughter-houses?—The London County Council is concerned with them in two ways: in the first place, it is the authority which deals with applications for sanction of the establishment anew of the business of a slaughterer of cattle, and it is the licensing authority, and holds annual licensing meetings at which the holders of slaughter-

house licences apply for renewals of licences; and, in the second place, the council is the authority which makes and enforces byelaws regulating the conduct of the business of the slaughter of cattle.

1372. What is the number of slaughter-houses at present?—There are now 469 licensed premises. The number has gradually diminished since the Slaughter Houses Act was passed. In 1874, when the Slaughter Houses Act was passed, there were 1,429 of these premises; they had fallen in 1888 to 732, and there was a further drop in 1892, possibly in connexion with the coming into operation of a new code of byelaws; and the number has continued to decline somewhat since.

1373. Do you attribute that to the introduction of more stringent byelaws?—That may have had some influence, but I should think the chief influence has

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*Dr.
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been the increase in the amount of dead meat which has been brought into London.

1374. Are the slaughter-houses regularly inspected?—Yes; there are six inspectors who are engaged in inspecting slaughter-houses among other duties. They inspect each slaughter-house about six times annually.

1375. Have these inspectors any duties under section 47 of the Public Health (London) Act, 1891?—No, they are not strictly concerned with the enforcement of that section. That duty would fall to the inspectors of the several sanitary authorities.

1376. Have they no power of checking unsound food?—No, they have no power of seizing unsound meat.

1377. Is any notice taken of the condition of meat in slaughter-houses under the byelaws of the Council?—Yes, there is a provision dealing with that. Byelaw I. (b) of the Council's slaughter-house byelaws requires that no occupier of a slaughter-house shall keep in any pound, pen, or lair "any animal not intended for slaughter for human food, or any dog or other animal the flesh of which is not intended for use as human food, or which would be unfit for use as human food." In some cases the Council's inspectors have called attention to the fact that a diseased animal was found upon slaughter-house premises, but cases of that kind have not been very common.

1378. Has the Council considered the provision of public abattoirs?—The Council has not formally considered that subject. The medical officer of the Council is to report on that question to the Council, and I am permitted to give the Commission any information they may want with regard to what the tenor of that report will be. I have a map here, a copy of which I will hand in, which shows the positions which the medical officer thinks would be best adapted for public slaughter-houses (*handing in prints of map*). He thinks there should be six public slaughter-house premises, which should be so arranged as to be in railway communication with the markets, and which should be so situated that no butcher would have to go more than three miles for his meat. If the Commission desire details, such evidence could conveniently be given by Mr. Reid, an officer of the London County Council, who has worked out the whole story of the railway communications with the places marked on the map.

1379. As I understand, this report has not been made yet?—The Medical Officer's report has not been made to the Council yet.

1380. Would not the proposal it contains involve putting an end to all private slaughter-houses?—Not exactly in the first instance.

1381. That is contemplated, I suppose?—They would, no doubt, eventually take the place of private slaughter-houses, which would be unnecessary.

1382. I believe the dairies, cowsheds, and milk shops order is enforced by the County Council?—Yes.

1383. What number of cowsheds is there in the area?—There are 393 licensed cowshed premises.

1384. Are these inspected periodically?—Those are inspected periodically; each cowshed is inspected about once a month.

1385. Are the slaughter-house inspectors also the inspectors for this purpose?—Yes, they are the same men.

1386. Has any examination of the animals been undertaken, with a view to finding the extent to which tuberculosis prevails in the cowsheds?—Yes. The medical officer asked, in the summer of 1895, for authority to employ a veterinary surgeon to examine cows, with a view to seeing how many of them presented clinically signs of tuberculosis, and, more particularly, how many of them presented signs of induration of the udder, which might be thought of as being tuberculous in nature; and Mr. Hancock, a member of the Royal College of Veterinary Surgeons, examined 1,638 cows out of an estimated total of

about 6,000—that is to say he examined rather more than a quarter of the cows in London. He found that 18 animals, that is rather more than 1 per cent., showed, clinically, evidence of tuberculosis, and that four of those had induration of the udder, which he thought was probably tuberculous.

1387. Four out of the total of 1,638?—Yes. The number became five shortly afterwards, because one of the animals that had presented signs of tubercle, but had not induration of the udder, subsequently developed induration of the udder; so that it is really five out of a total of 1,638.

1388. Has the Council any power to exclude the milk of the cows from consumption?—No, they have no power to do so.

1389. Then what happens on a cow being reported by the inspector to be tuberculous?—The inspector has told the dairyman of his suspicions, and in all instances in which the question has been raised, a veterinary examination of the cow has been made. The diagnosis having been confirmed by the veterinary surgeon, the cowkeeper has voluntarily agreed to give up the sale of the milk from the suspected animal.

1390. The Council have no power to enforce it, have they?—They have no power of enforcing it.

1391. Are the milk shops and registered dairymen under the same inspection?—Yes.

1392. What are the powers which prevent the milk from a diseased cow being mingled with the general milk from a cowshed or dairy?—Those are the powers under the dairies and cowsheds order; but under the dairies and cowsheds orders the expression "disease" has been held to be governed by the definition in the Contagious Diseases (Animals) Acts, under which these orders were first issued; and the expression "disease" is defined there as meaning certain particular diseases—pleuro-pneumonia and the rest of them—and does not include tuberculosis.

1393. Has the attention of the Local Government Board been drawn to that omission?—That is so. The medical officer of the Council has reported on that matter to a committee of the Council, and that committee have communicated, with regard to it, with the Local Government Board, and they at the same time made a recommendation that it was desirable to make some other amendments in the dairies and cowsheds orders.

1394. How long ago was that recommendation made, do you know?—I cannot give you the exact date.

1395. Was it in the course of last year?—Yes, it was.

1396. (*Dr. Thorne Thorne.*) Pursuing that same subject, am I not right in saying that the order to which you have referred, and which does not include tuberculosis, never pretended to have any concern with human health, but only dealt with diseases which were communicable from cattle to cattle?—Yes.

1397. Therefore, tuberculosis would not have any proper place there?—Quite so.

1398. Has the diminution in the number of licensed private slaughter-houses in the metropolis been in any way brought about by the refusal of the London County Council to license premises?—It has to some extent.

1399. Could you tell me, roughly, how many premises are refused annually to be licensed which have had licences previously?—No, I could not give you any exact figures, but I can obtain the information.

1400. I was going to ask you the same thing with regard to cowhouses; but perhaps you could not tell me that either, now?—No, I have not that information with me. I have the number of new applications which have been granted by the Council, but I have not the number of licences which have been refused. I could supply it, for recent years, at any rate, and I will do so.

1401. How many cowhouses did you say were licensed in London annually?—393.

1402. Where do you get the right of making a veterinary examination of cows, to see whether they are tuberculous?—I do not know that there is any right; but the question has never been raised, and the veterinary inspector has always been allowed to make the examination.

1403. I gather, as the result of your evidence, that so far as the London County Council is concerned, it has absolutely no powers to prevent the consumption either of tuberculous meat or of milk from obviously tuberculous cows?—It has practically no power.

1404. (*Mr. Cooke-Trench.*) You said there were 1,638 cows examined, out of how many did you say?—About 6,000.

1405. How were those 1,638 cows selected?—They were taken in a particular area; I think it was in the south-east. It was a geographical selection.

1406. Was that area selected on account of its being supposed to be more infected?—No.

1407. It was supposed to be a fair sample of the whole?—Yes.

1408. Did I rightly understand you to say that out of 1,638 there were only five cases of indurated udder which seemed to indicate tuberculosis?—Yes.

1409. (*Mr. Speir.*) What was the reason for the County Council making such an elaborate examination as to go over 1,638 cows, when they had no power to enforce it; had you any special object in view at the time?—It was thought that it was desirable to know to what extent the cows in the sheds in London were diseased.

1410. In connexion with the udders, or what?—More particularly in connexion with the udder.

1411. You said that these cowsheds were usually inspected once a month, I think?—Yes.

1412. What does that inspection include; what is the course that is followed by the inspector usually?—He would look at the general condition of the premises, and ascertain that the various byelaws were observed.

1413. As far as cleanliness is concerned, that is?—Yes.

1414. But not in connexion with the health of the stock, I expect?—No, he would not concern himself particularly with the health of the stock.

1415. You said that you had 469 slaughter-houses in 1896. Might I ask how many of those were private slaughter-houses?—They would be all private slaughter-houses.

1416. Do you consider that it would be any great hardship if they were all public slaughter-houses, as you suggest in the map which has been handed in?—There might be some difficulty while the question was

in a transition stage; but I imagine that things would adapt themselves to the new conditions.

1417. Do you think, after they had adapted themselves, that the difficulty of working would be, comparatively speaking, trifling to the butchers?—Yes.

1418. Is that the general opinion of the London County Council?—I could not say that, because, of course, the question has not yet been before the Council.

1419. What are the qualifications of the inspectors that you employ usually?—Those who have been recently appointed have the certificate of the Sanitary Institute, or some similar certificate.

1420. Have they any veterinary training?—They have no certificate of veterinary training. Some of our inspectors have some experience, but there is no requirement that they shall have veterinary training.

1421. (*Dr. Thorne Thorne.*) I assume I am right in supposing that your inspectors have no jurisdiction over either cattle or meat?—That is so.

1422. It is only the premises that they have jurisdiction over?—Yes.

1423. Therefore they only require ordinary sanitary knowledge?—Quite so.

1424. Not a skilled veterinary knowledge, or a knowledge as to meat?—That is so.

1425. You have shown that there is a very small proportion of tuberculous cows amongst the cows in the London cowhouses. Is it the fact that those cows in the London cowhouses are never used for breeding purposes, but that they are always sent to the slaughter-house when they run dry?—I believe that is the case; with the large majority of them, at any rate.

1426. Would the fact that there would be thus no in-breeding of any that do happen to be tuberculous tend, in your opinion, to reduce the number of tuberculous cows?—That would be so.

1427. (*Mr. Cooke-Trench.*) With reference to those five indurated udders, were they so examined as to make sure that the induration proceeded from tuberculosis?—No, there was no bacteriological examination.

1428. In fact, it was possible that there were five, and there might have been less; that is what it comes to?—Yes, I think that is possible. The animals which had these indurated udders were regarded as being tubercular, from the clinical signs of tubercle in other parts of the body. The examination was made by a skilled veterinary surgeon.

1429. (*Chairman.*) I do not think there is anything else to ask you. Does anything occur to you that would throw light on the subject of our inquiry?—I do not think I have anything else to say.

The witness withdrew.

Dr. WILLIAM ARTHUR BOND called and examined.

1430. (*Dr. Thorne Thorne.*) You are medical officer of health to the Holborn District Board of Works, I believe?—Yes, I am.

1431. And to the St. Olave's Board of Works?—Yes.

1432. You are also, I believe, demonstrator of sound and diseased meat to the Sanitary Institute?—Yes, I am.

1433. Where is the Holborn Meat Market carried on?—It is in the immediate vicinity of the Central Meat Market—in Charterhouse Street and Cow Cross Street, principally, and at the corner of St John's Street.

1434. How many shops or establishments does it include?—Seventeen is the number we generally reckon.

1435. What are the businesses carried on in these 17 shops?—Principally the sale of meat and offal. There used to be only two shops, but now there are three shops which deal exclusively in offal. There have been several changes in the shops in the last

few months; now, as I have just said, there are three shops exclusively for offal, although the majority of them deal to some extent in offal.

1436. As well as meat?—As well as meat.

1437. What is offal, precisely?—Offal includes the head, the tongue, the tail, and the internal organs, such as the heart, the lungs, the liver, the spleen, tripe, and the kidneys sometimes. It depends on the animal; for instance, in the case of pigs, the head and the kidneys are always sold with the animal.

1438. How many meat inspectors have you in Holborn?—We have only one. We used to have, until the beginning of last year, a general sanitary inspector, but now we have Mr. Billing, who devotes his whole duties to meat inspection, and to the proceedings in connexion with meat inspection.

1439. What are his qualifications for that post?—He has had large experience as a butcher; he is an intelligent man, and he has taken great interest in cattle and in the diseases of cattle. He has made a study of physiology to some extent.

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1440. Have you formed any opinion as to what antecedents constitute the best meat inspector?—As an ideal, I suppose, one would rather have a veterinary surgeon as a basis, supplemented with great experience in the slaughtering of animals at slaughter-houses, and in the diseases of animals that are used for the food of man in particular—paying special attention to that. That would be one's ideal.

1441. What are his special duties?—He is there during the hours of the meat market, which begins very early in the morning—about five or six o'clock in the morning as a rule. He is there as far as possible during the hours of business of the meat salesmen; as a rule, they close early in the day—between one o'clock and two on most days.

1442. In regard to those shops, am I right in assuming that they are on one side of the road and that the City Meat Market is on the other?—Yes; the City Meat Market is opposite, with the exception, of course, of Cow Cross Street, which is a little further away. Some of the shops are immediately opposite.

1443. Your meat inspector's duty is to examine all the material in those shops, is it not?—Yes; he is often present when it is delivered. The great object of the change has been to have an inspector practically present while the meat is there for sale.

1444. Will you please continue stating what his duties are; he is there, you say, during business hours?—He is there, and is supposed to examine all meat that comes there, including offal as well. A great deal of offal comes there, and I am afraid that it cannot be examined quite so thoroughly as meat is, because sometimes he has to be away. It is no absolutely constant inspection now; it has been very much improved; but, of course, he has to attend at the office sometimes. He has to see me, or he has to go to the court, and sometimes he has to take out a summons.

1445. Will you tell us his duties, first, in the meat market?—His duties, principally, are those of inspection.

1446. If he finds anything wrong with the meat, what does he do?—He tells the salesman. Very often, in the great majority of cases, the salesmen ask him, as a matter of form, to look at the meat; they know he is there, and that he will inspect it.

1447. I asked you what he does if anything is found wrong, what does he do?—I beg your pardon. He says that he must have it condemned, and that if they have any objection they can have the meat seen by anyone else; that they can telegraph to the sender, and that the sender—the man who deposits the meat—can have anyone present to examine the meat. Then I see the meat, either at the shop or at the town hall. At first, in almost every case, I used to see it in the shops; but one finds it is more convenient to see it at the town hall. We can make a very thorough examination there of the meat. In exceptional cases I see it first at the Clerkenwell Police Court; perhaps I may have to attend there in a case of prosecution, and it is examined just before the magistrate sees it, and more thoroughly afterwards at the Town Hall.

1448. May I take it that you see all meat that is seized?—Yes; every carcass of meat that is seized that we wish to have condemned.

1449. If the owner of the meat makes no objection to its condemnation, do you see it then?—Yes, always.

1450. In all cases?—In all cases. I am not speaking of decomposed meat, as I suppose you are alluding to diseased meat. In the summer time, as you are aware, a great deal of meat goes bad from decomposition, and that I very often do not see. The great majority of that is handed over generally, and has been taken away either by Harrison Barber, who was our contractor in the first place, or by Webb, a contractor from the East End of London, whom we now employ, because he has offered us a small amount per stone for the meat that he takes away.

1451. Who prosecutes in the case of a condemned carcass?—Nominally, it is done by the inspector;

according to the legal form the inspector is the prosecutor, but I may say that he only acts under the authority of the sanitary committee of the Holborn Board. All his reports and my own reports are read to the committee, and the matter is discussed, and they prosecute, practically, in every case, subject to the opinion of the clerk to the board—the solicitor to the board—as to satisfactory evidence with regard to the legal points being able to be obtained.

1452. In how many instances has there been seizure in any given year on account of tuberculosis?—I am afraid that I am not aware of a single seizure until last year.

1453. Will you give us the results of 1896, then?—In 1896 we had 80 seizures of tubercular meat. Of these, 80 were beef and six pork. The total number of seizures of diseased meat as a whole was 258; that is, exactly one-third of the seizures were tubercular.

1454. Did the seizures in those cases apply to the whole carcass, or only to a certain portion of the carcass?—In the great majority of the cases the whole carcass; that is, 69 out of the 80 cases of beef were whole carcasses, and all the pork cases were whole carcasses.

1455. Would you tell us what are the conditions in a carcass that lead you to seize on the ground of tuberculosis?—Practically the evidence of tuberculosis that one sees from a rough inspection of the meat. One generally sees evidence on the pleura or peritoneum. Very often the cases we have are exceedingly tubercular, with tubercular glands almost staring one in the face, they are so enlarged and caseated. Even without cutting into them one can see at a glance sometimes tubercular glands. Then the animals are exceedingly wasted; there is very little fat, and a great many of them are very much emaciated. I may say that the average of those 69 carcasses was under 44 stone—about 43 stone 6 lbs.—that is, taking an average of the whole carcasses, excluding the pork, as I am confining myself now to beef.

1456. Of course, those cases that you have named are instances in which the disease was very obvious?—In nearly all the cases it was very obvious externally; but, of course, we always carefully examine the carcass afterwards, especially in regard to the lymphatic glands; and those in the great majority of cases were very much enlarged and more or less tubercular—in a great many cases they were exceedingly tubercular, some of them being almost wholly caseous, and in others going on to purulence and being almost abscesses.

1457. Should you seize a carcass if the tubercle was limited to the lungs—to one internal organ?—No, I should not, if the carcass was apparently sound, and was not emaciated, but had a fair amount of fat, and if the lymphatic glands were apparently normal.

1458. You would pass such a carcass?—Yes, certainly.

1459. Would you seize a carcass if the lymphatic glands alone gave evidence of tuberculosis?—Yes, I should in that case, as one must have some basis to go upon. I think it is the only safe way, but I may say that in those cases I have not come across a single instance where we found the glands tubercular in which there was not some obvious evidence of tuberculosis.

1460. (*Mr. Cooke-Trench.*) In the meat?—In the meat; one would see tubercle somewhere, even in those cases. Of course, as you know, the stripping of the greater part of the pleura and peritoneum, where the peritoneum is also involved, is very much resorted to; but even then, by lifting up the diaphragm or examining other parts where the "stripping" is not quite well enough done, one can always see some evidences of tuberculosis.

1461. (*Dr. Thorne Thorne.*) Should I be right in assuming that when tuberculosis is slight and is distinctly localised in one organ, or even two, you do not seize the carcass unless there is evidence of the whole carcass being deteriorated by it?—Yes. I think that is very fairly correct.

1462. What is your opinion as to the amount of tuberculosis in carcasses that come, say, to the Holborn shops to which you have referred?—I have no details, and I am not aware that anyone has, of the total amount of carcasses that comes there. You see, we do not take any record of the total amount. I can only give you the proportion of the amount of tubercular meat that was seized in comparison with the total amount of all meat that was seized for the various diseases, and, as I have said, that was 86 out of 258, that is exactly one-third.

1463. Have you any suggestion to make to the Commission as to any action that in your opinion might be taken to lessen the sale of carcasses which should not be sold for food on account of tuberculosis?—It is exceedingly desirable, as much as possible in my opinion, to have public abattoirs. I think all large towns certainly ought to have public abattoirs, and that they should be under competent and proper supervision; that is, under veterinary surgeons and their assistants—I think both before the time of slaughter and afterwards. One can examine the meat much more satisfactorily if one has the organs present; in our case it is like examining a human body with all the organs removed, and we are somewhat at a disadvantage; that is why we find a great advantage in examining the lymphatic glands, where there has been much "stripping."

1464. Does the absence of a public abattoir in the Holborn district, in your opinion, tend to facilitate the sale of diseased meat?—The greater part of the meat that we get comes from the country, and the remainder is sent from the city slaughter-houses in Islington. Some of the salesmen own slaughter-houses in the Caledonian Road; it is at the market there where the slaughter-houses are.

1465. Is there any transfer from other places to Holborn of meat which is under suspicion?—We have had cases in which it has been known to have been sent from the Central Meat Market. The salesmen there, if they have anything suspicious, send it sometimes, and I daresay it used to be done a good deal more than it is now. We have had to prosecute in two or three instances salesmen from the Meat Market for having sold meat to salesmen in the outside meat market.

1466. Is adequate inspection sufficient to control that now?—It is exceedingly improved, but I cannot say that it is perfect now. As I say one cannot have absolutely constant inspection there. I am afraid there are other ways in which carcasses are being sent. From information that I have received in various quarters, I have little doubt that a great deal of diseased meat that would normally have come to the Holborn Meat Market is now disposed of in other ways.

1467. (*Mr. Murphy.*) In other districts?—Yes, in other districts.

1468. (*Professor Brown.*) You said that you thought a veterinary surgeon would be a very good man, taken as a basis?—Yes.

1469. Am I right in gathering from that that you do not think a veterinary surgeon, under ordinary circumstances, would be a fit person to be turned into the meat inspection without some training?—I think he would want some training; I think it would be desirable certainly.

1470. That is to say, you do not think it necessarily follows that because he is a very experienced veterinary surgeon he would therefore be a very excellent meat inspector?—No, I think not, without some special training.

1471. You said that the offal cannot be very carefully examined?—We have a great deal, and I have sometimes found some offal which has been overlooked. I suppose there are more difficulties in the examination of offal.

1472. It comes packed, does it not, in a basket or hamper?—Yes.

1473. I suppose you do not turn the whole of the hamper out?—Pretty often one cannot examine

offal satisfactorily unless it is divided up very carefully, and carefully palpated. Take an instance that I have seen sometimes where there is only one tubercular nodule in a lung; that wants a fairly careful amount of examination in order to be absolutely certain whether there is, or not, any tubercular nodule in the lung, and sometimes it is only by careful palpation all over the organ that one has been able to feel it, and then by cutting into it one sees it; but without that very careful examination, I think most probably some of the diseased organs would be overlooked.

1474. But there is a risk, of course, of the lungs of pigs, for example, affected with tuberculosis escaping?—Yes, I think so decidedly.

1475. Are you aware that those organs are commonly used in the manufacture of sausages?—Yes.

1476. So that a case of miliary tuberculosis, which is not at all uncommon in the lungs of a pig, might very well contribute to the manufacture of sausages, in spite of anything you can do to prevent it?—It might, certainly, without additional extra careful examination of offal.

1477. And it must be something considerably additional to examine all the lungs that are sent from all parts of the country to the various places?—Yes; that is why I think it is very important that it should be examined at the time of slaughter, either at public abattoirs or at depôts.

1478. That comes very much back to the question of public abattoirs?—Yes, or depôts where meat from the country could be sent and examined with the offal.

1479. You are aware, of course, that there is a great deal of difference in the methods of inspection of meat, and a great deal of difference of opinion as to what should be passed and what condemned?—Yes, I am aware of that.

1480. Is there anything that occurs to you which could be done to moderate that very serious evil?—I think meat inspectors ought to be subjected to some more satisfactory examination, or that they should have at least some certificate of some kind of their capacities so as to show that they would make efficient meat inspectors. For instance, our old meat inspector was a sanitary inspector, and I am not aware that he had had any training whatever in meat inspection. I think that was most unsatisfactory.

1481. Then your suggestion amounts to this, that if you had perfectly competent meat inspectors, with an equality of knowledge, you would get rid of a great deal of that discrepancy which is so much complained of?—I think one would, decidedly; and the more one approached the ideal the less discrepancy there would be.

1482. (*Mr. Speir.*) Presuming that you had gentlemen who had all received a similar training, I do not see that it follows that they would all arrive at the same conclusions as to what was hurtful for the public health; what would happen—might you not even with all that similarity have great dissimilarity in decisions?—You see inspectors have to carry out the law, and the law says that they must seize all diseased animals; that is really the legal point. By section 47 of the Public Health Act, 1891, they have the power to seize not only diseased, but even unsound or unwholesome food.

1483. That presumes that the Local Government Board gives you instructions that every animal or every carcass with the smallest portion of disease is to be seized?—The Act does not say that; it says "diseased." Any "diseased" carcass is liable to be seized.

1484. But then you come back to the question again of "diseased"; does that mean a small portion of one organ, or does it mean that the meat is altogether wrong?—Of course the organs, as a rule, are not present with the carcass, at any rate at the shops of the salesmen, for they do not sell them as a rule with the carcasses. We should only seize

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tubercular meat where there was obvious evidence on the carcass of tuberculosis. Slaughterers generally must be quite aware of that, because there is evidence in the majority of cases of stripping either of the pleura or of the peritoneum; we can confirm that by the examination of the glands, and we practically find that wherever there is tuberculosis to the extent that you have tuberculosis which is obvious, there is also tuberculosis of the lymphatic glands.

1485. Something, in fact, wrong with the carcass?—Yes, something wrong with the carcass itself, and something that you cannot see without cutting into the carcass and examining the glands so that the carcass is more diseased than it looks.

1486. In point of fact, in the meat inspection you therefore base your decision apparently more on the condition of the carcass than actually on what the lungs or other organs present?—Yes. As a rule, we have not the lungs to go by at the shops of our meat salesmen; we have not the offal to go by, of course they do not like to send up the offal with the meat.

1487. To get back; you judge from the condition of the carcass?—Yes, from its general condition, and, I may say, in almost every case we have considered, we should have been able to have condemned the carcass from the generally unsound condition of the carcass itself, and apart from any tuberculosis.

1488. How does it come that you had no cases of seizure for tuberculosis prior to 1896, and that you had 86 in that year?—I think on account of the inefficient inspection that there was previously. The meat salesmen then could practically do anything they liked. The only way one can account for it is by inefficient inspection.

1489. Has any irritation been caused through the more efficient inspection during the past year?—The difference from nil to 86 seizures of tuberculous animals is very great, in the small Holborn Meat Market, which, of course, is very small, in comparison with the Central Meat Market.

1490. Has any irritation to the butchers or meat salesmen been caused through these seizures?—At first, of course, the meat salesmen were very much irritated, and they tried all kinds of dodges, and they do still, to obviate either the meat being seized, or their being prosecuted. We have often had great difficulties in getting convictions, but still, in about 90 per cent. of the cases we have obtained convictions, and in not a single case has there been the least question raised about the evidence as to the diseased condition of the meat; it has always been acknowledged that the meat was diseased, or the magistrate has always owned that the meat was diseased; if they have got off, it has simply been on account of some legal quibble or some legal technicality.

1491. What caused you to prosecute?—In order to carry out the Act, and to try and stop the sale of diseased meat.

1492. You scarcely understand me here. If the meat salesman admits that the carcass is diseased, in that case I suppose you do not prosecute?—No, we do not prosecute him, but we prosecute the man who knowingly sends up the diseased meat with the hope of being able to sell it for human food.

1493. Is there any chance of meat going out of your market to anywhere else without being inspected?—Yes, there is, but things are much better now. The inspection is now comparatively more perfect than it was, and there is a fair inspection now in comparison with what there was.

1494. There is no restriction on the meat being taken out at any time, whether the inspector is there or not, is there?—No, it can be taken away anywhere. If the inspector does not come, of course, they might sell anything, and probably would.

1495. The meat would be just carried out and taken anywhere else?—Yes. There is no law and no authority requiring that meat should be inspected before it can be sold, not the least; in fact the salesmen would much rather have no inspection.

1496. Are we to infer that in some other districts meat inspection is less rigid than it is with you when such is being done?—In most districts they only have the ordinary sanitary inspectors who in the past have had no training whatever, not the least training, in meat inspection. I do not see how they can be expected to be in the least competent.

1497. Do you think it would help those men in any way if they had instructions of a general nature from, say, the Local Government Board or any other body, stating roughly what might be passed and what might not?—Yes, certainly it would be a great assistance.

1498. Then you mentioned that your own meat inspector was a butcher; do you, from the training you have got, consider that a butcher without any special knowledge of animal diseases would make a moderately efficient meat inspector?—A good butcher would know the tricks of the trade, and would be able to spot a great deal of diseased meat in that way apart from any knowledge of the diseases of animals. I may say that our inspector is an intelligent man and takes an interest in his work. He has studied to a great extent the diseases of animals, and he knows all the ordinary signs or the common signs of most diseases.

1499. But in Mr. Billing's case, from what you have said just now, and what you have said previously, I am led to think he has probably been training himself for his position?—Yes, he has been training himself.

1500. Presuming he had not done so, and that he had just been the ordinary butcher he was when he began, would you now consider such a gentleman a proper meat inspector if you had a new man to appoint?—I would rather have him than an ordinary sanitary inspector.

1501. You said that very often you might have a lung with a single nodule in it; what about livers?—We see a great many tubercular livers in all stages.

1502. In the liver, as far as my experience has gone, I have very often found the disease to be more prevalent, but it is hidden entirely; have you taken any means to find out whether disease exists in the liver or not?—What I have said about the need of careful examination applies to the other organs that I have mentioned as well as the lungs.

1503. But you have made no examination other than what you mentioned by pressure and cutting?—By pressing on the liver, too, I have done that very often, and, perhaps feeling a nodule, I have cut in and found, perhaps, a large caseated abscess or a caseated nodule.

1504. In many cases in the liver you do not get it in the caseous state?—Sometimes it is only very slightly. Of course they vary very much, and you get it in all stages.

1505. In a case where it is quite soft you could not possibly find it by simple pressure. Have you taken any other precaution to find whether there was disease there or not?—Are you speaking of a liver only?

1506. I am speaking specially of a liver just now?—There is the colour, of course, and if there was any abnormality in the colour one would notice that. One would also notice the softness or the firmness of the texture, and see whether there was any abnormal softness or any abnormal hardness.

1507. You do not go the length of cutting in any way, do you?—Yes, if necessary; certainly in any doubtful case.

1508. The trade do not object to it, do they?—No; as a rule we find the butchers do not object at all now.

1509. (Mr. Cooke-Trench.) Are you aware that meat inspection is now a part of a veterinary surgeon's course?—I am aware that it is so now, it has been very much improved.

1510. Assuming for the moment that some inspectors and some medical officers of health are in the habit of condemning a whole carcass on account of some appearance of tuberculosis in one of the organs

where a carcass was otherwise apparently sound; have you any suggestion to make how the action of the sanitary authorities in different places should be brought into conformity? It is a great evil. I suppose you would at once admit that it should not be different in different places?—I think those differences have been very much exaggerated.

1511. Assuming them to exist, and assuming that they have not been exaggerated, can you suggest any means by which they could be brought into uniformity?—I think one ought, of course, not to condemn a carcass unless there are evidences of disease in it. If it is confined to the organ, from all the experiments and evidence that were brought before the previous Commission, I think it was fairly shown that such meat could be eaten with impunity. I think if that were understood, and you get a better class of inspectors, all those difficulties would disappear. If you get intelligent men they will take some interest in such commissions as you have here; they will know what danger there is, and will act with fairness, or will be as fair as possible to all parties. I think you will find those difficulties will disappear.

1512. Your suggestion, then, is a better class of inspector, and a more educated class of inspector?—Yes, I think so, decidedly. I think you will find that all differences will disappear then, or tend to disappear.

1513. Is it easy for a butcher when he finds the organs are diseased, or slightly diseased, to remove them, and to remove all trace of disease from the meat, so that the meat can be sent up and sold as perfectly sound and pass inspection, the meat being then apparently sound and good?—You mean if the disease is simply confined to an organ such as the lungs?

1514. Yes?—Decidedly, because there is then probably no adhesion of the pleura; there is nothing whatever to touch in the carcass, and by the ordinary inspector it would be passed, as they would not have the least idea of any evidence of tuberculosis, and the animal would probably be fat and apparently in good condition. There would not be the least suspicion, even that it had been suffering from tuberculosis.

1515. That is the case with all foreign meat, is it not, that there is no power of judging whether the organs have been affected?—Not the least, and I think you will find practically that in the case of animals that have suffered only slightly from tuberculosis, if it has been limited to the lung, very few of them are not passed; I should think the percentage not passed would be exceedingly small, so that it might be neglected altogether in any practical consideration.

1516. In the cases that you have considered it necessary to condemn, would the existence of disease have been apparent, or at least suspicious, during life?—I am not a veterinary surgeon, and I should not like to answer that question, which is almost beyond my province; in fact I would rather not answer it.

1517. At all events there are no cases, I think you said, within your experience in which carcasses have been condemned where there was not some appearance of wasting?—In the case of all the carcasses that I have carefully examined, with practically scarcely an exception, there has been very much wasting.

1518. And those cases would be all visible during life?—Yes, there is very little fat about them. The average was only 43 stones 6 lbs., and, as you know, the average weight of a carcass in fair health would be 70 to 75 stones.

1519. Forty-three stones is how much?—That is about 350 lbs. In our meat market we reckon 8 lbs. to the stone. We generally take the average of a healthy carcass at about 540 to 600 lbs., so there is a marked difference between the carcasses we have seized and that. There are apparent exceptions here. There is one case where a condemned animal weighed as much as 87 stone; that was an enormous bull—a large-framed bull—but even that was wasted with very little fat on it, and it was very tubercular. One cannot always go by weight; weight is only an indica-

tion taking into consideration the size of the animal, the frame and the build of the animal. One might think from the weight that that was an apparently sound animal, but there was no fat on it; it was really very much emaciated and very tubercular. I have details here of the pathological state of the kidneys of all the carcasses in which they were present.

1520. These wasted animals, of course, sell at a very low price per stone in the market?—Yes.

1521. Would 8*l.* be a fair limit—would it be fair to say that none of those cost more than 8*l.* in the market?—It is difficult to say. Take this bull that weighed 87 stone. I think the size, frame, and build, as well as the weight of the animal, ought to be taken into consideration. I think no animal under 45 stone ought to be passed, or one might take even a higher limit; that is a matter for consideration. One ought, I think, also to take into consideration the breed of the animal and its condition for slaughter. I think that when an animal bears obvious evidence of wasting, or of an unsound condition, or diseased condition, the question of compensation ought not to enter at all, and that it should only enter in exceptional cases where, perhaps, there may have been simply tuberculosis of one lung, and where the remainder of a carcass is in a good sound condition. If you want to stamp out tuberculosis one might in a *bonâ fide* case give compensation.

1522. Where there was no guilty knowledge on the part of the parties?—Where there was no guilty knowledge or no obvious evidence of disease.

1523. (*Mr. Murphy.*) Could you tell me whether you get much offal from abroad?—We have had a great deal from Holland, and a fair number of pigs as well from Holland if I may also add that. We have had a great many sheep's livers from Holland. I know that in one morning we condemned nearly 100 sheep's livers—I think 93 was the exact number of sheep's livers that we condemned, and they were all flukey.

1524. (*Mr. Cooke-Trench.*) All flukey?—Exceedingly flukey.

1525. Not tuberculous?—Some were also tubercular, but very few. A great many of the livers were also very much diseased as well; the flukes had set up irritation of the liver, and there was also congestion, and it had gone to interstitial inflammation of the liver.

1526. Would you condemn a sheep's carcass because there were flukes in the liver if it was otherwise apparently sound?—Not if it was otherwise sound, not if it was apparently in good condition with a fair amount of fat about it, and no other evidences of disease.

1527. (*Mr. Murphy.*) Referring to the 86 tubercular carcasses, they were probably received from different parts of the country?—Yes, from various parts; some from Scotland.

1528. Coming up as dead meat?—Yes, all as dead meat.

1529. You were saying that the killing of animals in public slaughter-houses might enable a better inspection to be made; would you, as medical officer of health, be prepared to accept into your district without submitting it to any other special examination meat that had been killed in a public slaughter-house belonging to one of the other municipalities?—Yes, decidedly, if it had passed their examination.

1530. That would satisfy you, broadly?—Yes, with competent inspection, supposing, of course, that you had competent inspection.

1531. Then there would be a balance of meat that would not be killed in public slaughter-houses that would come up probably to Holborn?—Yes.

1532. Have you thought of any way in which that could be most conveniently inspected?—We might have some central dépôt, or each district might have a dépôt, or there might be, perhaps, a few dépôts in, say, some of the postal districts of London—I do not know how many could be arranged for; it would depend on circumstances. It might be arranged in

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that way to have competent inspection at the depôts by requiring that all meat should be sent first of all to the depôt, and examined at the depôt before being distributed to the salesmen. I think that would meet the difficulty, only they would have to send the organs up too. Of course, the difficulty of sending the meat to a depôt would be that you would have to be certain that the absolute offal which belonged to the carcass was sent; but one could be certain of having competent inspection, even of the carcasses, because one could appoint good inspectors.

1533. Then there would have to be some indication that a carcass had been inspected, either in a public slaughter-house or in the meat inspection depôt?—Yes. We might follow to some extent some of the best systems that are employed on the Continent. I think we ought to take lessons as much as possible from anywhere.

1534. You mean by stamping?—Yes, by stamping.

1535. Of course, on the Continent, the principle is that no meat is approved of as fit for food until it has been examined?—That is so.

1536. But in England the converse position exists, and all meat is considered to be good unless it has been specially inspected, and shown to be bad?—Yes.

1537. Your suggestion would be rather to reverse that position?—Yes, certainly, and to imitate the continental practice.

1538. That would, you think, largely control the sale of tuberculous meat which was unfit for human food?—I think it would, decidedly.

1539. And it would, perhaps, prove beneficial with regard to other unwholesome conditions of meat?—I think so, decidedly; the same system would, of course, apply to other conditions and other diseases.

1540. Are there any private slaughter-houses in Holborn?—Only two now; they have been reduced to two.

1541. I believe the same meat inspector, who inspects what is your dead meat market, about Charterhouse Street, also inspects those?—He inspects those occasionally.

1542. Of course, he cannot see all the animals that are killed, even in the two private slaughter-houses?—Not a bit; in fact, so far as the private slaughter-houses are concerned, one might say there was no inspection.

1543. It is impossible?—It is impossible, really; there is no inspection in private slaughter-houses.

1544. (Mr. Speir.) Nor can there be, I presume?—Nor can there be.

1545. Unless at extraordinary expense?—That is so; an inspector would frequently have to be there all night.

1546. (Dr. Thorne Thorne.) Does the exportation to this country of such material as diseased livers from Holland, in your opinion, imply that the salesmen in Holland anticipate less stringent inspection here than in their own country?—It looks like it.

1547. You have no knowledge of the facts, then?—No.

1548. Did I correctly understand you to say that in every case in which you have taken proceedings against a salesman on account of tuberculosis, the carcass gave evidence, apart from tuberculosis, of its unfitness for human food?—Yes.

1549. In every case?—With scarcely an exception; I do not remember one exception. Of course, in a great many cases it was exceedingly obvious, exceedingly marked.

1550. Then, as far as your experience is concerned, has there been any case in which the question of compensation would, in your opinion, arise?—Not one that I think could have fairly asked for compensation.

1551. Is your meat inspector free to perform his duties as he thinks fit, without being subjected to any

undue pressure on the part of any of the parties concerned?—You are all aware of the difficulties with which meat inspectors, or inspectors generally, are surrounded. That is the reason why, in my recommendation for the appointment of a special meat inspector, I advised that a salary of at least 200*l.* a year should be paid; and of course it follows without saying that they should try to get a man of exceptional character.

1552. Does your inspector receive that sum?—He is paid 200*l.* a year.

1553. And you believe that your present inspector is free from undue influence?—Yes; of course he is always exposed to it, but I do not think he is influenced by it.

1554. (Mr. Speir.) Your inference is that he is now above it?—He is above it.

1555. He is independent of it?—Yes; he is so paid that he is independent of it. I have here a table showing the amount of meat seized, offal excluded, in 1896.

[The witness handed in the following table.]

AMOUNT OF MEAT "SEIZED" (OFFAL EXCLUDED).

1896.	Diseased.		Decomposed.		Total.
	Stones	lbs.	Stones	lbs.	Stones lbs.
1st quarter - -	4,069	3	378	4	4,447 7
2nd " - -	710	1	1,215	4	1,925 5
3rd " - -	653	6	3,476	4	4,130 2
4th " - -	1,701	5	311	3	2,013 9
	7,134	7	5,381	7	12,516 6

Total number of "seizures" of diseased meat, 258.

Of these "seizures" 86 were tubercular—

" " 80 " beef.
" " 6 " pork.
(Excluding diseased offal).

SUMMARY of the TABLES of the 80 SEIZURES of "TUBERCULAR BEEF."

Sixty-nine were whole carcasses (in carcass two sides or four quarters), the average weight being 43 st. 6 lbs., and 11 were portions only of carcasses, e.g., two or three quarters.

It has been our practice to examine the sternal, dorsal, cervical, lumbar, sacro-lumbar, inguinal, and deep femoral lymphatic glands, also the kidneys, when present.

Of the 69 whole carcasses—

In 46 all the above glands were obviously more or less tubercular;

In 22 some were obviously so; and

In one the glands were probably tubercular, as they were enlarged, but there was no very obvious typical degenerations.

Of 32 carcasses in which one or both kidneys were present—

In 25 carcasses (that is, in 78 per cent.) one or both were obviously tubercular;

In seven (the remainder) the kidneys were obviously not normal.

Of the 11 portions of carcasses—

In seven all the glands were obviously tubercular; and

In four some were so.

The kidneys were tubercular in the only instance in which they were present.

The witness withdrew.

Mr. GEORGE TIMOTHY BILLING called and examined.

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1556. (*Dr. Thorne Thorne.*) I believe you are inspector of the Holborn Meat Market?—Yes.

1557. Will you just state to the Commission what are the duties you perform in that capacity?—My duty is to inspect all the meat that comes into the Charterhouse Street Market, the Coweross Street Market, and the St. John's Street Market; which are all adjoining the Central Meat Market, Smithfield.

1558. What examination do you make of the carcasses?—In the case of every carcass where there is any evidence of the pleura and peritoneum having been removed or tampered with in any way, I examine the glands, and if there is any evidence of tuberculosis in the glands—but the beef is fat and otherwise in good condition—I remove those glands, and if there should be any small portions of the pleura or peritoneum present and there are any small tubercles on them I remove them as well, and then the carcass is allowed to pass.

1559. On the other hand, will you just explain the conditions which would lead you to seize a carcass for tuberculosis?—If there is any evidence of emaciation and other change in the flesh, such as the flesh being very dark, soft, and wet, and if the glands are very tubercular, I seize the carcass whether there has been any stripping or not.

1560. Do you give the salesman a chance of letting anyone else see it but yourself?—Yes, always. I tell him directly that I shall seize the carcass, and I say to the salesman or owner, whoever is present, that he can have whomsoever he wishes to see the carcass on his behalf, and if he cannot get anyone that day, the meat will be kept until the following day or any other time, if he will state how long he wishes it kept.

1561. Then what is your next step in regard to such a carcass?—After the carcass is seized, I remove it to the Holborn Town Hall yard, where it is again carefully examined by myself and the medical officer of health. We examine all the glands, the various conditions of the flesh, and so on, and then the carcass is taken before the magistrate.

1562. By whose instruction?—By the instruction of the medical officer of health.

1563. In what way do you report to your Health Committee what you are doing?—The details of the post-mortem examination, and all the circumstances in connexion with the seizure are put in my report-book, and the report-book is placed before the Committee at their meeting.

1564. Then, if there is any prosecution, is it done on their authority?—The Committee generally order a prosecution, and report to the Board. We do not have to get the Board's permission before we can take proceedings in court. The Committee has power under section 99 of the Public Health (London) Act, 1891, to carry out the Act.

1565. What is the class of meat that is generally sold in the 17 shops in the Holborn district?—Most of it is what is called plain meat, or, in other words, it is meat used for the manufacture of sausages, potted meats, and so on.

1566. What is the general character of that meat, I mean as regards its being either suspicious or doubtful in character?—In most cases it is taken from very old cows that nearly always are very poor.

1567. Then good meat is not very largely dealt with in the Holborn district?—No, not exactly the best meat, of course there is some second-class meat sold there as well.

1568. What is the character of the offal that is sold in Holborn?—It consists of hearts and plucks, and milts and hearts, livers, and so on.

1569. Of what character is that?—On the whole it is very good.

1570. It is good?—Yes, on the whole; but there are one or two shops there that have offals from certain places, and some of that is very rough.

1571. Have you any suggestions to make to the Commission as to any action that might facilitate the control of the meat trade where it needs controlling?—I think it would be much better if the animals were killed, where practicable, in public abattoirs, or where that is not practicable if the meat and offal were received in proper meat-houses, and there properly inspected before being distributed about the town or country.

1572. Is there any other point that you would like to bring before the Commission?—I think it is very hard on the butchers where they give a fair market price for an animal, which at the time it is sold appears perfectly healthy, if that animal should on being slaughtered prove to be tubercular, that they should have to bear the whole of the loss. In some cases they not only have to bear the whole of the loss, but they are prosecuted as well.

1573. We have just heard from your medical officer of health that in no single instance, as far as he can recall, has there ever been a seizure on account of tuberculosis in Holborn, unless the carcass gave evidence in other ways that it was unfit for human consumption?—That is so in our district.

1574. Then, when you refer to compensation, you are not referring to any experience of your own in the Holborn District?—No.

1575. Have you any experience of other districts?—I have heard of carcasses that have been condemned, that I, myself, did not consider were strictly in conformity with the report of the Royal Commission.

1576. Where was this?—I have heard of cases.

1577. Have you seen those carcasses which, in your opinion, ought not to have been condemned?—I have not seen the carcasses.

1578. Then you have no personal knowledge of those?—Not from my own observation.

1579. Is it mere hearsay?—Yes, just so.

1580. (*Mr. Murphy.*) Could you tell us anything about the offal trade, that is, whether the offal shops derive their offal from private slaughter-houses or whether the offal comes from the meat market or from abroad, or from where? Where do the offal shops in London get their offal from mostly?—I am told that some comes from Deptford, some from Islington Market, and a lot of it from Rotterdam. Some of it is sent up from Bristol and various other places.

1581. Then the poor are not dependent, to any large degree, at any rate, upon the offal of the meat that is killed in the private slaughter-houses, which would be a mere fraction of the total?—I do not think much comes there from private slaughter-houses.

1582. (*Mr. Cooke-Trench.*) You do not prosecute in every case, I suppose?—No.

1583. What are the circumstances that lead to prosecution?—Prosecutions are generally recommended in nearly all cases, subject to the necessary evidence being forthcoming, but in a great number of cases it is difficult to prove who is the owner of the carcass.

1584. Is it only such matters as the difficulty of proving who is the owner that prevents you from prosecuting in a number of cases?—Yes.

1585. If you could make out a case you would prosecute in every case where a carcass was condemned?—In every case where the meat seized was obviously bad.

1586. (*Dr. Thorne Thorne.*) I notice that, according to a Parliamentary return in the two years ending respectively March 1894 and March 1895, there was not a single prosecution in the Holborn district, but I presume you have no knowledge of those two years, have you?—No, I have none.

1587. (*Mr. Speir.*) What is done in the event of meat of any kind coming into the market in order to prevent its being at once passed through before you see it?—In the first place I go round early to all the

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shops in the market and I inspect what meat they have there then, and I call round at the shops from time to time up to about 9 or 10 a.m. The salesmen now point out every fresh arrival they have there and ask me to inspect it. Very often I am on the spot when the meat arrives.

1588. Presuming you were out, and meat arrived which was not in the best condition, and the meat salesman wanted to get rid of it, he might offer it at a low price to any likely buyer, and you would have no means then of tracing that further, I suppose?—No, of course they might do that; they have plenty of opportunity to offer it for sale, and then when they see me coming they might point it out to me after that and I should not know whether they had offered it for sale or not.

1589. In that way, I presume, a good deal of meat which may be unfit for food may pass through without your being able to detect it?—I do not think a great deal, but there is no doubt that some might.

1590. (*Professor Brown.*) I gather that it has happened in every case where you have condemned or seized a carcase, that the meat has been in bad condition?—Yes.

1591. Being derived from old cows it is rather likely it would be in poor condition, is it not?—In some cases we have seized ox bullocks, in one case we seized the carcase of a bull.

1592. You have had no instance where meat has been in first-rate condition, where it has been what they call first-rate beef, and where it has been condemned simply on account of the indication of disease in the interior of the animal in the pleura or the peritoneum?—No.

1593. It has invariably happened that there has been something wrong with the meat itself?—Yes, there have been changes in the flesh.

1594. What was your occupation before you were appointed meat inspector?—I was 10 years in the butchering trade, I have had slaughter-house experience, and in cutting up, and in the shop as well. I was also an Inspector of Nuisances at Portsmouth for a little over two years, and part of my duties there was to inspect meat.

1595. Were you the owner of the shop?—I was in one case, but for the last three years I was managing a place.

1596. You have experience of slaughtering animals?—Yes.

1597. Both slaughtering them and examining them afterwards?—Yes, I have slaughtered animals myself, and I can do so.

1598. You took an interest, probably, in examining the state of the internal organs?—I did at the time.

1599. (*Dr. Thorne Thorne.*) Is there anything else you would like to say?—No, I think not.

The witness withdrew.

Adjourned until to-morrow, at 12 o'clock.

SIXTH DAY.

At 7, Whitehall Place, Westminster, S.W.

Thursday, 21st January, 1897.

PRESENT:

SIR HERBERT E. MAXWELL, BART., M.P. (CHAIRMAN).

Dr. R. THORNE THORNE, C.B., F.R.S.
Professor G. T. BROWN, C.B.
SHIRLEY F. MURPHY, Esq.

T. COOKE-TRENCH, Esq.
HARCOURT E. CLARK, Esq.
JOHN SPEIR, Esq.

T. M. LEGGE, Esq., *Secretary.*

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Mr. W. HAYDON called and examined.

1600. (*Chairman.*) You are a member of the London County Council, and chairman of its Public Control Committee?—Yes.

1601. You are also president of the London Butchers' Trade Association, and the vice-president of the National Federation of Butchers and Meat Traders' Association?—That is so.

1602. And of course we may look upon you as being practically acquainted with all the ins and outs of the trade?—Yes, I was born in it.

1603. What class of animals have you principally dealt with?—A high class.

1604. Have you devoted any attention to observing the extent of tubercular disease among them?—Yes, especially when I was in the habit of slaughtering personally. I was with my father for many years, and used to do the whole of the slaughtering, so that I had ample opportunities of observation, and, of course, since that period too.

1605. Did the disease prevail more in pedigree stock than in other classes?—I could hardly say that; but in highly-fed stock that was so. It was our custom in the summer months to kill a good many

Welsh runts and bullocks raised in Leicestershire and in Northamptonshire, and it was a rare thing to find any tubercles in any of those animals; that is why I remarked that it is principally in stall-fed animals that I have noticed it.

1606. And were they killed at the same age as the Welsh runts?—Almost older. The runts mature slowly, and very often they are four years old, whereas the general run of cattle we kill are from two to three years old.

1607. And you found that the tuberculous disease was more in the younger run of animals than in the others?—That is so.

1608. To what extent did tubercular disease show itself in these animals; was it confined to the internal organs?—Almost entirely to the walls of the chest. When we found one graped inside the chest we used to run a knife down the side of the chine, and pull the skin right out from it, so as to leave no visible sign of it. But I have seldom seen tubercles in the muscle—in the flesh.

1609. Do you think there is much meat disposed of with tubercles in it?—I think very little.

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1610. I mean in the Metropolitan Meat Market?—No, that is very well inspected. Of course you are aware that outside the markets there was a hotbed of tuberculous animals, and they had an inspector who knew nothing about the business in hand; it is in the Holborn district, and they have a practical man there now, and it has really almost shut up the whole of the shops. You might have seen animals badly tubercled, and in an awful state.

1611. Would you, yourself, think it right to sell tuberculous meat?—Unless it was in a very advanced stage, I should not think there would be any harm in it.

1612. Even if the tubercles were present in the muscles?—That is a very rare thing. I have scarcely ever seen them there.

1613. You would have no hesitation in selling an animal affected in that way?—I have frequently. None of those animals showed any outward indication that they were not perfectly sound.

1614. Has the London meat trade generally maintained its level, during your experience, in the character of the meat?—No, it is of a lower grade than it used to be, taking it on the whole, I think.

1615. How do you account for that?—I think the American competition, and, I suppose, the bad state of agriculture would account for it. The English farmers do not keep the stock as well as they used to do. You see more middling bullocks than you did. Some 20 or 25 years ago at the Cattle Market you would see first-class bullocks at this time of the year from Norfolk; and in the summer months—July, August, and September—you would have Herefords, and runts, and Leicestershire and Northamptonshire beasts; but now they send to market beasts about half-fed, or three parts fed.

1616. But not diseased?—Oh, no, they are perfectly healthy. I should say that it is almost impossible for diseased animals to pass through our London Central Market.

1617. Owing to the inspection?—Owing to the inspection; and another reason, there is the salesman. Of course you see they mention that the meat is seized, but it is not seized at all; it is surrendered. A practical man knows that it ought not to be sold for human food, and he calls an inspector in. It is very seldom that an inspector makes a seizure.

1618. We have had a good deal of evidence on behalf of your trade from kindred societies, to the effect that butchers feel the want of uniformity of regulation in the mode of inspection?—That is so.

1619. And not only in the mode of inspection, but in the degree to which it is considered necessary to condemn carcasses on account of disease?—We have not felt that so much in London as they have in provincial towns. With regard to Liverpool and Birkenhead meat, that which would be seized in Birkenhead would always pass muster in Liverpool, just on the other side of the river. There have been great complaints in that neighbourhood.

1620. And so far as your trade is concerned are you satisfied with the present mode of inspection?—No, we are not. We think that if there be an inspection at all, it should be made by practical men. At the present time I think I might mention one case. We have had several with regard to the seizure of meat which have been defended by our Society, and in any case we have had, we have never come across a practical man as an inspector. I mention one case of a seizure of meat in the North of London, an inspector on being cross-examined said that he was a plumber by trade. Of course, he had been appointed for his knowledge of sanitary work in the way of plumbing, and drains, and so on, but he knew absolutely nothing at all about meat.

1621. You are talking now of inspection outside the meat market?—Yes; it is done in a very perfunctory way, they seem to do it spasmodically. Even my own shop, not my slaughter-house, is visited by the local inspector occasionally, but that may happen once in 12 months.

1622. I suppose they would be more particular in second and third rate establishments?—Undoubtedly.

1623. That, perhaps, accounts for your immunity?—Yes.

1624. Have you any improvement to suggest on the present state of things?—Of course, in London we have not suffered very much from being inspected at all, but in the provincial towns, in the course of my experience with the National Society, I know there have been great complaints as to the mode of inspection, and also as to the class of men appointed as inspectors, and it has been suggested that a jury of butchers would meet the difficulty, so that in a case of dispute it might be referred to a jury. That plan is at work in Birmingham, and I think in Leeds too.

1625. (Mr. Clare.) And in Liverpool?—Yes. I think it is there, and I rather think it is so in Hull too.

1626. (Chairman.) Do you happen to know whether those juries to which you refer are constituted under voluntary powers or statutory powers?—Under voluntary powers. I think the suggestion was made to the Birmingham Town Council and they fell in with the idea and accepted the position which the butchers desired to take up.

1627. Has the suggestion ever been made to the London County Council?—No, not that I am aware of. I do not think so.

1628. You are not aware of anything that would prevent under the existing law the adoption of that suggestion?—I should say there is nothing to prevent it.

1629. On the question of compensation, what is the feeling of your Society on that point?—They feel very strongly, that where an animal is seized in the public interest, that it should be fully paid for.

1630. Can you give us any instance of hardship to tradesmen?—Not in London. I have never heard of an animal being seized at a slaughter-house in London; I am speaking of private slaughter-houses.

1631. Have you known one seized in the Meat Market?—Personally I cannot say I have.

1632. Then the grievance, I take it, is not felt in London?—Not at all. A singular case has just occurred in Scotland, I forget the name of the town where a butcher bought a bull of a farmer by weight, and the farmer agreed to deliver it to the public abattoir to be killed. The butcher was to have it weighed there, and take it away. When the bull was killed, it was found to be suffering from tuberculosis, and it was seized. The farmer demanded the money of the butcher, and the butcher refused to pay. He said the animal was diseased and had not been delivered to him, but the verdict was given against the butcher. He was ordered to pay, but he appealed, and the Court of Appeal affirmed the decision of the Lower Court, and the butcher had to pay, and to pay the costs as well. That seems a case of very great hardship.

1633. Do you know to what extent that bull was diseased?—No; still, I suppose it was diseased badly enough for the inspector, in his opinion, to condemn it.

1634. Of course a good deal depends on whether it showed any outward signs of disease?—I believe it was brought out in evidence that it showed no outward signs of disease.

1635. There, again, you come to the question whether it might not be possible to have a uniformity of regulation with regard to the seizure of carcasses according to the degree in which they exhibited disease?—Just so.

1636. It is possible in this case that the inspector may have been over scrupulous?—Quite so.

1637. And that he might have condemned a carcass which might have passed?—Yes.

1638. Generally speaking, is it not the case that if any animal is so far diseased as to contain tubercles to a considerable extent in the muscles, it would show signs of disease before it was killed?—I should say

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it would, but I have known a case—I did not examine the flesh—which occurred at one of the county council asylums. I went down there on the sub-committee, and the steward asked me to go down to the slaughter-house. It is the practice there to keep a number of cows for milk for the inmates, and when the cows are out of profit they sometimes have them killed. This was as fine a cow as ever I saw, I should think weighing from 108 to 112 stone; but I never saw one so badly tubercled before; the only sound organs were the heart and the kidneys. The whole of the lungs, the liver, the spleen (which is generally free; I never saw one affected in the spleen before), the whole of the entrails and the internal fat, the loose fat as we term it, were one mass of tubercles. Both sides of the chest were badly graped, and also the walls of the stomach, and the diaphragm very badly. I had the man who had been looking after this animal up, and I said: "Now, did you kill this cow because she went off her feed?" He said: "No, sir, she fed perfectly well." This was on the Thursday morning that I was there. He said: "We killed her yesterday, and she was fed up to Tuesday morning." I said: "Did she seem dull or heavy when you brought her up to the slaughter-house from the house?" He said: "No, she jumped about, and jumped on all fours off the ground, and seemed as active and healthy as possible." Yet I never saw such a mass of disease in my life.

1639. What view do you take, first personally and then as representing your society, on the question of public abattoirs?—Personally I should be inclined to favour them, provided I could have an abattoir in the next street to my shop; but the trade generally object to go to abattoirs. There has been a very nice one built at Brighton within the last three or four years, but I believe it is entirely out of use now, although it is a very short distance from the centre of the town.

1640. What is the reason of that?—The butchers will almost rather give up killing, I think, than have the inconvenience. It is very awkward for the staff to go away, and then there is the risk of robbery and the loss of time in the carrying of the meat backwards and forwards. There seems to be a very rooted objection to it.

1641. There are instances in this country, are there not, or at all events in Scotland, of successful abattoirs?—Yes, I think so, but of course it is very difficult to treat London like a provincial town.

1642. Take a town on the scale of Glasgow—are you acquainted with that town?—No, I have not been to Glasgow.

1643. (*Professor Brown.*) I understood you to say that you had not met with many cases of tubercle in the muscle?—No, I have not.

1644. Do you happen to recollect any case at all?—Yes, I have seen it.

1645. Where it was quite certain that there was a deposit of tubercle?—Yes; but when you find it in the muscle it seems hardened and ossified as it were.

1646. Do you know that there does occur in muscle, and that it is not uncommon in some of the lower animals, an osseous deposit, a bony deposit, a small tumour?—Yes.

1647. Do you think it is possible it might have been a bony tumour?—Whenever I have seen it, it has been, perhaps, the size of a pea.

1648. It might either have been a deposit of the kind I have mentioned, or it might have been a degenerate hydatid?—I noticed it in an animal that I had noticed to be slightly graped, and, putting the two things together, I concluded that it was part of the same disease.

1649. Of course you are aware that that was a mode of reasoning which might lead you to a wrong conclusion?—Quite so.

1650. I mention that because I have only met with one case in my life of actual tubercle in the muscle. You said you thought that no harm would result from

eating the meat of tuberculous animals, unless the tubercle is very pronounced?—Yes.

1651. Have you any distinct idea as to what extent of tubercle would be sufficient to condemn a carcase, that is, assuming the meat was in good order?—No, I have not, and I cannot form any opinion.

1652. Might I take it that, if you found the meat thoroughly sound and of what you would call a fine quality, no amount of tubercle would lead you to condemn it. If you knew that all the organs in the body had been affected, and the meat was perfectly sound to your eye as a judge, would you pass it?—I should.

1653. (*Chairman.*) Take that extreme case of the cow, for instance?—I should not have passed one like that.

1654. Although the meat was apparently quite sound?—Apparently, yes; but it was such a very advanced case.

1655. (*Professor Brown.*) A very uncommon case?—A very uncommon case, in fact I suggested that it should be buried at once.

1656. Do you base your conclusion as to the effect of meat from tuberculous animals not being dangerous, excepting in very rare circumstances, upon the work which was done by the late Royal Commission?—I do not quite follow you.

1657. You must have some reason for saying that you do not think any harm would result from eating the meat of tuberculous animals unless the tubercle is very advanced indeed; I want to know on what grounds you have formed that opinion. Have you read the Report of the Royal Commission of 1890?—No, I have not.

1658. Then you would not, of course, know what the evidence was?—No.

1659. Then why would you conclude that, under any circumstances, the meat of a tuberculous animal would be injurious; on what evidence?—When I see it is in an advanced stage—

1660. Or in any stages, under any conditions?—In an advanced stage I should think the animal was very badly diseased, and I should think it might lead to injurious results.

1661. Exactly; but you have not any evidence, of course?—None whatever.

1662. You could not get any evidence so far as the human being is concerned?—No.

1663. And you do not know of any evidence in regard to the lower animals?—I do not.

1664. Have you any suggestion to offer which would probably lead to obviating that undoubtedly serious evil of which you have complained, the difference in the views of inspectors as to what meat is fit for food in regard to tuberculosis?—The only suggestion I have to make is to submit it to a jury of butchers.

1665. Do you think anything in reference to the selection of the inspector might have a good effect, I mean any test of qualification?—I do; I certainly think it would be a distinct advantage to have as an inspector a practical butcher, a man who had gone through the whole of the trade.

1666. Do you think that he would have a sufficient knowledge of the nature of a disease like tuberculosis to decide as to what would be dangerous?—Not from a scientific point of view.

1667. Then, presumably, if you could get a veterinary surgeon who had the practical knowledge of a good butcher you would prefer him?—I would, undoubtedly.

1668. Referring to compensation, I think you said that in those cases where an animal that has shown no signs of disease during life is nevertheless seized and condemned after slaughter, there should be compensation to the full value?—Yes.

1669. Have you any idea in your mind as to the persons or authorities who ought to pay the compensation?—I think the Government.

1670. You think that the Government should pay for an animal which was not slaughtered by their order?—Yes, I do.

1671. Do you think it is at all likely that the Government will agree to that proposal?—There was a deputation waited on Mr. Chaplin in the spring, I think it was, of last year, and he certainly seemed to lend a sympathetic ear to the representations of the deputation in that direction.

1672. You know, of course, that the rule in all legislation in reference to animal diseases is that compensation is paid when the animal is actually taken possession of by the authority and slaughtered, and that the authority which orders the slaughter also pays the compensation?—Yes, that is so.

1673. But in the particular case which we are dealing with now, nobody orders the slaughter except the owner of the animal?—No, but the local authority, or whoever orders the inspection, seizes the carcass, which amounts to the same thing.

1674. On the same principle, which I have said guides the legislation on this subject, the local authority who order the seizure or condemnation of the carcass ought to pay the compensation, ought it not?—No, I think it is more of a national question.

1675. Would you say that the local sanitary authority in Glasgow or Edinburgh, for example, or London, should implicate the Government to any extent which they happen to think fit?—I think so; but still, it would be a matter of indifference to me, as a butcher, as to who paid as long as I was paid.

1676. Exactly, it comes to this, that so long as the compensation is paid you would not insist upon any particular authority paying it?—No, not at all.

1677. (*Mr. Speir.*) Have you found any difference in the amount of disease at any time between bullocks from 2½ to 3 years old and heifers?—No, I cannot say that I have.

1678. As far as your own knowledge goes?—As far as my knowledge goes I have seen no difference.

1679. Then you put down the half fat condition in which many of the animals come to your market at the present time as being caused by agricultural depression; might I ask you whether the public taste for lean meat is probably not as much the cause of that as agricultural depression?—That may have some effect, but still, not to that extent, I think. Of course it is almost impossible nowadays to sell very fat meat; people will not buy it.

1680. Is it not a fact that your customers now wish much leaner meat than they did 20 years ago?—That is so.

1681. Therefore, is it not likely to be a result of that that farmers do not make their beasts so excessively fat as they did 20 years ago?—Still, there is a difference between making an animal excessively fat and making it so that it would rank as meat of the first quality. People like the lean of fat meat; it is the fat they object to.

1682. In one of your answers to the Chairman you said you never came across a practical man as an inspector?—No, I do not say that; I do not go quite so far as that.

1683. I think those were your words—I may have made a mistake in that, but presuming that a "practical man" were your words, what do you mean by that—a practical butcher or practical inspector?—A practical butcher.

1684. Then you also said that there seemed to be a rooted objection in the meat trade to public slaughter-houses?—Yes.

1685. Have you any reason to give which would account for that?—No, except what I said before, that the butchers do not like their staff going away from their premises, and would be much more likely to be subject to robbery and peculation. Of course, there is extra labour in the transport of meat from the abattoir to the shop. In a provincial town you cannot have an abattoir that is available or agreeable to every butcher.

1686. Is it the custom with you that your own men as a rule go and do all the slaughtering, dressing, and everything?—Yes, among the private butchers of London.

1687. That is always done?—Yes.

1688. If you had a public slaughter-house, and that class of labour was supplied entirely by the municipality, would not that to a certain extent get you clear of that difficulty?—No, that would not find favour with the butchers, because our own staff would be lying idle while we were paying for these very men to do their work.

1689. Could not your own staff be employed for the whole day in selling, not slaughtering?—No. In a trade such as mine, which is partly a cash and partly a booking trade, certain roundsmen who call on customers for orders of course find their duties terminate about the middle of the day—about 1 or 2 o'clock; if I had no killing and no slaughtering to do, they would be practically kicking their heels about the place and getting into mischief probably.

1690. You said that personally you had no objections, provided that the slaughter-house was in the next street; might I ask how far away the slaughter-house might be without causing you any great objection?—Anywhere within a quarter of a mile would be no objection.

1691. Presuming you had slaughter-houses, say in a city like London, half a mile to three quarters of a mile apart, that would give you a circle of about a quarter of a mile?—Yes.

1692. In that way it would be as convenient one way as the other?—Yes, I should raise no objection to that.

1693. In connexion with the condemning of animals, do you think it would be any convenience either to your trade or to the inspectors themselves if, from, say the Local Government Board or any other body, they had general instructions as to what should be condemned and what should not, so that both parties would have at least a rough idea of what might be the loss?—I think that it would be very difficult to give instructions on that point.

1694. Only with regard to tubercle I am speaking?—Yes, quite so; still, it would be, I think, extremely difficult to give any definite instructions of that character.

1695. I did not say "definite," I said rough instructions in a general way?—You might have one inspector who would think the carcass should be condemned, and you might get another who held a totally different view.

1696. I am suggesting these restrictions in order to get clear of that?—Then you want a court of appeal as it were. In our central markets there are many inspectors, and there is one chief inspector, and when one of the sub-inspectors makes a seizure or condemns any meat, if the salesman should feel that he was over-scrupulous in doing it, he would appeal to the chief inspector, who would arbitrate as to which was right. In some cases the chief inspector gives way on that point to the salesman, and says "No, I do not think there is any harm in this;" and then the meat goes forward for sale.

1697. In the present case the chief inspector is the court of appeal?—He is the court of appeal there.

1698. But where there is not a chief inspector, you think there should be a jury of butchers, or at least some other one?—Yes.

1699. (*Mr. Cooke-Trench.*) You talked of having a practical butcher or a veterinary surgeon as inspector, what amount of salary do you suppose would be sufficient for such a man?—A veterinary inspector and butcher combined do you mean?

1700. An inspector taken from one of those classes?—I think those in the market get from 3*l.* to 4*l.* a week.

1701. That is about 150*l.* to 200*l.* a year?—Yes; you would get competent men for that.

1702. Would you get a veterinary surgeon for that?—I cannot say.

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1703. How would you propose to apply inspection to the country villages?—That would have to be done, I take it, by the local authority for the centre of the district—the district council I take it.

1704. It would not be possible for a man to inspect all the cattle that were killed within a large radius; he would have to be pretty much resident in a place would he not?—Yes, he would.

1705. It would be then practically impossible for a village, where there was perhaps one butcher, to pay an inspector?—Quite so. I take it he would be paid by the district council, and would have a certain area just the same as an inspector under the Contagious Diseases (Animals) Act.

1706. Yes, but the inspector under the Contagious Diseases (Animals) Acts has only to travel to certain places where he is called upon?—Quite so.

1707. The other would have to inspect every animal that was killed, which would be daily, in each place?—Yes; that would be almost impossible to carry out.

1708. As to abattoirs, what is the staff of a public abattoir?—It depends on the number of cattle to be killed.

1709. I know; I do not mean the number, but the nature of the employés?—They are all competent men, they are practical butchers. Every man I suppose that is engaged in a beef-dressing slaughterhouse would be able to dress a bullock. Then they have "strappers," as they call them, who do the offal; clean the entrails and so on, of fat.

1710. Then I suppose there is some inspector there?—Yes.

1711. A public abattoir without an inspector would be practically no use for the prevention of disease?—No, not at all. There is an inspector, I believe, at Deptford, where, as of course you know, all the American cattle are killed; all the States cattle, all the Canadian cattle, and all the South American cattle are landed there, and killed there.

1712. Are the cattle in a public abattoir killed by the officials of the abattoir, or by the man who sends the cattle there?—By the men who buy them there.

1713. By the men who buy them there?—Yes, by what are termed carcase butchers. At Deptford, I suppose on account of its being a public abattoir, no private butchers go there to buy, and the business is in the hands of about 20 to 25 carcase butchers. There are not more than 25 buyers who ever go to the Deptford Market to buy cattle there.

1714. Do I misunderstand the nature of the public abattoir then, when I suppose it is a place to which a butcher, who has bought live cattle in the open market, sends them for slaughter?—He can do so.

1715. When he does send them there for slaughter is it he or his own servants who slaughter them, or the employés of the institution?—He would send his own men. Two of the salesmen or sometimes three of them amalgamate, and then keep a staff of men; they have them all under their own control.

1716. I want to ask you a few questions now as to compensation. Are you acquainted with the proceedings in the case of pleuro-pneumonia?—To a certain extent, yes.

1717. Who condemns there?—The inspector.

1718. Whose servant is the inspector?—He is the servant of the County Council at present.

1719. The County Council?—I am not sure whether it is the County Council or the Board of Agriculture.

1720. Can you name any other case, apart from food supplies, in which private property is confiscated without full compensation being made?—No, I cannot.

1721. In the case of food material; in the case, for instance, of tea, dry fruits, and such matters, they, I believe, are bought by sample?—Yes.

1722. Therefore a buyer of those has either bought a bad sample or has been negligent about seeing that the bulk was according to sample?—Or has been swindled.

1723. He is therefore culpable?—Yes, quite so, because he ought to know. Of course the bulk should be up to sample.

1724. The bulk should be up to sample, and it is his fault if he lets it pass?—Quite so.

1725. In the case of cattle that are apparently perfectly sound before they are killed, but afterwards turn out to have pleuro-pneumonia or turn out tuberculous, it is different?—Quite different. It is impossible to detect it in the live animal.

1726. It is impossible to detect it, and therefore, in that case, he is a perfectly innocent party?—Yes, the butcher is an innocent party and probably the vendor too.

1727. (Mr. Clare.) May I just ask you a question following on what Mr. Cooke-Trench has said about compensation; how much would you give for an animal that had tuberculosis if you had to buy it in the market?—Assuming that I knew it had tuberculosis?

1728. Yes; if you wanted to buy a tuberculous animal from a farmer, how much would you give him for it?—I should go expecting to buy an extremely low grade of animal, say an old cow that had gone out of profit and which would perhaps be worth five or six or seven pounds.

1729. Supposing that a farmer has a bullock which you can see, or which you imagine you can see, has tuberculosis, how much would you give him for it?—I would not buy it at all.

1730. Then it is not worth very much to him, unless he can get rid of the disease?—Quite so.

1731. You would hardly say, would you, that the County Council or the City Council, whichever it might be, had anything to do with that animal contracting the disease?—No, certainly not.

1732. So when, for the protection of the public and also to prevent the spread of disease among this man's cows, the local authority insist upon its being slaughtered, they are practically not confiscating property of very much value?—That does not always apply; in some instances animals that are valuable are affected with tuberculosis.

1733. Yes, but how much are they worth when they have got tuberculosis?—We buy them unwittingly. Many animals that I have given 25*l.* to 30*l.* each for have been found to be affected with it.

1734. I will take the case of the man who owns the animal to start with; he has an animal which contracts tuberculosis and he wants to sell it, and I understand from you that you would not give him much for it?—Certainly not.

1735. If at that period the local authorities step in and say: "For the sake of stopping the spread of that disease among that man's own cattle, and for the sake of stopping any possible danger from the meat getting into the market, we insist upon that animal being slaughtered, and its carcase destroyed," practically that would be taking nothing from the man that was worth anything?—No, but if I as a butcher bought the animal in good faith —

1736. I just want to take the case of the farmer first; I know there is no power of ordering the slaughter of an animal for tuberculosis, but I am assuming for the moment that it would be a beneficial thing if the law were altered so as to allow that to be done?—I should place tuberculosis on the same basis as pleuro-pneumonia. If you, for instance, were a farmer and you sold me this animal, which was supposed to be suffering from something that proved to be tuberculosis, then I think that that animal should be destroyed in the public interest, and that your herd should be subjected to a rigid inspection.

1737. In the case of tuberculosis you only want to destroy one animal, but in the case of pleuro-pneumonia you may possibly want to destroy the whole herd?—Quite so.

1738. Before they are affected?—It is very probable that you would find in testing a herd other animals affected with tuberculosis.

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1739. At any rate, I take it that you would hardly contend that a local authority ought to pay for an animal, which they require to be destroyed and which has a disease, the value of that animal assuming it had no disease?—No; that is looking at it from the farmer's standpoint.

1740. Yes, I want to get the farmer's position first. I will go in the next place to the case of the butcher who buys live fat stock where there is no appearance of disease, but who finds that an animal is diseased when he slaughters it; I understand from you that, practically, you would not hesitate to sell that carcass unless the animal was diseased to a very extraordinary extent?—That is so.

1741. Then what you contend is that if in a case like that the inspector chooses to condemn this carcass and have it destroyed for the sake we will say of a fad, then the local authority ought to give you as compensation what you paid the farmer?—Yes, that is so; I should be fully compensated.

1742. Could you yourself describe in writing the exact conditions under which you would condemn a carcass?—No, I could not.

1743. Is it not the result of your long experience that enables you to judge whether the meat is fit for consumption or not?—Yes.

1744. I think I quite agree with a remark that you made, that the inspector should be a practical butcher, or at any rate should have the experience of a practical butcher?—Yes, quite so.

1745. In your opinion, would an ordinary veterinary surgeon with, we will assume, the highest diplomas a veterinary surgeon can get, but with no practical experience of dead meat, be an advisable man to appoint as inspector?—Yes, I think so, but if in addition to that he had some knowledge of practical butchery, I think it would be a very great advantage to him.

1746. He would have to gain his practical experience whilst he was an inspector?—Quite so.

1747. You said that tuberculosis was more prevalent amongst stall-fed animals than amongst grass-fed animals?—Yes, that has been my experience.

1748. Do you mean by stall-fed animals, animals that have been wintered in sheds, as opposed to animals that have been wintered in open store-yards?—Animals that have been fattened in sheds. Of course, nearly all animals in this country have a shed or some protection during the winter months, although they are lying out. I think it is want of air and exercise that very frequently induces the disease.

1749. You are referring to animals that are fed in the country and not in towns?—Not in towns, but animals fed in the country.

1750. So that the question of light air and ventilation in sheds is a matter of great importance in this respect?—I think so.

1751. You referred, I think, to the case of Liverpool and Birkenhead, and you stated, incidentally, that meat which was passed by one authority would be stopped by the other?—Yes, I have heard so.

1752. I think there was a case, was there not, some time ago when the meat inspector in Liverpool was called on behalf of a butcher?—Yes.

1753. You have not heard of any other case though, have you?—No, not of any definite case, but, I think, it is a matter of general knowledge in Liverpool and Birkenhead that such is the case.

1754. Almost all the slaughtering at Birkenhead is at the abattoirs down by the river, is it not?—Yes.

1755. Where the American cattle land?—Yes.

1756. The meat would never get to Liverpool till it passed the Birkenhead inspector?—Not the meat that is killed at Birkenhead, but then there are other abattoirs in Liverpool.

1757. We have abattoirs and slaughter-houses?—Yes.

1758. I understand you are generally in favour of public abattoirs as against private slaughter-houses?—No, I cannot say that.

1759. From the local authority point of view, it would be more convenient for inspection, would it not, to have public abattoirs?—It would; but in that way only I think.

1760. Do you say that in London they do not inspect private slaughter-houses?—Only to a very limited extent.

1761. Then, practically, in London there is no protection by the local authorities against the distribution of diseased meat which has been killed in private slaughter-houses?—None whatever, I believe.

1762. Do they not inspect the shops?—Very occasionally; I said just now, in my own case, perhaps not once in 12 months, but the chairman suggested that the inspection might be more frequent in third or fourth-rate shops.

1763. Do you know that in Liverpool they inspect the public abattoirs and every slaughter-house every day?—I was not aware of that.

1764. And the shops two or three or four times a week?—I was not aware of that.

1765. That inspection could easily be done if the staff were increased?—Yes, but of course it would require in London a very large staff, and then you see the bulk of the meat that is sold in the London shops has already passed the inspection in the central markets, so there is a great protection in that.

1766. But the inspection in the market is not to pass as good everything that has gone in, but simply to condemn that which is found to be bad, is it not?—That is so.

1767. A diseased carcass might, for instance, slip the notice of the inspector by accident?—That would be an extremely rare instance, because no salesman would run the risk of selling a carcass about which there was any doubt. He is simply a weekly tenant of the Corporation, and such an occurrence as that would probably lose him his shop and his business.

1768. Have you found much tuberculosis among the cows that have been kept in the milk sheds in the town?—I have never killed any of those, but I know, as a fact, that it is much more frequently found in cows that have been kept in sheds in London.

1769. And that would coincide with your previous observation that stall-fed animals generally are more liable to tuberculosis than grass-fed animals?—Yes, that is so.

1770. If it should turn out as a matter of fact that little or no tuberculosis is found among animals that are kept in a town, and a considerable amount of it is found among animals that are kept in country districts, it would rather lead to the conclusion, would it not, that it is the condition in which animals are kept in the country districts that very largely is the origin of tuberculosis?—It would point to that.

1771. And that it is the wholesome and cleanly condition in which they are kept in the towns, to a certain extent, which causes their immunity there from the disease?—Just so; but, of course, in the towns there are very few animals that are fattened; they are simply cows that go out of profit and are fattened up as the best means of getting rid of them.

1772. (Mr. Cooke-Trench.) May I just ask you one question arising out of Mr. Clare's. Am I right in supposing that there is, on the part of the butchers, no proposal that they should be compensated for carcasses confiscated which had been obviously diseased before they were slaughtered?—No, I do not think they would expect that. I think it would be very unwise to give compensation in cases such as those.

1773. They only seek it in cases where they were perfectly innocent parties?—Quite so.

1774. And could not tell before the animal was slaughtered that it was diseased?—That is so; but if you see a man giving, perhaps, 3*l.* or 4*l.* or 5*l.* for an old cow, and claiming compensation —

1775. He should run his chance?—He should take his chance.

1776. (Mr. Murphy.) You were saying that for the purposes of inspection you would recognise the

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public slaughter-house as giving opportunities which cannot exist without it?—That is so.

1777. But that butchers would feel it an inconvenience in carrying on their business if they had to go any distance for the purpose of having their animals killed?—Yes.

1778. That would only affect, I suppose, a very small proportion of persons engaged in the meat trade in London, as the great bulk of the meat comes from the markets?—That is so.

1779. Many of the butchers have to send considerable distances to, say, Farringdon Market or Deptford Market to get their meat?—Principally to the London Central Market.

1780. I mean the trade as a whole has to go very much more than half a mile or three quarters of a mile for the purposes of its meat?—Yes; they do not regard that as an inconvenience.

1781. Why is that?—They have to attend the market to get some articles, and the man finds it cheaper to get the whole of his supply there. I think the private slaughter-houses in London are under 400 in number now, and as you know they are spread over a very large area.

1782. So far as the majority of the persons engaged in the meat trade is concerned, if those slaughter-houses were within some three miles or so would they increase the facilities for getting meat, even if all the private slaughter-houses were abolished; would they affect the larger number of persons engaged in the meat trade beneficially?—I hardly think that. I think butchers, rather than buy live animals and have the trouble of sending them to an abattoir and then getting them home again, would prefer going to a central market, although at a greater distance from them probably, to get their supply.

1783. Are you assuming that the cattle would be brought to their shops in the first instance, and then taken to the public slaughter-house, and then brought back again dead?—I take it that if you had an abattoir there would be lairage there, so that animals could be sent direct to the public slaughter-house.

1784. No doubt such an arrangement could be made?—Yes.

1785. And that would meet, to some extent, the inconvenience that they would otherwise experience?—It would to a certain extent, but I do not think that it would find favour in the trade.

1786. On the score of the inconvenience?—Yes.

1787. But apart from that, if all private slaughter-houses now ceased to exist, and proper provision was made of public slaughter-houses, there would be no difficulty felt with regard to the meat supply of London generally?—I do not think so.

1788. You are, no doubt, familiar with the evidence given before Dr. Brewer's Committee, in 1873 I think it was?—Yes.

1789. Then it was said that if there were no private slaughter-houses there would very often be no meat on Sunday in London; but those difficulties have entirely passed away, have they not?—Yes. Every butcher—it does not matter how small a way he is in—has a cooling room, either for cool air or for refrigerating by means of ice. In proof of that I may say that the business done in the London central markets on Saturdays is smaller than that done on any other day in the week; you may go there sometimes on a Saturday morning early and you might fire a cannon down the central avenue, and you would not hit anyone.

1790. Now take the cheaper meat—the food of the poor—I mean the offal; how far would the substitution of public slaughter-houses for private slaughter-houses affect that question?—I do not think it would affect it very much, but in the case of a butcher of the present time having a private slaughter-house, in the summer especially, there is not the risk of loss that there would be perhaps in having his animals slaughtered in an abattoir. It is really a matter of convenience.

1791. And does not go beyond that?—And does not go very far beyond that.

1792. (Dr. Thorne Thorne.) Would you kindly explain a little more to me what you mean by the voluntary surrender of meat in the market. My reason for asking is this, if you will allow me to put it to you, that, according to a Parliamentary Return in the two years ending March 1895, there were seized in certain districts which are named 17,092 carcasses, and yet in only 844 of those instances were the carcasses condemned by justices; you tell us that the general practice in the London market is for the salesmen voluntarily to surrender the meat?—Yes.

1793. May I ask you what business the 17,092 carcasses had in the market at all if the salesman is such a straightforward man?—Of course, a salesman cannot control the consignor. He is simply the consignee, and he sells on commission; the risk is with the consignor.

1794. How long does he keep these carcasses which are unfit for human food?—They are taken away immediately.

1795. By whom?—By the city authorities. I am speaking of London. They have a van, and, of course, it does not go before a justice of the peace at all; a seizure is made by the inspector, and he has absolute power to remove it at once.

1796. But you rather imply that the reason why it does not go before the magistrate is on the ground of a voluntary surrender?—No, that is not the reason that it does not go before a magistrate; it is because the inspector has absolute power; but a salesman, as I have said before, when he has a carcass brought into his place by the railway company and delivered there, if he has the slightest doubt about it, at once sends for the inspector, and the practice is to skewer it, and he skewers this meat as if it was sold until the inspector has seen it.

1797. Will you allow me to read to you what Dr. Sedgwick Saunders, the Medical Officer of Health of the City Meat Market, says? He says, in answer to Question 615, "As a rule he"—the salesman—"does not go to the inspector and ask him to come and look over his shop, although they take a great deal of credit for that." Then again: "I have been with him many times, and he 'the inspector' says: 'I want to look at that,' and it is taken and shown to him and examined, and if bad, put on one side till our porters, who have charge of the business, take it away out of the man's shop." Then he says, in answer to Question 623, "It is dressed in the ordinary way for sale, and it is cat's meat if the inspector goes there, but it is butcher's meat if you or I go there to buy." That is the opinion of the responsible head of the City Meat Market. He also states, in answer to Question 616, that meat of this sort which has been thus seized weighed in one year 341,000 tons. How, therefore, do you explain the voluntary surrender?—I am not a meat salesman, and I am not engaged in the market in any way, but I do not know of any firm there that would run the risk of doing anything of the kind that is suggested there. It would have been extremely easy for Dr. Sedgwick Saunders to have got a conviction in such a case as that, had he been so inclined; how is it that he took no measures to do so?

1798. I cannot answer for Dr. Sedgwick Saunders. We asked him the same question, and he gave the reasons which you will find in the evidence?—I entirely dissent from them.

1799. From his facts?—With regard to the surrender.

1800. Then you imply, I suppose, that people who send up meat to London, which, to the amount of 341,000 tons, is so bad that the salesmen voluntarily surrender it?—Yes, I should say in almost every instance.

1801. Then who is responsible for such a grave practice?—I cannot say.

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1802. Would anyone who did it be a man who should have compensation?—No, I should say certainly not.

1803. If Dr. Sedgwick Saunders is right when he says that it is cat's meat if the inspector does go round and human food if he does not go round, ought such a salesman to have compensation?—Certainly not. I would call in question the amount you state there, 341,000 tons.

1804. (*Mr. Speir.*) May I be allowed to make an explanation to the witness with regard to that? Dr. Sedgwick Saunders explained that a very large proportion of that was Australian and New Zealand meat, and that a whole shipment had been condemned at one time, which accounted for the largeness of the figures?—That is probably where the machinery had broken down on board the ship.

1805. Yes, where the machinery had broken down?—Dr. Sedgwick Saunders deals with meat coming to the port of London as well as to the markets.

1806. (*Dr. Thorne Thorne.*) Still, the meat was in the market?—It is never taken into the market at all in many cases.

1807. I am now speaking of the actual results that occur in the London Meat Market where food is exposed for Londoners to eat, of which 341,000 tons are voluntarily surrendered because they are too bad to be sold?—Yes; but then you must bear in mind that that is not all diseased meat, because in the summer time there will be, perhaps, 100 tons in a day seized because the meat has gone putrid and green. I do not know whether he differentiates between these cases.

1808. He does, but that does not cover his point where he says it is cat's meat if the inspector goes round, but it is butcher's meat if you or I go there to buy?—Then I think that he certainly ought to have proved what he says there, and I do not think he ever has done so. I do not know of any salesman in that market who would think of running such a risk.

1809. You said that you had seldom seen meat with tubercles in the muscle; and then again you said, "I have never heard of a case being seized in a private slaughter-house in London nor, personally, in the London Meat Market for tuberculosis"?—That is so.

1810. If that be so, again, I would ask you if that is your experience, and Mr. Field's is absolutely the same, and you and he are, as I assume you are, and as he stated he was, vendors of good meat, where does the element of compensation come in? You do not want to be compensated surely; you have never had such a case?—No. The argument for compensation in my case would be this: say, for instance, I went to the Islington Cattle Market, and I bought four or five bullocks, and when I killed those bullocks one should prove to be tubercled, and the inspector came in and seized it, and it was destroyed; then, I say, I should be compensated, because I bought the animal in perfectly good faith, and if it is seized in the public interest why should I bear the loss of it?

1811. How many carcasses pass through your hands ordinarily in a year?—I cannot say off-hand.

1812. Quite roughly?—Do you mean cattle only?

1813. I am speaking of the bovine race now?—From 1,500 to 2,000.

1814. If that is your experience with that large number, and it is Mr. Field's experience with 400 or 500 beasts every year, it is a very paltry matter; if you have never seen one and he has only seen, say, a couple, at least a very few in his whole life, where does the element of compensation come in?—Nowhere, except in the case that I point out.

1815. Which is almost problematical?—In my case it would be.

1816. And in his?—And in his probably so, too.

1817. Have you any idea as to the percentage of tuberculosis, however trivial, in bullocks in England and Wales?—I say, in my *précis*, that I should not think, so far as my experience goes, that it is more than 5 per cent., if that.

1818. When a butcher buys a beast he knows that he is buying a beast to which that small element of danger attaches?—That is so.

1819. Then why should he be placed on a different footing to a man who buys a barrel of figs and has it seized in front of the Mansion House and destroyed, because it turns out that he has bought a barrel of figs which in the centre of the barrel turn out to be bad? He gets no compensation; what is your position, as a butcher, in contrast to that man?—He has an opportunity of looking inside the barrel, and the butcher does not have an opportunity of looking inside the bullock.

1820. That is just what he has not, I believe. How can he get to the inside of a big barrel of figs?—I daresay he would buy from sample.

1821. I was going to ask you as to the sample; Mr. Cooke-Trench has been rather pressing the point of the sample. Does not buying by sample always apply to the wholesale business and not to the buying of a single carcass or the buying of a single article?—It would, to a certain extent, apply in that direction.

1822. Butchers do not buy wholesale, do they?—Many do.

1823. Wholesale?—Yes. Do you mean a retail butcher?

1824. You have answered my question; the butcher is a retail man, is he not?—Yes.

1825. What does the carcass butcher do?—Many carcass butchers buy 100, or 150, or 200 cattle in the course of a day. Of course a retail butcher would not, perhaps, buy more than 5 or 10.

1826. It is the retail butcher for whom you want the compensation, is it not?—Or the carcass butcher. He would probably feel it more than the retail butcher, because he might have the instances multiplied to a great extent.

1827. Buying from sample is a thing which is purely a wholesale transaction, is it not?—We never buy from samples, you cannot do it.

1828. Of course you cannot do it, but the comparison of buying from sample really applies to wholesale transactions, and not to a retail one?—I do not think it applies to meat at all.

1829. It cannot do, of course. Now, you were telling us, what is notorious I am sorry to say, that the Holborn experience has been one which it is difficult to use measured language about?—I say it was a disgrace to London.

1830. Now, with a competent inspector, that has disappeared?—Yes, it has practically disappeared.

1831. Is there any element for compensation there?—No, I should say not. I should think the bulk of the animals that were brought there were not killed in London, or were very rarely killed in London. They were brought in by little drovers or small dealers, who knew there was an outlet for this kind of thing there. You would see very often three or four country carts delivering this stuff there in the morning, and no doubt they were killed, practically, to save their lives.

1832. Now, we have been told that the greatest difficulty with regard to tuberculosis lies in the slaughter of dairy cows?—Yes.

1833. I should like to get your opinion on this. A man buys a cow for dairy purposes. He keeps it under the conditions which you admit, and everyone admits, are conducive to tuberculosis; it is stall-fed, the stall is warm, and even the food itself sometimes tends in that direction, does it not?—Yes.

1834. He gets all the money out of it that he possibly can, and then he sells it when it is useless to him as a milk producer and his profits out of it are gone. Why should he have compensation if, by his own action, which has been for his own personal profit, tuberculosis has been induced?—In the case of a dairyman he would go to a certain amount of expense in fattening that cow.

1835. For whose benefit?—For his own. But then, of course, he is not aware that it is not suffering or tubercled. He takes and sends the animal to

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market, and it is sold; the animal is feeding well up to the time it is taken from his shed, he is unaware that it is suffering from this disease, and it is only on being slaughtered that the disease is discovered.

1836. Could you tell me any other person who sells an article which turns out to be faulty and who asks for compensation because he did not know it was faulty?—If it was taken in the public interest I should say that he should be compensated in any case, if the animal would be injurious.

1837. Then you would compensate the vendor of fags in the City?—I can hardly give an opinion about that.

1838. But you would?—If a man knowingly bought those fags, say, at a ridiculous price, and there is no doubt they are sold so, then I do not think he should be entitled to compensation.

1839. But whole shiploads of articles are condemned, and they have been bought in *bona fides*?—That is, of course, at the owner's risk.

1840. Quite so; and why should the butcher be in any different position, that is what I want to get at?—I think it is a very great hardship that I should lose 25*l.*, say. In the instance I have given, if I buy an animal and give 25*l.* for it, and the inspector walks in and seizes it, why should I be the sufferer?

1841. Will you give me an instance in which you lost 25*l.*?—I never have.

1842. Quite so. You are perfectly content with the inspection in the City markets?—Yes, I think it is as perfect as it can be.

1843. And you are willing to abide by the judgment that is passed on the meat there?—Yes, I have never heard of disputes, except in rare instances, when, as I told the Chairman, the chief inspector is the court of appeal.

1844. Then it is in the provinces that the complaints to which you refer mostly arise, I suppose?—That is so.

1845. Could you give us, say, half a dozen instances in which a butcher has been mulcted in 25*l.*, when he has bought an apparently good article?—No, I cannot give you an instance.

1846. (Chairman.) I think we may assume that these cases do exist?—Yes, there are cases.

1847. (Mr. Cooke-Trench.) I think you mentioned the case of a cow which was skipping about just before she was killed?—Yes.

1848. Was that not a case in point?—Knowing that I should have bought that cow in actual good faith.

1849. (Dr. Thorne Thorne.) Was that cow seized?—No, it was killed at the County Council Asylum in their own slaughter-house there.

1850. That was a dairy cow?—Yes.

1851. In which case everything had been got out of it for dairy purposes before it was handed over to be killed?—Yes, and it was kept under as healthy conditions as possible.

1852. If it were practicable to get uniformity of inspection, much after the style that there is in the City of London, would that to a large extent satisfy the butchering trade?—I think so.

1853. Is that uniformity of inspection, in your opinion, practicable, apart from public slaughter-houses?—It would be an extremely expensive operation in London.

1854. (Mr. Clare.) Why proportionately greater in London than in any other town?—Because there is so large an area to be covered, and if you are going to do it as effectually as it is done in the market, there you see the thing is centralized, and of course, one inspector can do more than half a score outside.

1855. (Dr. Thorne Thorne.) You have a proposal before the County Council to construct certain abattoirs, have you not?—There is a scheme being propounded, but it has not come before the Committee at present.

1856. With public abattoirs and such reasonable uniformity of inspection as ought to be capable of being attained, this evil that you speak of ought to be

removed, ought it not?—Undoubtedly. I think the percentage of animals affected that are killed in London is extremely small.

1857. Then I may take it that your personal experience of the seizure and condemnation of a carcass on account of tuberculosis is practically nil?—In London.

1858. Have you experience outside London?—I have no such experience.

1859. Then your personal experience is practically nil?—Yes, that is so.

1860. (Professor Brown.) Do you think it likely that you would yourself buy an animal in the open market which would run any risk of being condemned, supposing that the inspector were to deal with it on the principle which you have stated you would act upon, of judging from the condition of the meat?—No, I do not know that I should.

1861. (Chairman.) Do not lead the witness into a trap, for he has already said that he would have bought that kicking cow; is not your last answer rather conflicting with that statement?—I say I should have bought it unwittingly. What I understood the question to be was that the risk that I should run in the class of animal that I buy would be extremely small.

1862. (Professor Brown.) Yes; that is what I was putting to you?—I think it would. That what I wish to convey, that the risk I should run in buying the class of animal I deal in would be extremely small.

1863. Supposing that it were the case that the meat were inspected on that principle, there would be very little confiscation?—Very little as far as my experience goes unless the inspector was an extreme faddist.

1864. I am supposing that the universal inspector were represented by the views which you have given us, and that he was judging as you would judge?—Yes, I understand.

1865. Then there would be no case where meat that is absolutely fine in quality and perfectly sound to all appearance would be condemned because the animal had tubercle?—I do not think so.

1866. Is it the case that meat of that kind is condemned?—Yes, I have not heard of it, as I say, in London, but outside London it is.

1867. A piece of sirloin may be sent for examination, and anyone who was a judge, on looking at it, would say it was a remarkably fine piece of beef, but he might be told immediately afterwards that the whole of the carcass, or the greater part of it, had been condemned in consequence of the animal having tubercle in one organ?—Yes.

1868. And that has happened?—I believe that has happened.

1869. That would not possibly happen if the principle were recognised that when the meat is perfectly sound and of fine quality, it is not unfit for human food?—I think it should not be condemned then.

1870. As to the fact of animals in an advanced stage of tuberculosis exhibiting no symptoms during life, do you know whether it is at all the practice for the seller to have the animal examined before he sells it?—I should think it is very rarely done.

1871. Do you know of an instance where it is done?—I have never known an instance where it has been done.

1872. Do you, as a practical man acquainted with the subject, believe that if that cow of which you spoke were examined by a veterinary surgeon, he would have decided that the animal was perfectly sound?—He might have done so, I cannot say.

1873. Do you think it is likely he would have passed a horse whose lungs were in that condition from tubercle or from any other deposit?—No, I should think that he ought to have found it out.

1874. Do you think it is probable he would have found it out?—Most probably, it was in a very advanced stage.

1875. When you say, therefore, that there are certain cases where animals exhibit no indications of tuberculosis during life, you mean that those are cases in which there has been no examination made by a competent man?—That is so.

1876. And it is probable, at any rate you would say, that if an examination had been made by a competent man that animal would not have been looked upon as a sound one, and if sent to a slaughter-house would have been sent by him with a suspicion of tuberculosis?—Yes, but I take it, it would be extremely difficult to diagnose tuberculosis in many animals that I have killed, because it was so slight.

1877. What do you mean by "slight"?—Just slightly graped on, perhaps, one side.

1878. With no disease in the lungs?—No disease in the lungs, and no attachment of the lung to the walls of the chest.

1879. No tubercle in the substance of the lung?—No tubercle in the lung itself.

1880. But those are not common cases, are they?—No.

1881. In the majority of cases where you get that large deposit of grapey material, is there not also disease of the organ on which the deposit occurs?—Yes.

1882. So that if it were the custom to examine the animal carefully, it would not be the complaint, as it is now, that animals which exhibit no symptom during life are, nevertheless, found to be extensively diseased after death?—Yes, that would be so.

1883. (*Mr. Cooke-Trench.*) How does a veterinary surgeon judge whether a horse is sound in the lungs—by galloping him?—I do not know; I am not a veterinary surgeon.

1884. (*Mr. Speir.*) In answer to Mr. Cooke-Trench, I think it was, with regard to who had charge of certain animals which are presently killed

under the Pleuro-pneumonia Act, you made reference to the County Council as likely to have charge of them. I think you were under a misconception?—I said either the County Council or the Board of Agriculture. I was not sure whether it was the Board of Agriculture or not.

1885. At one time it used to be the County Council, but for some years the Board of Agriculture have had that entirely in their own hands. Then, again, in connexion with this public slaughter-house business, would a public slaughter-house have any tendency to cause the introduction of, say, the carcass trade into London?—Of enlarging the number of centres where meat was dealt with in a wholesale fashion?

1886. I might put it in this way: Would that help to encourage the foreign meat trade as against the home meat trade?—Well, I think it would.

1887. What is your opinion with regard to that?—I think it would have that effect.

1888. Then there is another way of looking at it: Presuming that public slaughter-houses were erected, not only here, but in the provinces, would the tendency probably not be that English meat would be produced in greater quantity—killed in the provinces, and sent here?—Yes, I think very likely it would have that effect in the provinces.

1889. And therefore the introduction of public slaughter-houses would be a benefit to our own farmers, and no great disadvantage to the trade; that is, to the little traders you have referred to already?—No, I do not think it would.

1890. (*Chairman.*) I think your attention has probably been called to an answer given by Mr. Field to question 435; but perhaps you would look at it now (*handing print of evidence to the witness*)?—(*After reading the answer.*) That confirms what I have said.

The witness withdrew.

Mr. WILLIAM COOPER called and examined.

1891. (*Chairman.*) You are chairman of the Meat and Cattle Section of the London Chamber of Commerce, I believe?—Yes.

1892. You are also a member of the council?—I am also a member of the council of the same.

1893. And you are a member of the Common Council, and a member of the Cattle Markets Committee of the Corporation of the City of London?—That is so.

1894. You are also president of the London Central Markets Tenants' Association?—That is so.

1895. What is the character of that association?—It is an association amongst the market salesmen who are tenants of the Corporation, and I am their president. It numbers, I think, about 160—all the principal men engaged in the wholesale trade of London.

1896. You are also a tenant-farmer of Chapeltown Methlick, in Aberdeenshire?—Yes, I have been a farmer there for something like 25 years.

1897. And you are engaged in the Scotch meat trade?—Yes, I have been engaged in the Scotch meat trade for over 30 years—the dead meat trade, of course.

1898. May I ask in which of your many qualifications you come here to-day?—Whichever will be of service to you. Any information I can give you on any head or subject, anything that I know, I shall be very pleased indeed to give to the Commission. But I appear particularly at the request of the Meat and Cattle Trade Section of the London Chamber of Commerce.

1899. Have you any general views to state on the question before the Commission?—Nothing beyond what I have given you the outline of. At the outset of that I express my general agreement with the opinion expressed by the Royal Commission of 1894,

on page 12 of their Report, dated 10th April 1895, which is as follows: "We regard it then as established that any person who takes tuberculous matter into the body as food incurs the risk of acquiring tuberculous disease, and we know that this matter may be found in parts of animals affected by the disease." While, however, expressing this general concurrence, I am of opinion that in the course of the present inquiry it should be ascertained and recorded at what stage of the disease the flesh of the animal becomes impregnated and dangerous.

1900. Have you known many instances of the flesh of a carcass being impregnated with tubercles?—Yes. I had on my own premises a few months ago the carcass of an ox which was consigned to me from a village about 16 miles north of Aberdeen. When I saw the carcass in the morning, I thought to myself that it was a tuberculous carcass, but it did not show symptoms of adhesion to the lungs, nor in the other parts of the region thereby. It did not just at first sight appear as if it had been very bad, but it looked as if it were bordering on the first stage of emaciation, that is to say, as you looked at the carcass you could see that the bloom had gone off the bullock. I allowed it to remain there, and I would not think of disposing of it till such time as I had seen the inspector. I called the inspector, who was the head inspector, Mr. Territt, and I said to him that I had a carcass there that I should like him to look at. He had a look at it, and he said: "I do not see, Mr. Cooper, what we can do with that. It looks all right." In fact, I think, if one had not minutely examined the carcass, one would not have suspected it; for all the external portion, the outside of the carcass, looked very well indeed. I said I did not like the look of it at all. He said, "I think there is something here, let me have a knife." I gave him a knife, and he cut

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into some of the glands, and they were as badly tuberculous as anything I ever saw. They were full of tuberculosis. In fact they presented the appearance of what, no doubt, is common to the mind of many people, particularly in Scotland, because there it has a name, and it has been known for many years by the name of "grapes." I daresay, Mr. Chairman, belonging to that part of the country, you may, perhaps, be able to verify that. It just presented that appearance in the glands as if they were bunches of grapes.

1901. My question was rather more limited; I asked if you had known any instances of the flesh of the carcass being impregnated as apart from the internal organs?—The gland is not an internal organ, it is part of the flesh and is found in the flesh. The internal organs of all the animals are removed before they come into the market.

1902. My anatomical knowledge is deficient, no doubt?—Those glands are situated in the flesh. There are several glands in the flesh of the animal; there is one particularly in the hind-quarter, and there is another very large one in the fore-quarter. Both those glands were cut open and both those glands were just as full of this tubercle as ever they possibly could be.

1903. That was an exceptional instance?—That was a very bad case, there is no doubt of it.

1904. That carcass you would not dispose of, I understand?—That carcass was then condemned by the inspector of course. I may say in connexion with that, that I could give you the history of that carcass if it would be of any service to the Commission to know the history of it, because the history of it was traced out by the Chief Constable of Aberdeen at the request of the Commissioners of Sewers.

1905. What kind of animal was it—a bullock?—A short-horned bullock.

1906. Was there anything remarkable in its history?—Only that it ought to have been known by the man who slaughtered it, because there was no question that the internal organs must have been very much diseased indeed. It ought to have been easily seen by the man who slaughtered it that it was not fit for human food.

1907. Did the loss in this instance fall upon you?—No, it fell upon the sender. I do not deal with anything belonging to myself; I am entirely a commission salesman. I only sell what is consigned to me, and I have nothing of my own property to sell.

1908. Then it would fall on the butcher?—It would fall upon the owner—in this case the farmer. He sent this animal to a man in the village of Inverury, who charges so much per head for killing and consigning animals. I think he charges something like 2s. or 2s. 6d. per head. The farmer simply sends the bullock to him. This man slaughters it; he employs his own packages, and consigns the carcass to me, and returns this man my account sales, charging so much.

1909. Do you think that is a case in which there ought to be compensation?—It depends entirely upon how far the Commission are prepared to go with compensation. If the Commission would say that in the public interest all carcasses of all animals that are found suffering with tuberculosis should be destroyed, then of course this would come under that head. But this was not an animal bought by a butcher in market overt; that, I think, is a case which ought to be entirely paid for, because it would be impossible for anyone to see that it was diseased. It is a great hardship that a butcher, or anyone buying an animal according to the fair and proper market usages, without being able to see anything the matter with the animal when it is alive, should suffer. He buys it, it may be by auction, or in any other way, by private bargain say, in the open market, and when he gets it it is slaughtered, and the animal is found to be tuberculous, and the carcass is seized and destroyed in the public interest; I think that that is clearly a case where compensation ought to be paid. I think that I have mentioned that in a paragraph of my

outline, which perhaps I might read: "Witness believes that it is generally admitted that in the public interest the carcasses of animals suffering from advanced tuberculosis should be destroyed, and is of opinion that the disease should be dealt with by Government authorities, and that herds and stocks of cattle in which the disease has been found to exist should be inspected, the diseased animals slaughtered, and the owners compensated as in the case of pleuro-pneumonia; that butchers buying cattle in market overt should be compensated in like manner for tuberculous carcasses seized and destroyed." I am strongly of opinion that the present condition of things is nothing else than a premium for concealment all round. I think that that must be very apparent, because you must all know very well that farmers can ill afford to slaughter their valuable herds, even in the public interest, and that the present way of conducting this matter is a premium for every person to conceal that he has got such a thing as tuberculosis in his herd.

1910. To revert to that carcass of which you have just described the history, had you not sent for the inspector what would have taken place?—I should not have sold it, I should have been obliged to send for the inspector; that is the usual course of our trade. When we have anything that we have the least suspicion of, we send for the inspector before ever we sell it. We should not think of selling anything that we had any idea was at all likely to be diseased in any way; in fact, without that system, without that co-operation on the part of the meat salesmen in the central markets of London, I am certain that it would require five or six times the number of inspectors to carry out the work that is now carried out there. I do not think it would be possible at all to do it without the hearty co-operation of the salesmen engaged in the market.

1911. Then you probably do not endorse the views expressed by Dr. Sedgwick Saunders before this Commission?—I do not know what those views are.

1912. At Question 615 Dr. Sedgwick Saunders was asked whether it was felt to be a hardship by the trade that no distinction was drawn between the surrendered meat and the seized meat. "That is a fiction" said Dr. Saunders; "it is surrendered in this way: An inspector goes into the stall or the meat salesman's shop, and when either of these sees him they say 'We want to show you something.' But, as a rule, he does not go to the inspector and ask him to come and look over his shop, although they take a great deal of credit for that. In some cases where the thing is a nuisance they do come." Then, again, in answer to Question 623: "The man who sells the meat, not the absolute breeder, but the butcher who consigns it, we proceed against him if he has guilty knowledge. If a butcher says to his salesman, 'Here it is, if it is good enough, mark it cat's meat,' but it is dressed in the ordinary way for sale, and it is cat's meat if the inspector goes there, but it is butcher's meat if you or I go there to buy. We get again and again tricks of that kind?"—That is absolutely and categorically untrue. It is evidently put forward to mislead the Commission regarding it. I would tell Dr. Sedgwick Saunders if he were here that he knows nothing at all about it if he makes such observations as that. I must tell you that Dr. Sedgwick Saunders does not visit the markets. I have never seen him there during the hours that the market is carried on, and, therefore, any information that Dr. Sedgwick Saunders has must be second hand. The inspectors would never be able to carry out the duties of their inspection without the hearty co-operation of the salesmen. I repeat that, and I hope it will have as wide a circulation as Dr. Sedgwick Saunders' remarks.

1913. And as a rule they get that co-operation?—They do get that co-operation, and they admit it. I would not have any doubt of finding evidence of it. I am not aware of what Mr. Territt said, but I should think Mr. Territt would have admitted that.

1914. Mr. Territt's evidence has been printed, and it is rather too long to go into now; but if you would like to look at it before leaving the room it is much at your service?—I might read what I have got here regarding the meat inspection of the central markets: "Witness desires to state his view that in the London Central Market, under the Corporation of the City of London, there is a most efficient system of meat inspection, which renders it practically impossible for any advanced tuberculous carcasses to reach the consumer. The inspectors are all men who have a practical experience of butchering, besides possessing veterinary knowledge, and are therefore most competent to deal with cases that come under their notice. There is also a most competent chief inspector, to whom appeal is made when necessary. Witness considers this most important, as in many towns and districts (including even parts of London) the meat inspectors are, as a rule, sanitary officers who have been chosen for their knowledge of general sanitary matters rather than their practical acquaintance with meat. In such places, witness is of opinion that there should be an appeal from the inspector to a jury of experts, because the medical officers of health, under whom the inspectors act, as a rule have little practical knowledge of meat in carcass, and are too often entirely guided by the inspector. Witness further considers that compensation should be given to the owner of tuberculous carcasses seized, where a chief inspector or a jury of experts certify that the disease was not apparent in the live animal."

1915. Now, to go to another point; have you any views on the question of public abattoirs?—Yes, on the subject of public abattoirs versus private slaughter-houses, I say: "Witness desires to point out that the question of meat inspection and the detection of tuberculous carcasses are closely connected with the arrangements for the slaughtering of animals, and is well aware that the establishment of abattoirs and the abolition of private slaughter-houses has often been advocated as the best means to the perfect inspection of carcasses. This view, however, witness does not advocate. In his opinion the abolition of private slaughter-houses and the substitution therefor of abattoirs would be a most serious loss to the poor, more particularly in large cities. It has been found in many towns that on the establishment of abattoirs retail traders have ceased to slaughter."

1916. Can you name one of these towns?—Brighton, I believe.

1917. Do you speak from your own knowledge?—Yes, I think so.

1918. From your personal knowledge of the state of the trade in Brighton—I do not wish to traverse anything you say, only we shall, perhaps, be able to get the evidence from Brighton more directly?—I will tell you where my information comes from. My information comes from evidence which was given at a meeting of the Trades Section of the Chamber of Commerce, by some of the members present, who evidently had personal knowledge of it.

1919. Has the Brighton abattoir been largely used?—I think, perhaps, it would be much better if you would leave that question until such time as you read a circular which I have sent in.

1920. I have read it?—That is a circular which was issued by the London Chamber of Commerce some time ago.

1921. But even there the statements are rather general?—The statements are general, but each and every one of those statements is founded on fact, or else it would not be there.

1922. I want to get at the facts?—You will have no difficulty at getting at them, not the least. I think Brighton is one of those places.

1923. Has the public abattoir at Brighton been largely used by the trade?—My information is that it was used in the first instance a little, but not much, and now that it is nearly useless, and is not used.

1924. Then it has not had much effect upon the supply of meat to the poor. I understood your statement was—indeed, I have it before me—"the abolition of private slaughter-houses, and the substitution therefor of abattoirs, would be a most serious loss to the poor"?—That is so.

1925. "More particularly in large cities"?—Yes.

1926. And then you gave Brighton?—I gave Brighton because you asked me to fix a place. You said, "Did I know of any place myself," and I said "Brighton." The reference here to the good of the poor is not to the meat, it is in the offal part that the serious loss would be. I am particularly talking of London in this context. London is a very large place, and a slaughter-house to a butcher, regarded as a butcher, would be of no practical value to him if it were a very long way away from his own business premises. For instance, I should think anything exceeding half a mile would render his offal of very much less value than if it were at his own slaughter-house. But on that point, such a witness as Mr. Haydon, who is a practical butcher—and I am not—would have been able to have given you better evidence with regard to the loss which the offal would sustain in abattoirs than I would be. There is another very important thing which I should like to consider in connexion with abattoirs, and that is this. At the present moment, here, in London, the private butcher—and I talk of a private butcher in opposition to what we call a carcass butcher, who buys wholesale only—buys of the English farmer. He buys so many bullocks—four, or five, six or more: he goes to the cattle market, and buys his weekly consumption, or his half-weekly consumption, of bullocks; he takes them home to his own slaughter-house, and he kills them as he may require them, three or four in the early part of the week, and the rest towards the end of the week, whatever would be his week's supply. If public abattoirs were established, I give it as my candid opinion that that man would cease to kill. He would find his offal deteriorated in value by being sent to an abattoir where a large number of other animals were being killed. There is always a very great objection to that on the part of these men, because you see butchers, as a rule, kill these things by their own men, and sending their own men to the public abattoirs, and so on, would be a very serious objection, so I am sure that the butchers would not kill. They would be contented to go to the Central Meat Markets, and buy their stuff dead.

1927. And that, in your opinion, would favour the foreign trade?—I am certain that that would be so—undoubtedly. The English farmer at this present moment, so far as London is concerned, is virtually driven out of the trade. I should like you to consider that. If you were to go to the Islington Cattle Market, you would find that there are a few bullocks there, but that they are principally bought by the retail butchers. The large carcass butchers of London do not purchase those animals, because, if they did, they would have to come into competition with the animals which they purchase at Deptford, and they could not possibly compete with them dead. If you were to shut up the private slaughter-houses, you would take away the whole demand, or nearly all the demand for the English cattle. It is the English farmer who continues to send a few bullocks to the London market who would suffer. He is practically now almost, in fact I might say entirely, driven out of the Central Markets. You could scarcely find now, on any one day in the Central Markets, any considerable quantity of English beef. He is practically driven out of that trade entirely by the foreigner. The only persons that, up to now, are able to compete successfully, or do compete successfully, with the foreigner, are the Scotch people, who consign dead meat from Scotland. They continue to do so. That is my candid opinion regarding abattoirs. I think that the only thing that abattoirs have got to recommend them is the ease of inspection; they are very easy to inspect. But all the public bodies in London have the *entree* to every

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slaughter-house that there is in London, and there can be no reason why the inspection may not be carried on perfectly. They have the *entrée*; it may not be quite so easily done as if the carcasses were gathered together, but there is no reason why it should not be done effectually. In my outline I say further, "In witness's opinion, the improved condition of private slaughter-houses, and the stringent regulations and supervision now enforced regarding sanitation, by the local authorities, leave little or nothing to be desired." I think myself that within the last few years there has been a very great improvement in the condition of private slaughter-houses, and in fact in all slaughter-houses, public and private. Since public bodies have had these matters in hand, it has been very much improved indeed, and I think now, regarding sanitation, there is very little indeed to find much fault with.

1928. (Dr. Thorne Thorne.) How many carcasses pass through your hands in the year?—I could not tell you that.

1929. Could you state it very roughly?—I could give you a little information.

1930. I will limit myself to the bovine race, please—I am not talking of sheep?—I do not deal very largely in ovine, it is principally bovine. In the two days preceding Christmas I sold a little over 64 tons of beef, the whole of which was consigned from Scotland. I have no record of how much that would amount to in the course of the year.

1931. Have you roughly any idea of what you sell in the year?—No, I have not.

1932. Anyhow, may I take it that it would be some thousands of tons?—Yes.

1933. In how many instances have you had a carcass condemned on account of tuberculosis?—Very few.

1934. Could you tell me in how many instances?—No, I could not tell you how many instances there were—they occur very rarely.

1935. It is probably a difficult question to ask you, but are you very superior to other butchers in the class of article you sell to the public?—Scotch beef is superior to any other.

1936. As regards tuberculosis?—No. You said "superior"; I did not understand you.

1937. I am asking you further, is it superior as regards tuberculosis?—I do not understand what you mean by "superior."

1938. Is there less tuberculosis in the Scotch beef than in other beef?—I should think not; I do not think there is less. I should be inclined to think that there is less in foreign beef than there is in Scotch.

1939. Then, so far as your own experience is concerned, there is extremely little hardship in the present system of condemnation for tuberculosis?—I think it is a very great hardship.

1940. Will you give me the amount of hardship you have suffered?—I have suffered no hardship myself.

1941. I said, as regards your experience, the hardship is very trivial indeed?—Yes, but that may be exceptional, in this way: you see, if an animal is slaughtered in Scotland, and the man sees it, he would not be likely to send to London a carcass that was bad. It is well known indeed, everywhere, how very rigorous our inspection is, and so, bad carcasses would rarely come under my observation. You see my carcasses are all consigned to me, and, therefore, they must have been seen by the slaughterman, and so on, before they are sent; so it would be very likely that the bad cases would not come to me.

1942. Does that not apply generally to the salesmen in the London Meat Market?—It would, undoubtedly, to all those that sell dead meat.

1943. Then there is no hardship, I gather, as regards the London salesmen in reference to the condemnation of tuberculous meat?—Decidedly there would be; every carcass that is seized is a hardship;

if it could not be told when it was alive that it was diseased, that would be a hardship most undoubtedly.

1944. Yes, but if you and the London salesmen are on an equality in this matter, and you have suffered no hardship in the matter, what is the hardship?—There are other carcasses that have been seized. If you would ask the question of the inspector of the market how many carcasses he seizes in the course of the year for tuberculosis, he would be in a better position to answer that question than I am. Every carcass that is seized is a hardship, provided always that it was impossible to tell when the animal was alive.

1945. We have the evidence of the inspector before us. Now, with regard to that point—the impossibility of judging when the animal was alive—you gave us an instance of a carcass coming from a village north of Aberdeen, did you not?—Yes.

1946. Would it not have been possible for the vendor of that carcass to have known perfectly well, if he had exercised a little observation, whether that animal was diseased or not?—No doubt.

1947. Then why should the public suffer by giving him compensation because he does not apply to a bullock the same precautions that he would apply to a horse when he purchases it?—In this way. It would be for the public interest that all such animals as that should be slaughtered, and their carcasses destroyed in order that the disease might not increase. In this particular instance that man was very careless, and gave no information. I am not aware—probably you are—what the penalties would be in the case of pleuropneumonia if a man had an animal and gave no notice of anything, and allowed the disease to spread. That man would be liable to pains and penalties, and I do not see why such a case as this is any more deserving of consideration. The reason why the public should have these things destroyed is in order to get rid of the disease, if possible. Every animal that lives and has this disease tends to spread it; and, therefore, it might reach the public by some means.

1948. In what way do you differentiate that from the seizure which takes place every day of large quantities of fish, which have been purchased in the market by men who are only able to see the few fish at the top; they have given a good price for it, in good faith, but it is seized and condemned afterwards, and they do not ask for compensation?—The adage applies to them *caveat emptor*. It is impossible that *caveat emptor* can apply to a butcher, because he cannot see inside a bullock. It is sheer carelessness or the want of business capacity on the part of a man who buys a basket of fish, if there are two or three good ones on the top, and the others are inferior. If he gets bitten once on that, he will be more careful next journey.

1949. Are you correct? Cannot a man, if he takes anything like the ordinary precautions, detect that a bullock has got disease, by simply asking an opinion in the same way as when he buys a horse?—A bullock is driven into a ring to be sold by auction, and it is perfectly possible that a man who may have never seen it before is now going to bid for it; do you mean to say that he can take an expert's opinion there and then, and that the auctioneer would wait until he did so?

1950. I am not contending anything; I am only asking you what you suggest?—It is an impracticable suggestion, and it could not possibly be carried out into practice. A man buys an article in open market, and unless it is in a very advanced stage of the disease he cannot tell. I am not an expert at veterinary science, and, therefore, my opinion would be of no value to this Commission, but from what I have read I believe that in the early stages of the disease it is impossible to detect it; and I think I may even go further than that, and say that cases have occurred where animals have been killed even from the show-prize animals—and have afterwards been found to be very bad indeed with tuberculosis. So, that, although the disease may be apparent in some cases, there are,

very evidently, others where it is not apparent, even in the advanced stages.

1951. Could you say whether the flesh of any of those animals was condemned for human consumption?—I think that is so, but I could not give you my own personal knowledge that that is so.

1952. We have had three gentlemen only in your business before us, and I have asked each of them—Three gentlemen in my business; might I ask their names?

1953. Mr. Field, Mr. Haydon.—Neither Mr. Field nor Mr. Haydon is in my business.

1954. Then I would rather say gentlemen who sell carcasses or meat?—Mr. Haydon is a retail butcher, and so is Mr. Field; I am not a retail butcher, and never was. I do not understand retailing, and I am not a butcher by trade.

1955. I mean as regards seeing carcasses; they purchase carcasses by the thousand?—Perhaps.

1956. And you purchase carcasses?—No, I do not.

1957. Well, carcasses pass through your hands?—Yes, quite so.

1958. Neither of them has been able to give us any evidence whatever of any hardship, so far as they individually are concerned; they have neither of them had more than one or two cases in which there has been any seizure with regard to tuberculosis?—Probably not.

1959. Then where does the hardship arise if a man takes the precautions which you and they take, or which you, they, and the persons who send you meat, take?—Undoubtedly it must be a very great hardship to a man, and I believe that it frequently occurs. It is not a solitary instance, once every two or three years, that a man buys at an auction an animal which is found to be tuberculous afterwards, and the carcass of which is condemned. I believe that there are many instances of that sort of thing, and that surely is a hardship when it is impossible to tell that the animal is diseased. I think that it can be proved to demonstration that it is impossible to tell; I have never heard it asserted, and I have never read that it has been asserted, that it is possible to tell with any certainty a tuberculous animal when you see it.

1960. But you cannot, I understand, so far as your experience goes, with thousands of carcasses, give us instances in which you have suffered on account of the condemnation of a carcass which has come to you?—No, I have never suffered, but some of my senders have suffered. I have not suffered personally.

1961. I thought you said you had only a very few instances in which it had ever occurred?—Quite so; they are a few instances no doubt.

1962. They are very few and far between?—I have told you the reason why they are few. I have no doubt that some of my senders who are very large dealers in the wholesale trade have suffered themselves. They do not send a diseased carcass to me; you see when they slaughter those animals they discover the disease and they would not be likely to consign that to London because they know what rigid inspection we have, and what penalties would be visited upon people who permitted such things to take place. That deters people from sending that sort of thing to London.

1963. You were suggesting that the compensation should be in like manner as in the case of pluro-pneumonia; may I assume that you know that there is a very great difference between the two; that in the case of pluro-pneumonia the compensation is given because absolutely healthy animals in a herd are slaughtered with a view to preventing the spread of infectious disease not to man, but to cattle?—I am perfectly aware of that.

1964. Then they are not parallel cases?—No, I think this is a very much more serious case; to infect men is surely a more serious case than to infect cattle, whatever value there may be in it. Money value could not at all recompense that infection, and if it is true, as I have no reason to doubt, that it is possible to infect the human animal from the bovine, I think

it is far more necessary to destroy and compensate in the one case than it is even in the other.

1965. But in your experience the thing has hardly ever happened. You have never had, or hardly ever had a carcass of that character?—That I told you is no reason why I should say it never happened.

1966. No, and I do not say it never happens?—I thought you said that I said so, but I did not say so.

1967. In your own experience I said?—I have not had a great many pass through my hands, but I have given you the reason why.

1968. You were saying that it is rather a premium on the concealing of tuberculous animals, that there is no compensation?—Certainly, that is my opinion.

1969. Would it not be a premium on the careless purchase of diseased animals if the butchers knew that for every animal that was found to be tuberculous, the State or anyone else would compensate?—No. This would doubtless be guarded by precautions—necessary precautions. It would not do to just offer a premium or anything of that sort. For instance I could easily establish a case where there might be collusion; cases of that sort ought to be guarded against there is no doubt.

1970. How could you safeguard it if a man said: "I bought this *bonâ fide*"?—That is not a question of one's statement; that would be a question of fact as to buying a thing in market overt. That is a question of fact which would be very easily determined, and there could be no possible difficulty about that.

1971. You think safeguards could easily be established?—I think so; I do not think there would be any difficulty. That is a question of detail.

1972. You have experience in London; we find with regard to the Commissioners of Sewers for the City of London that in the two years ending March 25th 1895, there were seized by the Commissioners 9,983 carcasses —?—That would not be beef.

1973. No, carcasses; but that in only 17 was there any need to go before the justices to have the condemnation verified and enforced?—That is so in this way. Where an inspector sees a carcass which he considers the owner would have a guilty knowledge of, and he thinks it would be advisable to make an example of such a man, he takes it then before a magistrate and has it condemned, but these are solitary instances, of which you have the proof before you.

1974. The remaining 9,966 carcasses that were not condemned before a magistrate were, as we understand from the authorities in the Meat Market, exposed for sale?—The authorities in the Meat Market?

1975. We are told that they are laid out for sale on the stalls; in fact, I suppose they would not be there if they were not put there for sale, would they?—The legal verbiage is of course as you have described it. When a man is summoned for that sort of thing, it is for "depositing for sale," which are the words of the Act under which he is to be punished. I will tell you how it happens; I will give you a little illustration of my own business, and you will be able then to gather exactly what is meant by being "exposed for sale." The railway companies deliver all our goods at the very early hours in the morning, beginning probably at 12 o'clock midnight, and continuing up to four; the great bulk of my consignments would be in my place by four o'clock. They all come wrapped in cloths, the whole of the cloths would be removed by my men, and when I arrive the whole of the consignments would be there exposed to my view; but I would be there before any buyers would be there, and it would be my business to see that there was nothing there that was unfit for human food. If there was I should place what I consider a mark upon it, and I would not sell it to anybody until such time as I had satisfied myself through the inspector that it was fit for human food. So that I do not think there is any pretence for saying that all that quantity of meat which was there seized was exposed for sale. If it were sifted out, and you could easily get those figures if they would be

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interesting to this Commission, you could see what great bulk of it was for; it might have been for some large cargo of foreign meat that had gone wrong in the transit, which we have had a very great deal of lately. There was one vessel I think arrived in the London Docks during the middle of last summer and there was an enormous number of thousands of sheep all seized; there was not one of them fit for human food. They had either gone wrong on the voyage, or they had gone wrong after they had arrived at the docks. That would, of course, very much add to the weight of meat seized, for another thing, during the very hot weather in the summer, sometimes there are very large quantities of meat which become putrid during transit to London; also meat may become putrid even in connexion with the trade, while it is being carried for instance from Deptford to London. It might be possible that those figures might include that.

1976. Dr. Sedgwick Saunders gave us that instance that you speak of, namely, that of 40,000 sheep from New Zealand. Then your point is, as I understand it, that "exposure for sale" is rather a technical term than a reality?—Yes, quite so.

1977. Then supposing a salesman finds that he has a large amount of meat which is unfit for human food, has he any way of getting rid of it before an inspector comes round?—Certainly not.

1978. Then he must wait until the inspector comes round?—I do not think there is any "must" about it, but he does do so. Of course a dishonest man might find ways and means of getting rid of it.

1979. Has he any means of getting it destroyed apart from the inspector?—None whatever.

1980. So that in that case, he must wait for the inspector?—Decidedly so; not only that, but if it is very hot weather, and there is a very large quantity waiting to be taken away, he must await the time that the inspector can eventually remove it.

1981. You do not, as I understand, advocate public abattoirs?—I do not.

1982. One of your statements was that the only advantage that you saw in them was the ease of inspection?—That is all.

1983. There was a large deputation of butchers to Mr. Chaplin some time ago?—I was with them.

1984. And one of their principal contentions was that they demanded uniformity of inspection?—Agreed.

1985. Do you not think that one of the immense advantages of public abattoirs would be that uniformity?—No, I do not.

1986. Why not?—Because I do not see that there would be any uniformity then. What certainty should I have that an inspector at Liverpool would act upon the same principles as an inspector at London. That would not produce uniformity. What I suggest here would produce uniformity, namely, a jury of experts appointed by some municipal body that would be a court of appeal in the event of any difference of opinion. That would make uniformity of inspection.

1987. Do you think that the several juries in the several boroughs in England would all go upon precisely the same lines?—I think so, because they would generally be people who had a technical knowledge of meat in carcase. You see the great difficulty at this present moment. Take, for instance, any place you like, Lambeth, or any parish in London, there is an inspector there, he may see something in a butcher's shop which he regards as unfit for human food. He brings it before the medical officer. Medical officers, as a rule, have very little experience indeed in carcasses; their scientific knowledge would give them a knowledge of the entrails of animals, but it would give them very little knowledge indeed of that sort which would make them experts of meat in carcase, so you see the medical officer acts almost entirely upon the evidence of his inspector, and when they go before the magistrate, the magistrate does not pretend to any knowledge.

He simply accepts the evidence which is before him and he condemns according to the evidence. Then a difficulty arises immediately, the evidence is gone the next day; if it is hot weather, that meat has become putrid, and the evidence has all gone, and there are only the statements of the two men; you cannot get any other evidence because the article itself has gone bad and it is impossible to bring it into evidence. The jury of experts would end all that.

1988. You are giving us an instance now of the inspection of private slaughter-houses, are you not?—No.

1989. Not in Lambeth?—That did not refer to private slaughter-houses, but to butchers' shops. I said a man might seize anything, no matter where it might be, in a slaughter-house or a private shop.

1990. It would not be in a public abattoir?—No.

1991. On the other hand, you have told us that in the London public abattoirs there is nothing to complain of, that the inspection is uniform and sound?—I have no doubt it is so. Why? In London acting under the Corporation, no inspector is appointed unless he has a thorough practical knowledge of butchering. I think you will find in the list which you, no doubt, are supplied with, the occupations of the inspectors; it is in the Return which was obtained by Mr. Field, that London is nearly the only place, and when I say London, I am talking about the City of London, because they are the market authority, where it is one of the conditions under which these men are appointed that they should have a practical knowledge of butchering.

1992. And is that not just one of the great advantages of a public abattoir as opposed to the inspection of private butchers' shops?—There need be no advantage in a public abattoir in the matter of inspection. The public bodies have the entrée to every slaughter-house that there is in London, and if they do not choose to do their duty thereby, that is no reason at all why the poor should have this very valuable product destroyed. I think there would be a slight improvement, perhaps, with regard to the matter of inspection, but I think the loss would be greater than the gain.

1993. (Mr. Murphy.) I would like to ask you why you say the offal would be lost if slaughtered in any public slaughter-house. Are you speaking from your own knowledge, or are you speaking from an impression that you have got from other people?—I am not a butcher, I told you that, and therefore, of course, my own knowledge is not derived entirely from my own observation. But I will say this regarding it: I see, and I have for sale on my premises, sometimes the offal of sheep, the heads and plucks may be sent; for instance, I may have a farmer in Scotland slaughter a large quantity of sheep and consign them to me. He may also consign the heads and plucks to me. Now these heads and plucks deteriorate enormously in value in coming to London, and if they were killed in a private slaughter-house, they would be worth a good deal more money. That is a very valuable product; in London especially is that the case.

1994. Do you know the number of animals that are killed in private slaughter-houses; have you got any idea of that?—No, I have none whatever.

1995. You do not know whether it is an essential part of the meat trade of London, or whether it is only a small part?—It is a very small, and of recent years a very much diminished quantity. Private slaughter-houses are a very much diminished quantity, there is no question about that.

1996. Why are they diminishing?—That is very easily explained. Thirty years ago the dead meat trade had scarcely begun. The year 1866 was the year of the cattle plague, and I think that was the thing which gave the dead meat trade its first stimulus by the slaughtering of animals in the country, and the sending them to London. Then another thing which has revolutionised the trade is the large imports of frozen mutton. All the coarse parts of bullocks

now have become unpopular with the lower orders. The lower orders in London used to be content at one time to eat what we term the coarse parts, that is to say the interior portions of bullocks. Now there is a great difficulty indeed in getting rid of such things in many parts of London, and butchers who used to slaughter cattle cannot possibly sell the whole of the carcass, so they go to the market and buy as they like in the dead meat market what suits their trade, and they buy that only. That has given a great impetus indeed to the dead meat trade, so that has in a measure revolutionised the trade. Now since the arrival of these enormous quantities of foreign meat as I say, the English farmer, with his live meat trade, has been practically almost driven out of the trade.

1997. Then the demand for this offal is diminishing?—No, not the demand for the offal.

1998. I understood you to say so?—The offal deteriorates in value. It would not pay to send bullocks' offal and those sorts of things from Scotland to London. I do not say that the demand is gone, but it would not pay the carriage and other expenses connected with it; it would not answer at all. It is a cheap product, a low priced article, which would not bear the expense.

1999. And the poor are using Australian meat, New Zealand meat, and so on, in place of it?—There is no doubt that frozen mutton has affected the prices of many things.

2000. You mentioned Mr. Haydon just now as being particularly familiar with the details of the retail butchers' trade?—No doubt he ought to be.

2001. He would be a very trustworthy adviser as to the effect of slaughter-houses on the supply of food?—Most certainly he ought to be. Mr. Haydon is a man who does slaughtering in connexion with his own business; and, therefore, of course he is a far better authority on anything connected with private slaughter-houses than I should be. There is something I should like to add which I have got on my notes. I have said something there, but it is entirely a matter of opinion, and it is only my own opinion which I have gathered from observation. I think the inspection of dairies and milch cows is a very important matter connected with this Commission, and I should like to point out that such inspection should be of course frequent and of the closest kind, especially where dairies exist in towns, and where their surroundings and conditions are apt to be bad and artificial. I think there can be very little question that large dairies, and even smaller dairies in towns—in London especially—cannot possibly be surrounded by very healthy surroundings, and there, I think, tuberculosis would be likely to be developed from the unhealthy surroundings. The animals are very much confined, and they are fed in a manner which cannot possibly be otherwise than somewhat unhealthy.

2002. (*Dr. Thorne Thorne*.) May I ask you whether you have any personal experience of dairies in connexion with tuberculosis?—No, I have no personal experience of that.

2003. (*Mr. Clare*.) With regard to these public abattoirs, if the local authority choose to go to sufficient expense to have a staff of inspectors to inspect the private slaughter-houses, is there any advantage, do you think, in abolishing the slaughter-houses?—No, I think there would be a very great disadvantage.

2004. Your experience is that the inspection of the public abattoirs has been very effectual to prevent the sale of meat which is any way unwholesome for food?—It is not the inspection in the public abattoirs that I have any experience of. I only visit them as a casual visitor; I am on the Cattle Markets Committee, and, therefore, it is my business occasionally to visit the various abattoirs connected with the Corporation, I mean at Deptford and so on; but I have no personal experience enabling me to say how the inspection acts there. I have a great experience, of course, in the central markets, and I might say regarding that that something like three-fourths,

certainly more than two-thirds, of the meat that comes to the markets at both Deptford and Islington, subsequently comes to the central markets for re-distribution. That is a very extraordinary thing, and one which I think the Commission might bear in mind.

2005. I think I understood you to say that you considered it was absolutely essential that an inspector should be what you call a practical butcher?—I think that is of the very greatest importance.

2006. Do you think it is more important to have as an inspector a man with great practical experience, than to have a scientific man without the practical experience?—Yes; but I should like a little of both. I know of an illustration which has happened only this week, and it is just the case which you have cited. A man with a capital scientific knowledge, but with very little practical knowledge indeed, refused to seize the carcass of a pig, which was just as bad a case of measles pork as ever I saw. If he had been a practical butcher he would have seen it at once. One would have said that his theoretical knowledge ought to have taught him that, but it did not teach him sufficient. He is a most zealous officer, and one who has done a great deal of good in the place he is in; but he refused to seize this carcass of pork, which was afterwards sent into the Central Market, and seized there. It is one of the very worst cases of that sort that ever I saw in my life.

2007. You do not think that anyone who sells articles for consumption as food ought to be prohibited by law from selling anything which is poisonous?—But they are now.

2008. Supposing that during the course of a man's business some articles which he may have purchased, with the intention of selling became, by some means or other, deteriorated, and unfit for food, do you think he ought to be allowed to sell them?—No, certainly not.

2009. Why, if he is not allowed to sell that which is poisonous, should he be compensated if the food happens to go bad whilst it is in his possession?—Because, you see, that is a different thing altogether. That man may use his own discretion. A man is not justified in buying an article and retaining it till it goes bad. I take it you refer to the weather, you mean that the weather may go against him; a man has no justification in retaining meat till such time as it becomes putrid, and then attempt to sell it. That is one of the chances of his own trade.

2010. Surely it is also a chance of his own trade if he buys an animal which turns out to be diseased?—I think not.

2011. Is it not a chance of the trade?—I am talking about tuberculosis; there are some diseases, of course, which can be detected.

2012. Is it a chance of trade then if he buys thoroughly healthy animals, and has them slaughtered, and then some great and sudden change of the weather takes place which makes all that meat bad within a period during which he never anticipated it would become bad?—Most certainly.

2013. Why should you draw a distinction in that case?—That is something which there is no public interest in at all; that is entirely a man's private affair.

2014. The public interest is simply this, that a man is not to sell that which is poisonous, and if in the course of his trade he gets something which is poisonous, I want to ask you why you think he should be compensated?—I think a man should be compensated for tuberculous carcasses which, in the opinion of an expert competent to give an opinion, that man may have acquired in a straightforward and honest manner, without being able to detect the disease.

2015. I will put another case to you. I would admit your argument if the case were this—that the meat is not bad for human food, but for some reason or other the local authority choose to have it destroyed; in that case I would admit your contention, that he ought to be compensated, that where the meat is bad for food, and the man is prohibited by the general law of the country from selling that which is poisonous as

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food. I cannot quite follow your argument that he should be compensated?—I am afraid that that could be carried further. I do not think that the law should allow anybody to sell that which would be poisonous.

2016. You may take it that meat which is condemned is considered to be poisonous, or, at any rate, unwholesome for food?—Yes, it would be unfit for food, of course.

2017. It would not be so nourishing, at any rate?—I should think it would be very bad, I should say it would be very wrong; I do not think there would be any possible wish to compensate anyone for that, and I have never heard anyone suggest it.

2018. In the case of pleuro-pneumonia, there the herd is destroyed to stop the spread of the disease, and a number of animals are often killed who are not really down with the disease?—Certainly.

2019. In that case compensation is paid?—Yes.

2020. But that is hardly a similar case to this one?—It is not similar, but, in my opinion, the case of tuberculosis is far stronger. The tuberculous carcass is seized and destroyed for fear that any portion of it should reach the human animal, and so the human animal become infected.

2021. Should not the person who is trying to allow it to reach the human animal be punished for doing?—But who is trying to?

2022. The butcher who is selling it knowing it to be tuberculous?—No butcher does that; I have never heard of a butcher that sells tuberculous meat.

2023. (Dr. Thorne.) There was one question that I did not quite complete. I was giving you the parallel of fish, and you were telling me that you thought the great difference was, that the butcher has to buy in the open market where the animal is put up by the auctioneer, and that he has no chance of examining it before he purchases?—He may have a chance of examining it before.

2024. We will assume that he has not. Do you know that in the fish market precisely the same thing is done? A box of fish is put up by the auctioneer and the man has no chance of seeing anything but the fish lying upon the surface, why should the one be compensated and not the other?—I think there is a very great deal of difference between the two.

2025. (Mr. Cooke-Trench.) You would not give compensation for what goes wrong in the possession of the butcher?—Oh dear, no; there is no compensation asked for anything of that sort.

2026. You have said that you would leave it to a jury of experts to say whether the disease was visible in the live animal, but how could the jury of experts ascertain that when they only saw the dead carcass?—Experts could give an opinion no doubt, and I should say, without any difficulty. There are tokens and signs to an expert which he would be able to see, but which other persons would not see.

2027. Such, for instance, as that there was no sign of waste?—There are several things, the adhesion of the lungs for instance. There are many symptoms which he would be able to judge by.

2028. He would be able to give a good opinion as to whether an animal had been diseased visibly during life?—No doubt about it.

2029. I suppose in the case of fish which has been referred to, there is a possibility of lifting the upper fish and seeing whether the others are bad or not?—The people there have their own remedy, that is *caveat emptor*, there is no difficulty at all about that.

2030. It is possible to ascertain?—Most certainly.

2031. And in the case of cattle it is not?—It is not possible.

2032. And there is the difference?—And I should say a great difference.

2033. You have been a great deal pressed as to the small amount of the hardship. Is it your opinion that the hardship, though small in amount, is great in degree?—Yes, but I do not admit it is small in amount.

2034. I do not think you have given us any evidence to show that it is not small in amount—can you give us any evidence to show that?—No. It is a small amount under my own observation, but that is no reason why it is actually small in amount.

2035. (Chairman.) That is all you can answer for?—That is all I can answer for.

2036. (Mr. Cooke-Trench.) You partly account for its being so small under your own observation by the fact that the meat of cattle which are found to be diseased are not sent to London?—That is so.

2037. What becomes of it, have you any idea?—No doubt it is destroyed where it is slaughtered.

2038. It is destroyed?—No doubt about it.

2039. Not sold in the country parts?—I hope not.

2040. You were asked whether compensation would not lead to carelessness on the part of the butchers in buying diseased animals; if it is impossible for the butcher to tell whether the animal is diseased or not during life, does that apply?—No, I do not think so, but I think it would have to be, as I said, hedged about with precautions. I could imagine a case whereby there would be connivance with dishonest traders. For instance, I will say this, it has been considered by the Federation of Butchers, and I have read where they have said that, in their opinion, there ought not to be any compensation for any animal under the value of 7*l.*, in order to exclude a butcher who might buy a very low priced animal, a cow, or anything of that sort. That is open, in my mind, to this objection, that dishonest men would say, "You had better give me 7*l.*, it is only worth 3*l.*, if you give me 7*l.*, I can get compensation for it, whereas if you only give me 5*l.* 10*s.*, I cannot get any compensation." Supposing a farmer had some young ones, and they had to be killed in the public interest, it would be very hard indeed if he could not get any compensation for them because they were only valued under 7*l.* That is why I did not include that suggestion in my précis.

2041. (Mr. Speir.) Being a farmer yourself, I presume you have an average knowledge of stock compared with the ordinary farmer?—Yes.

2042. Does that warrant you in believing that taking your own stock you could point out to me, or anyone else, the number of animals that are likely to be affected by tuberculosis?—No. I have had tuberculosis in my own herd, and I have had some experience of it. Still, I do not think I could tell it in the earlier stages, but there would come a time when it would be possible to know it.

2043. There would come a time when it could tell itself?—Certainly.

2044. But that is not the stage we want to get at?—No.

2045. Can you tell it, or do you think anyone can tell it before that?—No.

2046. Have you had any knowledge of many cases of that kind coming through butchers' hands, where they bought them in good faith, and where, of course, they were destroyed afterwards?—We are continually hearing of such things, but they do not come under my own observation in my business.

2047. Are you not hearing of one case amongst a great many thousands? We have not got from your evidence the actual number, or the actual percentage?—I cannot give you any particulars as to that.

2048. I rather think that the butchering trade, through one isolated case, make what you might call a mountain out of a molehill, might there not be a little of that?—That I cannot answer for at all.

2049. I would like to get back to this question of the loss to the poor through the offal being left at the public slaughter-houses. Now, you attempted to explain that by saying that it deteriorated so quickly?—Yes, it does.

2050. And I admit that it does?—Especially is that true with sheep's offals.

2051. Then in many cases the private slaughter-house may be situated one-eighth of a mile from the shop?—Yes.

2052. Presuming that the public slaughter-house was half a mile or a whole mile away, the difference in carriage would not cost anything serious, would it?—It is not a question of carriage you know.

2053. The offal must be taken from the private slaughter-house to the shop before it can be disposed of?—That is so, certainly.

2054. Presuming it was a quarter of a mile away, the difficulty of carriage and the other difficulties which are likely to arise are very little between a quarter of a mile and even a whole mile?—That is so; that would not be a very great difference provided that you had abattoirs established all over London at a quarter of a mile from every butcher's shop.

2055. Presuming that that can be done at a quarter of a mile, is there anything to hinder it suppose you go the length of a couple of miles?—There is another thing which would crop up. A butcher usually conducts his business and so on at as little expense as possible, as you must be aware. He has a pound that he keeps his sheep or his bullocks in adjoining somewhere close handy to his slaughter-house. He would send his men there in an afternoon when he wanted to kill a few sheep or a bullock or so, and it would not be nearly so convenient to him to have to send them to a public abattoir. That, I think, would operate very much, and that is what would interfere with the butcher's trade and disappoint him in it, and compel him to relinquish slaughtering.

2056. I think not; I am speaking with regard to Glasgow, at least, the knowledge of Glasgow in my mind is greater than of London?—But Glasgow is under the Lindsay Act is it not.

2057. I cannot say exactly what Act it is under?—I think it is.

2058. I think most of the butchers there are at least from one to two or three miles away from the slaughter-house, and that the slaughtering is done by the municipal slaughterers?—Yes; that I am aware of.

2059. The offal and the carcase are usually sent to the retail butcher together if wanted?—Yes.

2060. What is to hinder something similar elsewhere?—We have a different trade altogether in London. There is a class of people in London whom you do not have in Glasgow, who cook offal and sell it cooked; that is not so in Glasgow.

2061. I rather think that that is in favour of the argument I am using instead of against it, because if you have a trade in offal here you would get these men to come to the slaughter-house and buy the whole material *en bloc* rather than go over the city?—I do not think so; that is not what I should say.

2062. In Glasgow that same system is carried out?—I am aware that they have an Act of Parliament called the Lindsay Act which prevents them from having private slaughter-houses I think.

2063. The same thing, practically speaking, applies nearly all over the country does it not?—That applies to every town in Scotland that adopts the Lindsay Act.

2064. Presuming that this trade in the offal which appears to be a difficulty with you, goes on, I do not see but what those who are in it can carry it out much more successfully in a public slaughter-house where there are some thousands being slaughtered every day, than in 20 slaughter-houses which are distributed over the city. You have been referring to offal coming from Scotland particularly, and you have stated that that offal was deteriorated considerably by the time it arrives here?—It is so.

2065. Is it not a matter of pounds, shillings, and pence to the owner of the carcase whether he sends it alive or dead?—Yes it is a question of pounds, shillings, and pence; probably his sheep would not fetch so much money alive as they would dead.

2066. He gains on the carcase but he loses on the offal slightly; therefore do you not admit that it is

entirely a matter of first gaining on the one hand and losing on the other?—That may be so.

2067. Then you said that in recent years even in London there was very little demand for the coarser portions of the animals in proportion to what there was some years ago?—That is so.

2068. How do you account for that?—I account for it in great measure by the enormous increase in foreign supplies, particularly of frozen mutton, which is a very cheap article of food.

2069. That is the very question I meant to ask you; is it not the fact that these people have found a better class of food at the same rate in foreign material, than they had in the coarser portion of our own?—It is not exactly a question of price, but it has become a question of taste. At the present moment we have the greatest difficulty in disposing of anything that has got fat to it; the coarser parts of Scotch bullocks in many cases are apt to be somewhat fat, and in my experience we used to be able to sell them without any difficulty in London at one time, but now a very large proportion has to be sent into the country. It is bought by men who come from different counties, even as far distant as Lincoln, and Norfolk, and Hereford, from all over the place they come. They buy our products of Scotch beef—particularly I refer to what are called thin flanks in London, which I believe goes under the name of "line of beef" in Scotland; those portions are disposed of to these men, who take them into the country and sell them at country fairs on stalls. There is a very large trade done in that. That is a taste of London which has altered.

2070. Then your opinion, apparently, is that public slaughter-houses would encourage the foreign meat trade?—Yes, I think so.

2071. But if public slaughter-houses were generally adopted, say in the provinces as well as here, would that not also encourage the home trade, because then the meat could be carried from the provinces to here in a similar way, in fact, your own trade is an instance?—I cannot say; I have not considered that question at all.

2072. Do you not think it very likely?—I do not know; I cannot answer the question.

2073. I want to go back to a question which Dr. Thorne has put to you; it is about the live animal and the detection of tuberculosis in it in connexion with a purchase in an ordinary auction mart. You must be aware that animals are sold very often at the rate of one or two a minute, and you will also be aware that it is utterly impossible for everybody to get inside the ring and put his ear to an animal?—Quite right.

2074. If those arrangements were to be permitted it would be an utter impossibility to carry on the trade?—It would not be done, that is all.

2075. (Professor Brown.) In reference to that point, does not the same objection apply exactly to the auction of horses?—No, I think not. I think, as a rule in auctions, horses are on view several days before; take Tattersall's for instance, which is our great London emporium.

2076. But I am not talking about that. I am talking of an ordinary sale in the country when a farmer sells his stock and sells horses at the same time; we cannot examine horses then?—I think, myself, that a sale such as described would hardly be on a par with an auction of cattle where they are disposing of them at the rate of two or three a minute, or one a minute in large quantities; I think there would be an opportunity, perhaps, of inspecting the horses. You see the difference is great. A man buys a horse and he must be sound on every point, but a man handles his bullock or looks at his bullock, guesses what he is going to weigh, and thinks "he is fat" at a glance, and bids accordingly. With a horse it is a very different thing.

2077. You say—and I believe you are quite correct—that in the early stage of tuberculosis you cannot

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detect it in the living animal?—I do not think so; I have never heard of anyone that could.

2078. Unless you apply the tuberculin test, which we do not propose to discuss at all; but by ordinary means of examination you could not know it?—No.

2079. Are those the animals in which the meat would exhibit anything which would suggest to you that it is not fit for food?—That is just exactly what I should like to ask the Commission to say, as I do not know that. I think it is very important that the Commission should say at what stage of the disease the flesh of the animal becomes unfit for human food.

2080. But you do not yourself know of your own knowledge that in those slight cases there is anything at all the matter with the meat?—I am inclined to think there is not, because in slight cases I think the meat passes the inspection at the present moment. I have not a doubt that it is so, and that a bullock may be slaughtered with incipient stages of tuberculosis in the entrails, but that does not leave anything on the carcass which would be seen, excepting it might be

the slightest suspicion, and that carcass would not be seized certainly.

2081. Would you make it a rule, according to your knowledge of meat inspection, that meat which presents a healthy and sound appearance should not be condemned?—Certainly.

2082. Supposing that to be the system, would the amount of compensation in those particular cases which are complained of, where the animal during life exhibits no symptoms of disease, amount to anything considerable?—I am unable to answer that question.

2083. You do not know?—I do not. It does not come under my own observation.

2084. You mentioned once or twice that you look upon it as a hardship where the carcass of any animal is confiscated, in which it was not possible to recognise any sign of disease during life; you were not referring to any particular cases within your knowledge where the animal has been examined and found to be sound, were you?—No, that is a general remark.

The witness withdrew.

Adjourned until to-morrow at 12 o'clock.

SEVENTH DAY.

No. 7, Whitehall Gardens, Westminster, S.W.

Friday, 22nd January 1897.

PRESENT :

SIR HERBERT E. MAXWELL, BART., M.P. (CHAIRMAN).

Dr. R. THORNE THORNE, C.B., F.R.S.
Professor G. T. BROWN, C.B.
SHIRLEY F. MURPHY, Esq.

T. COOKE-TRENCH, Esq.
HARCOURT E. CLARE, Esq.
JOHN SPEIR, Esq.

T. M. LEGGE, Esq., *Secretary*.

Mr. STEPHEN GILES HOLMANS called and examined.

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2085. (Chairman.) You are Inspector of the Board of Agriculture for the Deptford division of Kent?—Yes.

2086. And the cattle market of Deptford comes within your province?—Yes.

2087. Can you describe the system of inspection there?—The animals landed at Deptford are all foreign animals, and upon being driven from the vessels they are taken into what is called the "Reception lair," and there they undergo an inspection by myself, or by my assistant, and sometimes by both of us; and if we find nothing palpably wrong in them we then deliver them to the importers, who then take them to some other portion of the market assigned for the purpose by the superintendent of the market, and there they are kept till the next market day until they are sold, or if not sold they are taken back to another lair, and those sold are removed and put into what are called butchers' lairs, in order that they may be kept there until the butchers are disposed to slaughter them, which must be within ten days, exclusive of the day of landing.

2088. That period of ten days was prescribed by the Act of last session, was it not?—Yes, by all the Acts that have been passed.

2089. They have always been slaughtered there?—Yes.

2090. But you were going to say something else?—I was going to say that the inspection does not cease with the one I have spoken of, because they

undergo an inspection every day, and sometimes more than one inspection in the day during the whole time that they are there until they are slaughtered.

2091. What number of cattle passes through your hands in the course of the year?—I obtained from the superintendent of the market a return which, perhaps, you will allow me to hand in, and that is for 10 years. I worked it out last night, and it seems to average about 2,600 or 2,700 a week.

The following is the return referred to by the Witness :—

FOREIGN CATTLE MARKET, DEPTFORD.

ANIMALS LANDED 1886-1895.

Year.	Beasts.	Calves.	Sheep.	Pigs.
1886	65,329	22,597	707,879	17,245
1887	52,989	26,405	728,002	18,626
1888	89,663	30,056	727,879	5063
1889	109,875	26,012	256,965	3207
1890	159,058	25,987	120,664	1169
1891	126,783	27,247	196,470	—
1892	149,136	18	976	—
1893	117,048	—	10,502	—
1894	174,843	—	62,802	—
1895	151,049	10	240,873	2

2092. What percentage of those cattle do you stop or find fault with?—A very small one indeed. With regard to tuberculosis I have worked out something which, perhaps, you will allow me to hand in.

2093. Are you talking of live cattle or carcasses?—I have nothing to do with the carcasses; the carcasses I have never inspected; it has not been my duty to inspect the carcasses. The average weekly number of cattle is 2,600. In 1893–4 the Board of Agriculture, in consequence of there being some dispute owing to the existence or non-existence of pleuro-pneumonia among the Canadian cattle, ordered that the first imports for the season (occupying about six weeks) should be slaughtered separately, and their lungs inspected afterwards. In the first six weeks of the Canadian season of 1894 I inspected the lungs of 7,255 Canadian cattle immediately after they had been slaughtered, or within a few hours of their being slaughtered, of which 32 were affected with tuberculosis; two with broncho-pneumonia, and one with pleuro-pneumonia. The same system was adopted the year before that, but, unfortunately, I either did not keep a record or I have mislaid it. I think I did keep a record, but I have mislaid it. But, at any rate, the cases of tuberculosis on both occasions were really very small.

2094. In that particular organ?—Yes, in that particular organ; I did not see the other organs. A year before that a similar mode was adopted with regard to the American cattle, which lasted about two months.

2095. Do the 2,600 which you have spoken of include American and Canadian cattle?—Yes, they are all landed there.

2096. And the examination of the lungs which you described was only of Canadian cattle?—Only Canadian.

2097. Perhaps you will give us the numbers of those?—I have done so; 7,255 were Canadian. At the end of 1892, for some reason or other, the Board ordered that the lungs should be inspected for a time. I suppose it lasted something like two months, and during that time all the lungs of all the American animals were inspected, with the result of discovering some six or seven cases of pleuro-pneumonia and very few cases of tuberculosis. That applies to the lungs, of course, because the other organs were not inspected.

2098. Have you any other facts that you think would be of use to us?—No, I think not. With regard to tuberculosis it is, I know, very little, and I have at all times been occupied in looking after the

other contagious diseases mentioned in the Acts of Parliament and I have not given much attention to it.

2099. (*Professor Brown.*) Who does inspect the carcasses at Deptford?—There has been no inspection of carcasses until quite recently. Mr. Philpott, the superintendent, is said to be the inspector there, but his duty only applies to cases that have been killed on board ship or something of the sort, or animals landed and slaughtered immediately. Under the byelaws of the market he has power to enter any slaughter-house, and seize any meat which he considers unfit for human food.

2100. Then the whole of the meat which is killed at Deptford goes to the Meat Market?—Not the whole of it, but some of it does. There is no reason why it should not go elsewhere, but the bulk of it goes to the Meat Market.

2101. Any private butcher can go in and buy meat and take it away?—Yes.

2102. A small proportion of the meat killed at Deptford derived from foreign sources never gets inspected at all then?—Quite so; the only inspection is that at Smithfield Market. There are several inspectors there appointed by the Corporation of London.

2103. All that meat which does not go into the General Meat Market escapes without any inspection at all, I understand?—Quite so.

2104. (*Mr. Speir.*) Do you know if any of those carcasses—32 out of the 7,255 which you referred to as having been affected with tuberculosis—would be likely to be condemned?—I do not see the carcasses.

2105. Only the lungs?—Only the lungs. From what I have seen of cases of that sort I should think they would not be likely to be condemned.

2106. You mean that the lungs were not very much infected?—Not very much; but even if they were it is a disputed point as to whether the carcass is to be condemned or not.

2107. You think that the lungs are so little affected that a carcass was not likely to be in any way injured?—Quite so.

2108. Have you any means of knowing whether or not any of the animals that pass through your hands as being healthy were ultimately condemned later on?—I never heard of any of them being condemned.

2109. (*Dr. Thorne Thorne.*) Does your experience enable you to distinguish at all between the amount of tuberculosis in foreign cattle and in British cattle?—I have had little or no experience of British cattle. I have been a veterinary surgeon for 50 years, but I have had very little to do with British cattle.

The witness withdrew.

Dr. ROBERT SYDNEY MARSDEN called and examined.

2110. (*Chairman.*) You are Medical Officer of Health for Birkenhead?—Yes.

2111. Of course, that is one of the principal centres of the meat trade?—It is the great centre, especially for the foreign meat trade.

2112. Can you describe briefly what is the course of trade there?—I am wondering whether that would not come better from my inspector who has the matter entirely under his supervision; he will be following me, and he has the whole of the practical working of it.

2113. Well, then, are you prepared to describe the system of inspection, or would it come better from your inspector?—Either from him or me. The system is very simple from the method of dealing with the animals; the cattle, after being slaughtered, are put in cooling chambers in long rows some thousands at a time, so that the inspector has to go along the whole of the rows and has ample opportunity for the inspection of their carcasses. It is quite easy to detect any disease at once, because they are well lighted places.

2114. Are the internal organs in them, and are they clean?—They are always taken out. That is one of our great difficulties. There is no connexion between the carcass and the offal. Unless we saw the offal taken out we could not swear to any particular organs

belonging to that animal. I am speaking now entirely of the foreign animals.

2115. Can you give us any idea of the proportion of animals affected with tubercle?—I have put down on that sheet in your hands year by year the number of animals which are taken and really almost none escaped our inspection, so that you have there absolutely the number.

The following is the table referred to by the witness showing the number of animals inspected together with the number affected with tuberculosis, &c., for the past three years:—

WOODSIDE AND WALLASEY LAIRAGES.

Year.	Number of Cattle inspected by us.	Number affected with Tuberculosis.	Number of Carcasses taken.	Number of Cases where only the Offal or other parts were taken.
1894	202,047	4	2	2
1895	178,798	11	7	4
1896	223,014	53	12	41

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During last year at the foreign animals wharf there were 223,014 carcasses inspected by us, and out of that number only 53 were found to be affected with tuberculosis. That is all the American animals that come there. I should, perhaps, explain that there is a very good reason why the number is so small. The animals are all inspected by the veterinary surgeon in America before shipment, and then they are all wild animals practically, coming from the prairies and ranches, and they are never confined, and 75 per cent. of them are bullocks, and, bullocks in our experience are not nearly so much subject to tuberculosis as the cow.

2116. In the case of the 53 animals what was done; was the carcass condemned?—Not in all cases. In some cases we only found the offal affected. I can give you the number. Out of those only 12 of the carcasses were absolutely seized, and the offal or other parts were seized in the case of 41 other animals. The table will give you the absolute numbers.

2117. I understood you to say that you only had an opportunity of seeing the carcasses after being cleaned?—We see the offal in a separate part, but we cannot swear to a particular offal belonging to a particular carcass; they are not numbered. Supposing we find a carcass affected with tuberculosis, and we find only one offal out of many thousands affected with tuberculosis, you are pretty well certain that that offal has come from that particular beast. But sometimes you will find the offal and no carcass to correspond with it; that is, the carcass showed no external signs of it, or else it was very slight, or it was cut away; they strip it off sometimes if they can get a chance.

2118. You have no power of cutting meat?—None whatever; that is a weak point in our inspection.

2119. The inspection is, to a certain extent, superficial, then?—It is bound to be superficial; if you do not see traces of disease you have no ground to tamper with the carcass; and even if you have, you have to get the consent of the owner to allow you to cut it, which generally he is loth to do, because he runs the risk of having his carcass seized. I think that is a very weak point in the method of inspection for tuberculosis, my experience in inspecting being that you will very often find disease in the offal, and the carcass shows no signs externally of the disease. But if you can cut into the glands, you will find the glands riddled with disease, although the animal looks absolutely fine in the flesh.

2120. In regard to home animals, they are taken to another abattoir?—Yes, the town abattoir, which is entirely confined to the town's supply.

2121. Is the system of inspection similar there?—Yes, the animals are slaughtered, and then run into the cooling house, and there they hang for inspection. We know the offal there attached to each animal. They are in much smaller numbers, and every man's cattle is booked, and each butcher has only one or two animals, so that you can attach the offal to a particular animal. Besides, the inspector is generally there during the killing period.

2122. Do you find the portion affected with tubercle larger in the town animals?—Very considerably larger. I think I have given you a table there, showing the absolute number of cattle killed. I speak of cattle, and need not refer to pigs or sheep. (The following table was handed in by the Witness):—

Year.	From all parts.		
	Number of Cattle slaughtered at the Tranmere Abattoirs.	Number affected with Tuberculosis.	Number of Cows affected.
1892 - -	809	33	30
1893 - -	404	8	8
1894 - -	443	10	9
1895 - -	757	15	12
1896 - -	685	5	5

2123. We should like to hear something about cows. There is a certain amount of cow-beef, I suppose, there?—There is a great deal of cow-beef. I want to explain. I give you there the number of cattle, cows, and bullocks killed each year since I went to Birkenhead—for 1892-3-4-5 and 6—and the number of carcasses seized for tuberculosis.

2124. In the number of cattle slaughtered you include cows, do you not?—Yes. You want, I understand, to get at the number of home cattle affected with tuberculosis, and that is what I want to explain here. There are a certain number of butchers in Birkenhead who buy prime Irish cattle, and from any of those we almost never get a carcass. Some of them I have never had to take any meat from since I went to Birkenhead, and taking those animals which they kill from the rest of the numbers gives you the number which comes from Cheshire and Wales. And in the next little table I give you the number of Cheshire and Welsh animals affected with tuberculosis. I give here an analysis of the cattle coming from the home district and near sales, and most of these are Cheshire and Welsh animals, and about an equal number of each:—

Year.	Number of cattle slaughtered at the Tranmere Abattoirs from Cheshire and Wales.	Number affected with Tuberculosis.
1892 - - -	400	33
1893 - - -	300	8
1894 - - -	243	10
1895 - - -	357	15
1896 - - -	285	5

2125. (Mr. Cooke-Trench.) Are these the total number of cattle slaughtered?—Yes, from Cheshire and Wales in the town abattoirs. In 1893-94 the butchers refused to slaughter with us because of the inspection; they said that we were too severe upon them and did not deal fairly with them; that we seized carcasses when we should not have seized them. Their contention was that there was no tuberculosis in the animals unless the flesh showed wasting, which, in my experience, is extremely rare.

2126. (Chairman.) Then I see you gave the number of calves slaughtered, but the proportion of tubercular animals is very slight?—Very slight. The fact of the matter is that selection is going on owing to the inspection. There is little chance of their escaping, and they will not buy from affected stocks; that shows that they really can largely select good animals free from disease if they try.

2127. In cases where carcasses have been seized, have you had much complaint from the butchers?—We have had constant complaints, they are always complaining. They complain that it is not right, and the vast mass of them consider that the meat is fit for food. If you strip off the pleura, they say, it would be perfectly good for food; that is the general opinion amongst them.

2128. Would you condemn a carcass when the internal organs were tubercled and the muscles free?—No, if I can only find traces of the disease in the internal organs it is our custom to pass the carcass. But, as I say, my experience is that though that is the rule which practically has to be carried out since the Royal Commission's Report, it is a dangerous practice, because we find that if you do cut into the carcass very often the whole of the glands will be riddled with tubercle, or some of them show the disease, though there are no signs outside. Sometimes, again, when you are allowed by the butcher to cut the glands you will find the glands perfectly free, although the offal is badly affected.

2129. When you say that the butchers will not bring the cattle from Cheshire and Wales to the public abattoir but prefer to take them elsewhere, is

that in order to evade inspection?—They say so; they say they get better treated in other parts of the country, and especially outside my district they say that they can get them passed where they would not pass with us, and consequently a great many of them slaughter outside the town.

2130. What becomes of that meat, is it brought into the town?—I cannot say. The meat that comes into the town from those that we know are killing outside we inspect very carefully in the shops, but if the butchers find it affected they do not run the risk of bringing it in to us.

2131. Do you hear any complaints of the want of uniformity?—Yes, the complaints are constant and severe; they say that the butchers in our town are unfairly dealt with because of the inspection to which they are subjected, and they say if they are to be inspected like that every district ought to be inspected in the same way. Of course we cannot help that. That is a complaint I cannot take cognisance of, as I tell them.

2132. What is your opinion on the matter of compensation?—I think where a man buys a *bona fide* carcass in an open market for a fair price—they (the butchers) fix their own price above 8*l.* and under 30*l.*—if it is above 8*l.* and under 30*l.*, and if they do it in the fair open market, and after that the animal shows signs of tuberculosis then I think that that is a fair ground for a man being entitled to some degree of compensation.

2133. From what source?—I think from the public authority.

2134. From the rates?—From the rates; the people who are protected by the inspection ought to pay.

2135. Can you mention any analogous case of compensation?—No, I do not know anything analogous to it; in fact, throughout the whole food supply the loss falls upon the party having it.

2136. It would open rather a large range of analogy, would it not?—It would, and that is the great difficulty.

2137. (*Dr. Thorne Thorne.*) I should be very glad if you could define to us a little more what is the minimum amount of evidence of tuberculosis in a carcass or in an animal which would lead you to seize that animal or carcass?—Well, if I found the offal—I mean to say one or two of the organs badly affected only, without any trace on the carcass whatever, I should pass the carcass, and simply take the offal.

2138. You would do that if two organs were badly affected?—Yes.

2139. So far good as regards the internal organs. Now, with regard to the carcasses, what do you say?—Well, if I found any trace of tubercle in the carcass I should then ask the butcher if he would allow me to examine the glands.

2140. Do you mean that if you found two or three particles of tubercle still adhering to the pleura that you would then proceed thus?—I should ask for a further examination, and if that was not granted I should say: "Well, then, I must take the carcass. If you will allow me to examine further I will give it to you if I can."

2141. Supposing you find no evidence of tubercle in the carcass, except that on the pleura, what then?—If it did not go through the pleura, if it were simply superficial, on the lung side of the pleura—

2142. The carcass side, not the lungs?—You know what I mean, the side of the pleura touching the lung when the lung was *in situ*.

2143. The lung side—the inside of the pleura?—Yes; I should regard it as a slight local affection from the lung, there being no trace of it having gone through the rest of the carcass, and I should allow that to be taken off carefully and then pass the carcass.

2144. What is the minimum amount of evidence of affection of the lymphatic glands that would lead you to condemn the carcass?—I think if I found it in the lymphatic glands there would be evidence. I should want to look at a great many of the lymphatic glands

to pass it. If it were only found in one or two then it becomes a question whether to seize it or not, but in all cases at the present time I have passed them where there has been only a limited set of glands affected as in the neck glands.

2145. If you had one or two tuberculous lymphatic glands embedded in fat; only one or two being affected, would you pass that carcass?—I should be inclined to do so if the larger glands and the different parts of the body did not show the slightest sign of the disease being carried on.

2146. I rather gather from what you said that since the Report of the Royal Commission you have not been so stringent as formerly; am I right in that view?—That is so.

2147. The Royal Commission Report, speaking, amongst other things, of the lymphatic glands and including them amongst organs, says, "To a practical eye it is hardly possible that tuberculous matter in those organs can escape detection;" and in another part they say, "If sufficient discrimination and care were exercised in taking the meat from tuberculous cattle, a great deal of meat from them might without danger be consumed by the community." Do you agree with that in so far as the lymphatic glands are concerned?—Personally I do not. If there is a sign of tuberculosis in the glands I do not think that anybody can be sure that it has not gone through the system, though it may not have congregated in a sufficient degree to be visible in other glands. My line of action is guided by that report of the Royal Commission, but personally I would not, if I had my own free action, pass it where I found it in any glands of the carcass. If I found it, I would not pass it, taking my own opinion; but still I do pass it.

2148. Have you any evidence to show that in a case where the affection of the lymphatic glands is as slight as you have named the other material that is commonly called meat is affected with tuberculosis?—I have seen it in one case; I have seen a heart muscle affected with the disease when the rest of the carcass has shown little sign.

2149. Do you mean you have found the tubercle bacilli in the muscular tissue?—In the actual tissue of the heart muscle.

2150. And in that case only a few lymphatic glands were affected?—Yes.

2151. Could you say what glands were affected?—I could not say now; it is sometime since, 1895 I think was the date of the particular thing, because I published a note upon it.

2152. But were the internal organs free in that case?—I could not say positively; it was a case where the offal had been separated from the carcass; but I believe they were affected.

2153. I suppose it is no secret to you that you are regarded in the country generally as being especially stringent in this matter of the seizure of tuberculous cattle?—I know that the trade accuses us of that.

2154. Is that which they deem stringency in any way based upon the experiments which were made for the Royal Commission of artificial smearing tuberculous matter on to meat and then boiling or roasting it, and finding that a certain proportion of it was capable of giving tuberculosis to the animals fed?—No, our inspection was based entirely upon the same practice as that before the Royal Commission.

2155. And you act upon the same lines now?—Practically we act upon the same lines now, except that I pass some things which I did not do before, and which if I had my own way I would not pass now. You see, Dr. Thorne, I do not see how you are going to pick all the lymphatic glands out of the piece of meat, and I do not see how the gentlemen who make those statements before the Royal Commission are to tell you how to pick out a great deal of the matter and pass the meat as fit for food. My experience is that it is very difficult to certify that all the glands are picked out, and those glands are so embedded that they would not be affected by ordinary cooking, so that

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in cutting through the flesh you get it in the glands—the pope's eye, the large gland in the centre of the leg or round of beef—that is a gland frequently affected and that would not be touched by any process of roasting, and you would cut a slice right through it.

2156. Could you say that you get tuberculosis in that gland, in what is termed the pope's eye, without any other manifestation of tuberculosis which would otherwise have led you to seize the carcass?—I cannot give you any special instance off-hand, but from my experience of other glands, as I have said, you may often get a carcass infected in all the glands which shows no sign outside. I conclude by analogy that that gland might be affected as well as any other, and I have seen it affected.

2157. You know that Dr. Sidney Martin made a large number of experiments for the Commission?—Yes.

2158. In summarising his results, and his conclusions, he reported as follows:—"It is quite evident from the experiments just reviewed that the meat from cows suffering from a mild or moderate degree of tuberculosis does not give tuberculosis to animals by feeding." Do you agree with that?—I cannot agree with that altogether. It may be perfectly true as far as experiments show, but I cannot think it would be actually the case in ordinary inspection of meat. I do not mean to say that I do not believe the experiments of Dr. Martin; I do not imply that in any way.

2159. Can you form any opinion as to whether your modified action since the issue of the report of the first Commission on tuberculosis has removed the objection of butchers to the stringency of the examination carried out in Birkenhead?—No, they are still of the same opinion; but the fact of the matter is that, as shown in the return I gave you, the number of animals which they bring affected with the disease is so small that we have not the same amount of trouble with them. In point of fact they can largely select their stock if they try, and they do it to a large extent in our abattoirs, and the result is that we have not the same amount of trouble with them. They know precisely what we shall seize and what we shall not, and they do not contest it.

2160. How do you account for the extreme excellence as regards tuberculosis of the cattle imported from Ireland as contrasted with those from Cheshire and Wales?—You must know that those cattle which are brought to our butchers from Ireland are not the ordinary run of cattle, they are prime selected animals; all those butchers are very high class butchers, and consequently they are really in their case picked animals; they are some of the finest animals that come into the abattoirs. I therefore do not take them as a sample of Irish cattle, and that is why I do not refer to them as Irish cattle, but must take them as out of the general run of Irish cattle.

2161. Personally, I have heard that the best Irish cattle are kept for Irish consumption, and that it is the second class that are exported; does your view bear that out?—I have no experience of Irish cattle, except those that come to us, and they are some of the finest animals that I have seen.

2162. It is said that those they keep are better still?—I do not think so.

2163. There cannot be much complaint about tuberculosis with regard to them?—I do not think so from what I have seen of the Irish cattle brought to us.

2164. (Chairman.) You have not said anything about Scotch cattle?—We do not get any Scotch cattle, or very few Scotch cattle. There might be an odd one in a year, but the number is so small that it would not affect any statistics. I do not think there are more than three in a year.

2165. They go to Liverpool then?—Yes, very largely.

2166. (Mr. Murphy.) Does the number of tuberculous cattle that you mentioned represent the number that you seized?—Yes, the number seized.

2167. If you had been stating the total number of tuberculous animals it would be a larger proportion?—No; in stating those tuberculous animals we have not always seized the whole carcass; it is where we have seized some part of the carcass, that is to say, where there has been any sign of tuberculosis in either offal or carcass, in the total number given you, that represents the number affected. Then I can give the number of carcasses absolutely seized.

2168. Out of the total of 71 that are mentioned in those years, could you state how many would be whole carcasses that were seized?—I thought that I had got it down here, but I do not seem to have it actually with regard to Cheshire and Wales, it would be about two-thirds.

2169. (Chairman.) Perhaps you could add it in your evidence?—I can do so absolutely. I have the return made out of the number of carcasses, and I thought I had it here. I find that 30 cases were taken, in the other cases only the offal or other parts.

2170. (Mr. Murphy.) You referred to the absence of power to cut a carcass?—Yes.

2171. Do you find that in practice a difficulty, or do the butchers permit you?—I found very great difficulty until within the last 18 months, and now the butchers do permit us, because by allowing us to examine the glands we pass a good deal which we otherwise would have to seize as being in a doubtful condition. Where I find small patches on the body on beef I have felt compelled, if they would not let me examine the glands, to say that it was affected throughout the carcass, and that is my experience, but where they let us do it and we find the glands free they simply remove that bit of the affected portion and we pass the carcass.

2172. What sort of examination could be made of the liver and lungs with regard to tubercle that is deep-seated?—Of course with regard to the lungs you can feel it by nipping, and my experience is that a liver affected always shows signs on the outside.

2173. So that you think you are able to make all the examination you require without cutting into those organs?—Yes, we can be absolutely certain, I think, from an outside examination.

2174. Then you spoke of the difficulty of associating particular viscera with particular carcasses?—Yes, I did.

2175. In the case of the foreign cattle?—Yes; in the Woodside lairage.

2176. You have no power of making regulations?—No, that rests with the Mersey Docks and Harbour Board, over which we have no control whatever. They entirely control that, and of course it is no interest of theirs to give us facilities in any way.

2177. Have you any private slaughter-houses in Birkenhead?—We have one and only one.

2178. And that you have no difficulty with?—It is a very well-conducted one. The owner is one of the best butchers in the town, and our experience is that if he had anything that was in the slightest degree wrong, he would send to us to ask us to look at it. He is one of the men who buys Irish cattle of the kind of which I have spoken. We have never had any trouble with him, and during the whole five years I think I have never seized but one carcass from him, and then he called us in to look at it as soon as he saw it was affected and asked us to examine it thoroughly.

2179. Does any quantity of dead meat come into Birkenhead?—No, we get very little dead meat, that all goes to Liverpool. Of course we get the frozen meat in the shops.

2180. And that is inspected?—It is inspected in Liverpool before it comes to us, and then we inspect it when it gets across to our side of the water.

2181. When it is in the shops?—Yes.

2182. You have no central station to which the dead meat is taken?—No, we have to rely on the vigilance of the inspector, and I am happy to say that that vigilance has got sufficiently noted, so that they do not run the risk. He is really a very effective

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man, we can absolutely rely on him, the butchers have learnt that, and consequently we have very little trouble with them. Of course, we do get seizures occasionally. It is Inspector Wagstaffe, whom you will have before you presently, that I am speaking of.

2183. With regard to the foreign cattle slaughter-house would you be glad to have the power of making regulations for the purposes of inspection?—Yes. I think we ought to have the power, if necessary, to examine the glands, because that really can be done to a very large extent without in any way disfiguring the carcase. A practical man knows exactly where to cut on the gland without making a mark on the carcase which would in any way prejudice it for sale. If that power were given the protection of the public would be very much greater than it is at the present time.

2184. (Mr. Clare.) I understand the general effect of a portion of your evidence to be that if you had the power of cutting into the carcase to examine a gland, and if the same system of inspection prevailed over the whole country as prevails in Birkenhead, then, practically, there would not be the slightest danger of anything in the shape of tuberculous meat being sold to the public?—I think practically so. Of course, there might be a little get past, but it would be very slight. I think the public would be practically protected.

2185. I think you know the system of inspection in Liverpool?—Yes.

2186. If it is a fair question to ask you, do you think it is carried out efficiently?—I prefer not to express any opinion on a point which has given rise to a good deal of irritation, and I do not think that it is desirable that I should do so.

2187. I notice that you say that a great many of the tuberculous animals come from Cheshire and Wales?—Yes.

2188. Does that, do you think, arise from the fact that they send a lot of their old milch cows?—I think so. There is a very large proportion of female cattle which have been milked for a great series of years, and they keep them in these closed up shippens; the shippens, I think, get infected, and so they pass it on from one to the other.

2189. You have not, so far, told us anything about how you deal with your cowsheds in Birkenhead?—No, I have not very much to say upon that. I do not know whether it has escaped you, but before speaking of the cowsheds I think something should be said about the inspection of tuberculous animals in the country, because in large portions of the country there is practically no inspection whatever.

2190. (Chairman.) Are you talking of dairy stock now?—No, I am speaking of butcher's meat. What I mean is this: In large country districts—I do not care to mention any particular district, but in a great many districts—the inspector is the general inspector of nuisances, whose time is taken up with ordinary sanitary work, and he knows absolutely nothing about the diseases of meat. The medical officer is very often a half-time medical officer, whose knowledge of meat really consists of his pathological training as a medical man, and he has not any special knowledge in meat inspection. He is only called in if the inspector fetches him. The result of this is that all these little slaughter-houses, up and down the country, are practically not inspected, and this meat, after being tampered with, and stripped, and dealt with in every possible shape and form, so as to hide the disease, is sent into the markets and into the towns, if it can be got in, by every way and bye-way, and the final result of it is that, in spite of the strictest inspection in the town abattoirs, a great many towns are suffering from this poisoned traffic coming in from the country where there is no inspection whatever. I do not see how, if you do not grapple with that particular branch of the question, any amount of true inspection in the town, is going to give you more than a limited protection.

2191. (Mr. Clare.) Would not the inspection such as you suggest of live animals by a really competent man, a few times in the year possibly, tend to the discovery of a number of animals that could be destroyed at once before the disease spreads further?—I think so, if there was constant inspection of shippens and stock by veterinary surgeons with tuberculin tests—that is if the tuberculin test is absolutely certain which I am not prepared to give an opinion on.

2192. With reference to the tuberculin test, have you had any recent cases before you where it has proved to be absolutely unreliable?—I have no experience of it practically.

2193. Do you know of that case in St. Helens, which occurred the other day?—Yes, I know of it, but I have no experience of it personally, and I do not think it is advisable to express opinions on things I do not know personally.

2194. (Mr. Cooke-Trench.) Have you any practical suggestions to make as to country inspection, which is a very important point?—I have always thought that if—pretty much on the same lines as combined districts for fever hospital purposes—district centres were formed where the slaughtering must take place, and you had a district inspector who was a properly competent man to undertake the work to supervise that particular section, you would get the immunity which a town possesses practically.

2195. Do you mean to make central abattoirs?—I would make central abattoirs in the centre of certain districts.

2196. And prohibit private slaughter-houses?—Yes; I think private slaughter-houses ought to be abolished entirely.

2197. Would that not in country districts imply either an immense number of these abattoirs, or sending the meat very long distances?—I do not think so. You see nearly all the country districts are arranged around some particular centre which is the focus of the whole place; take postal districts, for instance, they all centre in one particular district. They might have to go two, three, or more miles, perhaps, to that centre, but in the same way in a town they have to go two or three; and in Liverpool, for instance, when the new abattoirs are ready there, they will have to go five and six miles from one side to the other.

2198. Would you propose then to have abattoirs so situated that no butcher would have to send more than two or three miles to one?—Yes, they should be within a reasonable distance.

2199. That would imply an enormous number of abattoirs throughout the country, would it not?—Yes, but there are an enormous number of private slaughter-houses throughout the country, which are all to my mind centres which cannot be inspected and which, generally, are not conducted on very sanitary grounds in any way.

2200. Then your only suggestion for getting over that difficulty is to have a number of public abattoirs all through the country, and to prohibit the use of private slaughter-houses?—I think so. I do not see how you would get it otherwise. It must be done absolutely by inspection, and competent men must be appointed of course.

2201. That is a part of it?—Yes.

2202. Have you any suggestion to make as to how uniformity of practice in condemning meat could be arrived at?—Of course if any rules were laid down by an authoritative body as to exactly the degree of infection which would be considered a minimum and Dr. Thorne Thorne asked me to state the minimum of what I should pass—all medical officers and inspectors would soon learn that particular standard, and it would become uniform practically, because any man who deviated from that would soon be so out of touch with all the rest of the people that he would be brought into line, or else have to give up.

2203. The organs of home animals being inspected, while those of the imported meat are not, would that not place the home trade at a great disadvantage?—

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No, I do not think it would place it at a disadvantage, for this reason, that the offal of the other animals rarely is infected, and as I say, so very few of the carcasses are infected, that you can practically fix to a large extent the offal to a particular carcass. There are some cases of course, where you cannot get the slightest trace on the carcass, but the same thing applies throughout the home trade; with home trade cattle you find that you get the same thing.

2204. But what about the dead meat which is imported?—Of course in regard to the importation of dead meat my only method of knowing anything about it is, as I would suggest, your power to cut into the glands and examine it, because any diseased portion which had been adherent on the outer portions would have been taken off by interested parties. You would be practically entirely dependent on your power of cutting, which now, of course, does not exist at all.

2205. You mentioned in relation to a single butcher who has a private slaughter-house in your district, that in one case he brought you to see an animal and you condemned the carcass; could that have been seen in life, do you suppose?—I do not think so. The animal was a very fine animal and it did not show the slightest signs of wasting. Of course the lungs in this particular case were bad, and probably if you had made the animal exert itself in any way it would have given rise to coughing and other symptoms of that kind; but it was really a fine animal.

2206. You could have galloped it?—Yes.

2207. Do you consider tuberculosis an infectious disease?—Undoubtedly; there is no question about that now, I think.

2208. You said that butchers, when once they found an animal infected, would not buy again from an infected stock. What do you mean by an infected stock?—I mean this—that certain butchers go and buy in a particular district, and they find that when they have bought in a particular district, a very large proportion of their cattle coming from that district are taken, and they soon learn that if they avoid that district and go to another one, the cattle that they get are not taken—that in point of fact they are not infected; and the result is that they avoid the infected district.

2209. It is a question of districts and not of individuals then?—Of course, in some cases it is a question of an individual, but I put it as a question of districts because it applies to a district as well as to an individual. A man may be accustomed to buy from a particular farm, and there may be 20 per cent. of the cattle from that farm taken from him. Of course, if he is such a fool as to go and do the same thing again, he must run the risk, and he will only do it by buying at a very low figure.

2210. Can you name any strictly analogous case in which private property is confiscated for the public good, and compensation not made?—Yes; you can take vegetables and you can take milk.

2211. But vegetables can be seen?—Yes, they can be seen, but still you take them, and you do not compensate in the slightest degree.

2212. But in the case of vegetables they can be seen, and in the case of a prime looking animal it cannot?—No, but the thing is this: a man goes perhaps and buys so many cases of oranges or apples, or whatever it is; he buys them in the open market by auction, and he does not know what it is going to be; we go in, see him open them, and confiscate the whole lot. Or, which is the same thing, he may go and buy so many hundredweights of cheese; we go in, and find it rotten, and not fit for food, and so we seize it. In the same way we seize fish.

2213. Is not tea sold by sample?—I do not know whether tea is or not; I suppose it is amongst London merchants, but not amongst retail traders; I think they buy so many cases of tea. I was just referring to cheese. We get very large quantities of cheese imported into this country from America, and very often it has had bad treatment on its passage, and has gone quite bad. That does not show, as they buy

it, in wooden boxes. Men go and buy it at a very low rate, from 5s. a hundredweight upwards, and we very often have to seize hundredweights of this stuff. That is a case where you pay no compensation. There was a man the other day asked us to look at some coconuts; we seized them, although we could not tell what the coconut was from the outside.

2214. Is it not possible to open those boxes and ascertain?—You can do so, I suppose, but that is not the custom of the trade.

2215. You cannot open a bullock without killing him?—No, you cannot.

2216. That is the essential difference?—Yes; but the thing is that an animal slightly affected does not show the slightest sign externally; at the same time in all cases where compensation would have to be given that very difficult question comes in of the person who habitually deals in slink stuff, and who would go and buy infected stuff, and have an invoice given. There is the difficulty. It must be something bought in the open market on a warranty where you can get at the vendor. My theory in regard to compensation is that the cost of stamping out tuberculosis ought to fall on the three parties who are interested.

2217. (Chairman.) Are you not raising a very large question there, when you speak of stamping out tuberculosis?—I think it is possible to stamp it out.

2218. You do?—I do. I do not see why it should not be stamped out. It is an infectious disease with a definite bacillus, the means to destroy which we have. I do not say you will stamp it out in a short time, but still I do not think it is an impracticable thing. What I would say is, that if you make the farmer who rears the stock pay a third of the loss, and if you make the butcher who buys from the infected stock pay a third of the loss, and then if you make the public in whose interest it is confiscated pay the remaining third, all the parties interested would have a direct object in destroying infected stocks.

2219. (Mr. Cooke-Trench.) It is confiscated in the interests of the public?—Well I do not know, it is not always in the interests of the public in a way. Of course it is confiscated in the interests of the public, but still there are men who deal in infected cattle habitually, and who get a distinct interest in its being infected, because they buy at a very low price on the ground that it will have to pass inspection, but they avoid the inspection and then sell it.

2220. You are now referring to those animals that show some indication of disease during life, are you not?—Yes, animals which they had known practically were diseased.

2221. Are you aware that there is no demand on the part of the butchers for compensation in such cases?—I know that the chief butchers do not ask for compensation; but there is a large section of the lower class butchers who will want to come in.

2222. You have already expressed your opinion that it is in perfectly bona fide cases bought in the market, where neither the seller nor the buyer could suspect tuberculosis, that compensation ought to be paid?—Yes, I think so.

2223. (Mr. Speir.) I would like to return to a point Mr. Cooke-Trench was asking you some question upon, that is with regard to the boxes of fish, or oranges, or something of that kind. It is the fact, is it not, that the exigencies of trade will not permit of those boxes being opened in the ordinary course of business in the country?—I really could not say that. I should think that it would be somewhat difficult in some of those cases; that is to say, it is the custom of the trade when they are dealing with large quantities and putting them up for sale, to have only a sample box, which may be a good sample or a bad one; but of course that is one of the ordinary trade risks which every man runs if he is buying a cheese or anything else.

2224. In practical working the boxes are not opened?—No, I do not think so, it is not so in my own experience.

2225. In the ordinary course of trade you could not test an animal by tuberculin, or open an animal so as to satisfy yourself, could you?—You could with tuberculin.

2226. For trade purposes you would have no opportunity of doing so, would you?—We have not at the present time, but we could get that power.

2227. But in ordinary trade circumstances you would have no opportunity of doing so?—I think so; I think that the inspector would be able to attend sales and to test the animals. You would want a person to be appointed to do that, but he could do it.

2228. How would you get about such an enormous number now as come into either Liverpool or Birkenhead?—Of course you could only do it by having the necessary staff, but it would not be such a difficult thing as you think. For instance, in Birkenhead there would be 3,000 cattle standing in the lairage at one time, and an inspector could go round and inspect those animals in a comparatively short space of time, and get the reactions.

2229. But the injection of the animals is the smallest portion of the work?—Yes.

2230. You not only require to have the injection of the animals, but you must take the temperature of the animals every two hours as a rule for 24 hours afterwards?—Yes, but you are no doubt aware that in these places they have veterinary surgeons, who are doing nothing else but walk about watching those animals thoroughly all the time, and they could do that perfectly well.

2231. Do you think it is within the range of practical politics to do so?—I am not going to speak about practical politics; I shall leave that to the Commission to decide. You asked me a definite question whether I thought it could be done, and I say it can be done; but I am not going to speak on practical politics.

2232. There is not much use in making any suggestion unless it can be carried out?—That, of course, is for the Commission.

2233. Have you read the experts' experiments in detail or have you only read a summary of them?—I read the Report of the Royal Commission which gave a summary of the evidence.

2234. The Report which has been generally read is only a summary of two or three pages; is that the one to which you refer?—I think the one that I read was the one which Dr. Thorne Thorne has been quoting. I did not read the minutes, but I read a report which really gave a summary of the work.

2235. You said you would like to have power to open the glands?—Yes.

2236. What glands would you desire to have power to open?—The pre-pectoral glands, the pre-sternal glands, the iliac glands, and the glands in the neck.

2237. Anything more?—You cannot cut the pope's eye, but the smaller strings of the lymphatic glands wherever you can feel them you might. If you can cut into the neck glands, the pre-sternal glands and the iliac glands, and you find them free, my experience is that when you get the carcass and cut it afterwards you will, generally speaking, not find the other ones affected, that is if you can get at those main ones in the different parts of the body.

2238. That is just what I was going to suggest, that if you had the power in those cases you could probably control the whole of the others?—Yes, I think so.

2239. Have you any experience pointing to cases where the glands have been worse than the offal?—Yes, we have had several cases. Of course, those are things which happen long before one knows one is going to be asked to give evidence, and consequently you do not note or recollect the cases specially; but I can assure you that there have been numbers of cases in which the glands have been affected where the offal has been practically not affected.

2240. Then to refer to a previous question that I asked you, what you have read of the experts' experiments scarcely agrees with your own ideas as to what

should be done with carcasses; and I wish to know, if, provided you found that there was little risk to animals from any portion of the meat "artificially smeared," as Dr. Thorne said, after cooking, you would be prepared to modify your opinion in any way?—I do not lay so much stress on the artificial smearing of the meat as on the gland infected meat, because the artificial smearing would be purely superficial, and would be far more likely to be killed by cooking than that which affected the glands; consequently I do not lay the same amount of stress on it. Dr. Kanthack once experimented on some meat for me. I seized the carcass of a very fine prize animal from a butcher. He said it was a great pity that it should be seized, and Dr. Kanthack experimented with the different portions of this carcass and made feeding experiments. He took a piece of a gland from the breast of the carcass which was seized, then he took a piece of the brisket and belly of a cow, and a piece of the flesh or muscle of the last-mentioned animal, and his experiment showed that they all practically infected the animals which he fed with them.

2241. (Mr. Cooke-Trench.) That they were all infected?—They all carried infection to some of the animals.

2242. (Mr. Speir.) Were these experiments carried out with raw meat or with cooked meat?—I think they were carried out with raw meat, but what I want to point out in these cases is that the disease could be in those portions, and my theory, is that if it is in those portions, cooking does not kill it.

2243. Where do you get such experience as that?—We know quite well that the temperature at which ordinary meat is roasted is not sufficient in many instances to kill a microbe of that kind.

2244. I think the experiments of our own experts by which we are supposed to be guided almost prove the reverse of that?—I do not think they do; I cannot believe that.

2245. Unless in the case of very large pieces of meat?—Of course if you have a thin piece of meat, and you have it thoroughly roasted, then you kill the microbe, because you raise it to a sufficient temperature; but very often the ordinary temperature to which meat is raised in cooking is not sufficient, especially among the poorer classes, where they have very small fires; they practically cook the meat in a very indifferent manner, and they eat it half raw.

2246. What sized piece of meat are you referring to just now, when you say an "ordinary" piece?—An ordinary cut of meat.

2247. Three pounds in weight?—Three to five, six, or seven pounds—a restaurant piece of meat; a piece of beef such as everybody goes to a restaurant and eats. I say that the temperature to which a great portion of this is raised would not be sufficient. I went to a restaurant yesterday and had meat there some of which was practically raw.

2248. I think that one of the last Commission's conclusions was that with pieces over five or six pounds there was a danger of the bacilli in the centre of the meat not being killed, but that in all pieces of meat less than that they were killed?—Yes, but that is only by what they call thorough cooking, and how can you guarantee to what extent people are going to raise the temperature of the meat? If they are going to raise it to certain temperatures which an experimentalist could do absolutely, you will all be safe, but you cannot be sure of that; they may only just slightly warm it, or they may put it in lukewarm water and not raise it up to the boiling point. People treat their meat in very various ways, and you cannot say how people will treat their meat.

2249. Are you satisfied that you can detect deep-seated tubercle in, say, the liver by pressure?—Deep-seated tubercle, in my experience, never exists except where there are signs on the surface. I am speaking as a practical man, and I have never seen a liver cut through which showed any sign of tuberculosis, that did not show signs on the surface; you can always detect it there, if it is only 12 minute

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specks, it always appears under the capsule of the liver in some places. It is just within the bounds of conceivableness that there might be tubercle in the centre of the liver only, but for all practical purposes you will not get a liver affected deeply without showing signs on the surface.

2250. Personally I may say I have found any number of that kind, especially with reference to the liver?—I see some thousands per annum, but I have never seen a case of it.

2251. Then, talking of private as against public slaughter-houses, you reduced yourself to a man having to carry his meat two or three miles?—Five miles in the country is no distance.

2252. Do you mean to say that if he could carry it two or three miles he could without much more difficulty carry it five or six?—Yes, that would not make much difference. What I say is that in country districts you do not think much of a mile, or two or three miles, nor any thing within a reasonable distance. Every man who has been a country medical practitioner knows quite well that there is a certain radius around his particular centre—and a doctor is about the most capable man for judging what the centre is, for he generally resides in the centre of his district—and that the distance of a mile more or less is not accounted very much of a difficulty.

2253. After you have got a start?—When once you have got started.

2254. Have you ever formed any opinion with regard to a court of appeal?—No, I have not thought at all of that.

2255. Do you think any such thing necessary?—I do not think so, that is, if the inspection is carried out in one legitimate manner and uniformly.

2256. Presuming you have a medical officer who takes, probably, extreme views compared with the average of the country, and the butchers fret at those extreme views and wish to take another opinion, would you be inclined to do anything in a case of that kind towards providing facilities for an appeal?—They have to take another opinion; they have to go to the magistrate.

2257. Would you make that the court of appeal?—You practically have to make that the court of appeal, and if the butchers are not satisfied with that, they appeal again to the Recorder. They constantly do it with us; if the magistrates do not suit them they go to the Recorder again with all their grievances.

2258. In a matter of doubt would it not even pay a butcher to lose the carcase rather than have himself held before the public as being connected with such a case?—I do not think so, if he is certain he is going to win his case. I think when he proves his case he is not much damaged.

2259. But then there is no person going into court who can be certain that he is going to win, he must take it as a matter of doubt?—Of course, if he has not got pretty good grounds, he is very foolish if he does go into court. Our experience is that if they have the slightest doubt in the matter they fetch in expert evidence on their own account, and we are always giving them every facility to do so. I may say that in Birkenhead we take a course which is not done generally over the country, that is to say, I go down and if I find it affected with any disease whatever, I say, "Look here, this is affected there and I must seize this carcase. Will you sign an order authorising me to take that away, because if you will"—that is, if he is a man who is not attempting to run the gauntlet in any way, but is dealing perfectly fairly and squarely, and above board,— "If you will give me that order"—so that he cannot come down on me again with proceedings—"I will not take you into court." In such a case, I do not expose him in any way, he has not to go into court; I do not get a magistrate's order, and the result of it is that the law is practically carried out without any exposure of the butcher. We only go into court in special cases or where they are not satisfied with

the result and want to fight it. We used to have a good many of such cases, but as they never succeeded in establishing their case, the result is that they say, what is the good?

2260. It will not pay them, in fact?—No; of course we have had a few fights and they have brought evidence, and we have brought evidence, but we have always won the day, so that they have got confidence in our opinion now.

2261. Have you had many cases where the butchers or cattle salesmen make the attempt of running the gauntlet with meat?—We have constantly had them among certain sections.

2262. Do they do it still?—Yes, they do so still if they can.

2263. (*Professor Brown.*) Would it not be rather difficult in trying to carry out your suggestion about cutting into the glands, to define by Act of Parliament or by Order in Council exactly the glands that you might cut?—It would be difficult to define the absolute glands, but I think that reasonable facilities should be given to an inspector to examine the glands so long as he did not deal injuriously with the meat. Of course the butcher always has this in his power, that if you damage the meat you have to pay compensation for the damage which follows on your action; you could not alter that. Reasonable power to examine the glands could be given without doing any harm to anybody.

2264. Do you not think that the power which you now have is sufficient if it enables you to say to the butcher, "I suspect this carcase"—and of course one would not cut into the glands if you had no grounds for suspicion—"and if you do not let me cut into the glands I shall condemn it, but if you do I shall probably be able to pass it"?—No, I will tell you why, because he says, "I will not let you look at this; I will not let you cut into the glands; there is a very slight infection there, and I will not let you do it; I will go to the court with you first." Then you have to satisfy a magistrate, who very often has little or no knowledge of the subject and who naturally looks at the carcase and says, "Well, it is a very fine-looking carcase, I do not see that any harm could be done," and the butcher probably says "I will eat the stuff myself in front of you; I have eaten many carcasses like it, and it is perfectly good." The result of it is that you are in this position, that you have to decide whether you will take it or not, for there is another thing to consider, when your back is turned they may just nip the little bit of disease off which you have found.

2265. Have you ever had a case of that kind?—We have constantly had cases where they have nipped bits off the pleura and things like that.

2266. In such a case you could not take it into court, could you?—You could not. How could you do so? You have got no evidence then which would satisfy the magistrate. If you did succeed at first they would go on appeal, and then you would get upset on appeal. According to my experience, as a matter of fact it is a very difficult thing to satisfy a magistrate that meat is bad. You must have very strong evidence when you go before an ordinary magistrate.

2267. Can the owner of the carcase remove it, if you decline to pass it?—I must either seize it, and go to a magistrate and get an order for it at once, or else he can take it away. I have no option; I cannot detain it five minutes. If there was a carcase that belonged to anybody and I said: "Look here, you must let this stay for a little longer examination, the butcher could say, "I am not going to let it stop for your examination. If you want to examine it, look at it and pass it, or seize it if it is diseased, but if you do not look at it now I shall remove it." It is his carcase and I have no power to detain it at the present time. We ought to have power to do so.

2268. Your experience is that a certain proportion of the butchers would rather do that than run the risk of having the carcase cut into?—Yes.

2269. But your opinion remains that if it could be done by any legal measure, it would be a distinct advantage?—It would be a distinct advantage, because it would become recognised. Mind you it is only the residue of the butchering trade which habitually deals in this kind of stuff. The respectable butchers you never hear of; they never give you any trouble, they are men that you never have any action with whatever; or if they think there is the slightest infection in any of their meat they will come and say, "You must do what you think best in the matter." The large proportion of the respectable butchering trade does that undoubtedly; but there is a certain percentage which nothing will satisfy and who play you all the tricks. You soon learn to know them because they are the same men that you deal over and over again with.

2270. In reference to compensation I gather that your view is that it is only in those cases where it is impossible, I think you said, to detect the disease, during life, that the person should be compensated if the carcass is condemned after slaughter?—I say that where a person buys in a genuine *bona fide* open market, that is, by auction at the cattle sales, where an animal is put into the ring and buyers judge it as best they can; and where he buys it for over 8*l.* and under 30*l.*, then he should be compensated to some extent.

2271. Does it not turn out, judging from what you have said, in answer to several questions, to be exactly the same thing with a box of oranges: is it not equally as impracticable to open a box of oranges sold in that way as to open a bullock?—Yes.

2272. You have said several times that butchers can take extra care in getting healthy animals?—Yes.

2273. If they were paid compensation for animals which were seized, do you think they would have the same reason for taking extra care?—No, I do not, and that is the weak part of it if you give compensation and free them entirely from cost. That is why I say I would make them pay a certain proportion, so as to compel them to take the necessary care to protect their meat. If you are going to pay the whole cost, then it is nobody's interest but yours, and consequently there will be no care taken, either by the breeder or by the buyer to get a proper thing; in fact, you might expect the mass of the infected animals to be sent into the towns where inspection is severe, with a view to getting the compensation.

2274. Have you any reason from your own observations to conclude that the consumption of tuberculous meat produces any appreciable amount of tuberculous disease in man?—You know that you are asking probably one of the most difficult questions which anyone can put.

2275. I am quite aware of that?—The time of the infection and the time when it develops and proves the inoculation is an exceedingly difficult one to fix, but still I think that our knowledge of the virus is quite sufficient on scientific grounds to enable us to say that it would do so.

2276. Of course, you are aware that most forms of tubercular disease have decreased considerably in the last ten years?—Yes.

2277. You said that you thought tuberculosis could be stamped out. Are you—of course you are, by-the-by—familiar with the fact that it could be communicated to cattle from the human subject?—Yes.

2278. And that it is also very prevalent in poultry?—Yes.

2279. Presumably animals feeding in a straw yard may pick up the bacilli or the germs?—Yes, but I do not think that that is the main way in which it is done. Of course, that is a weak point, but I do not think that it is the way in which the mass of the infection goes amongst cattle. There might be odd cases of that, but they would be so slight that even if infection did take place in that manner, under the method suggested by me they would soon be stamped out again.

2280. At any rate, you mean that the disease could be considerably checked?—Very considerably checked, so as to become practically not a serious question.

2281. The question of cost, of course, you would not go into, and you do not refer to that?—Of course, I cannot go into the cost question.

2282. You said that you had found the tubercle bacillus in the muscular structure of the heart?—Yes.

2283. Was there any condition of the heart that led you to suspect it?—No, the heart looked a very sound healthy heart.

2284. How did you discover it?—The glands at the top of the heart were affected, and then I saw a nodule in the heart muscle.

2285. (*Dr. Thorne Thorne*.) You gave us 71 seizures in five years out of 3,098 home animals; could you tell me in how many of those 71 cases of seizure either of the carcass or of the organs it was necessary to take proceedings before a magistrate?—I cannot give you the exact numbers by memory, but I should think that certainly not above seven.

2286. May I infer from that that the butchers abide by your decision, as a rule?—Yes, they do now.

2287. Even in the case of seizures?—Yes, they generally abide by my decision. They have found that they are pretty fairly dealt with, and so they take one's decision. They very often will bring in outside evidence, and ask for professional men to come and look at their beef—veterinary surgeons and others—but the result has been that, in almost every case, the veterinary surgeons or the expert witnesses called have confirmed my judgment, and have advised them to give it up.

2288. There was mentioned by you a case of one carcass which was condemned in a private slaughter-house, where the butcher asked you personally to examine it; is that the only case that has occurred in that private slaughter-house?—That is the only case that I know of.

2289. How long have you been Medical Officer of Health in Birkenhead?—Five years.

2290. How many carcasses would pass through that butcher's hands, do you imagine?—I could not tell you that. The meat inspector would tell you more than I could of that. That butcher is a man of high standing; he is a man whom I should class amongst the best butchers in the country.

2291. But still it was a solitary instance over a long period of years?—So far as I know, the only instance.

2292. In a large business?—A fairly good sized business. He is one of the men who buys selected cattle, and does a first-class trade.

2293. On what grounds did you seize that fine carcass on which *Dr. Kanthack* experimented?—There were signs in the pleura and there were signs in the glands of the carcass. I cut the glands, and it was really on the appearance of the glands that I seized it. The offal was affected, and there were slight patches on the pleura.

2294. Then there was a fair amount of evidence of tuberculosis, apart from the condition of the actual meat?—Yes, but he did not admit that, and he would not admit that; the butcher would not admit that a carcass which did not show any sign on the meat could possibly be bad: he said if we took those pieces away it ought to be fit for food.

2295. Could you give me any idea how many internal organs were affected?—The lungs and the liver were affected; I think the spleen was free, but I think one of the mediastinal glands was affected.

2296. And the pleura, you said?—There was only a little on the pleura.

2297. Now, with reference to your views as to slaughter-houses in rural districts, how far down do you think that inspection at quite uncertain and unknown intervals by a competent inspector travelling about would secure much the same results as the establishment of public slaughter-houses?—It would only check the evil to a slight extent; it would check it to the same extent that it does in towns

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which are entirely supplied by private slaughter-houses. I think Middlesbrough is an instance of such towns, and there the medical officer of health, I believe, practically says he has no control, or very little control. In fact, you cannot control a large number of isolated spots, because the profits to be made out of slink meat are so much greater than any penalties which you can get enforced if you catch them that they prefer to run the risk.

2298. Could you give the Commission any idea as to the extent of your experience in this matter? I will put it in this way. How many carcasses do you see and inspect on an average every year?—I certainly examine, personally, I should say, 30,000 per annum.

2299. Every year?—Every year for the last five years. Of course, I do not mean that that is the number inspected; my inspector sees the 223,000.

2300. (Chairman.) Can you now give us any information or suggestion on the other branch of the subject, namely, the inspection of cow-houses, shippens, and dairies?—In Birkenhead we do not really control the milk supply so thoroughly as I should like to from the tuberculosis point of view. We inspect the places as to all sanitary requirements in regard to air space, drainage, cleaning, in fact, in regard to everything connected with their sanitary condition, but we have no control over the tuberculous portion of the milk. We have no means under the law of stopping a man from selling tuberculous milk, and we have no power to go and test his stock and say, "You shall not use that animal or this animal;" however infected it may be we have no power of stopping him from using it.

2301. Do you say you have no power of inspecting the stock?—We have the power of inspecting the place, but we have no power of inspecting the stock.

2302. Have you not?—No; and even if we did inspect the stock we have no power to stop him from using that stock as he pleases. But as regards everything relating to cleanliness, air space, ventilation, drainage, water supply and everything of that kind we are very stringent in our requirements—as stringent as we can possibly be.

2303. Have you any means of knowing to what extent tuberculosis prevails in dairy stock?—I have no statistics to show, but I have a good suspicion.

2304. Can you give us a general idea?—I have a general idea, gained from looking at their external condition, that a very large proportion of the dairy kept cows are tuberculous. I believe there are in my own district some dairies which if the animals were tested would prove to have a very large proportion of them infected.

2305. What is your opinion of the relative risk of infection from the consumption of meat, and from the consumption of milk or other dairy produce?—You see milk is always taken in the raw condition, or almost always, and it has now been proved I think beyond possibility of doubt that animals with tuberculous udders will pass the tuberculous virus into the milk, which is taken by children in the raw condition, and I believe that a great many children are infected thereby, a very large number of them. I think we ought to have power to suppress any milk which we have reasonable grounds to suppose is adulterated with tuberculous virus, I think that is one of the most important things to do in connexion with the stamping out of the disease.

2306. That is a general opinion of yours not founded on any statistics, is it not?—Experiments have shown that you can find the virus in the milk.

2307. You said, I think, that a very large number of children were infected in that way?—Yes, I think so.

2308. That, of course, is a general opinion?—The thing is this, that every medical man who has any practice constantly comes across a disease known as *tabes mesenterica*, which is an infection of the bowel glands, and which is a very common disease. It is

essentially a tubercular disease which would be set up by this poison, and it is, as I say, quite a common thing. I suppose every medical man who has been in practice for any time constantly comes across cases of it. I did when I was in practice, and I was in practice seven years, I had a great many cases during that period of time, and they were cases in the country where you could not expect the children to be infected from the parents.

2309. (Professor Brown.) What further powers do you think you require in regard to the inspection of dairies, purely from the public health point of view?—I think we ought to have power for the examination of cattle and for testing them with the tuberculin test, if we think it desirable, and then if we find a reaction or have good grounds to believe that the animals are infected, that we should have power to say to the person, "You must not supply milk from that cow until we are satisfied that it is not spreading the infection." We ought also to have power to take samples of the milk and have it examined for this purpose.

2310. I conclude you would only apply that test in the event of finding some disease in the udder?—I do not know. You might find a very large wasting of the animal. The question is how much infection of the udder can exist before you would feel it externally. I believe you might have infection of the udder up to a limited stage, where it would be difficult to detect it externally absolutely, but which yet might be poisoning the milk. Then if you find the cow wasting, if you find it presenting all the ordinary symptoms of tuberculosis—the roughening of the coat, and the cough on being exerted, and general emaciation setting in—then without other cause I should be strongly inclined to apply the test, whether the udder was affected or not.

2311. And if you found that the animal reacted without any indication of disease about her, you would exclude that animal from the dairy as a producer of milk?—I would. I do not consider that, once you prove the animal is affected, it ought to be used for a milk supply.

2312. You are, no doubt, aware that in most of the experimental cases, which we had in the former Commission, milk from cows which had perfectly healthy udders, although they were known to be tuberculous, and were proved afterwards to be tuberculous, did not give tuberculosis by feeding?—I know; but the question to me is, how are you going to tell whether an animal has a perfectly healthy udder before it becomes extensively affected.

2313. You mean that there may be some deep-seated deposit of tubercle?—Yes, which is giving rise to it, but which you cannot detect externally.

2314. Then you would not be content with a microscopic examination of the milk?—No, I would not, because it is an exceedingly difficult thing, as you know, practically, to discover a bacillus in a quantity of milk; it is like looking for a needle in a haystack. You might fortunately alight on it.

2315. You have tried that yourself, perhaps?—I have made many examinations, and often in the milk of known tuberculous animals I have not been able to detect the bacillus.

2316. Would you extend your powers so as to enable you to deal with any case of diseased udder?—I think that any animal that has a diseased udder ought to be stopped for milk supply.

2317. Without any question at all until the state of the disease is settled?—Yes, I think so.

2318. Would you go farther and say until the udder becomes healthy?—I think so. If the udder is not healthy, I do not think the milk ought to be sent out. That seems only a reasonable proposition.

2319. Do you happen to have met with any case where a man has incontinently milked a diseased quarter, getting nothing but pus and exudation matter into the common pail?—No, I have never had any experience of that.

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2320. But it is a thing that might happen, you apprehend, in the ordinary course of milking?—I think it could happen.

2321. The man would not stop because the milk happened to be a little thicker and more yellow than usual?—You see, they do not look into the pail; they put their heads against the side of the cow and they do not look at what is going into the pail.

2322. He gets all the milk from every quarter that he can get?—Yes.

2323. That would suggest the desirability of excluding from the dairy every cow which has a diseased udder?—I should advocate that most certainly.

2324. Referring to *tabes mesenterica*, I conclude that the diagnosis is clinical?—Purely clinical, of course.

2325. There are no facilities in this country for testing every case, are there?—No, but of course if you have been properly trained you have a very good idea of the symptoms which give rise to it.

2326. And the post-mortem evidence is sufficient to indicate that the clinical symptoms are fairly diagnostic?—I think so.

2327. In your observation have you found that disease prevalent among children at a very early age?—I did in practice.

2328. Where there has been known to be diseased cows in a dairy supplying the milk used?—I cannot tell you that, for this reason; that when I was in practice the matter was not so prominently before the public, and you did not look out for the connexion with the dairy so much as you do now. I have been some years now off the general practitioner's work.

2329. (*Mr. Speir.*) In Birkenhead have you powers to insist upon a certain air space for your animals?—Yes—800 cubic feet per animal.

2330. Any floor space?—No, the floor space is not defined under the byelaw, but they must have 800 cubic feet of air space.

2331. Have you any regulations with regard to ventilation?—Yes. All shippens must be efficiently ventilated. Of course the medical officer has to judge of that when he goes round. I inspect all these places myself, and they all have to be registered, and unless they comply with that requirement of efficient ventilation we will not register them.

2332. What would you yourself consider sufficient ventilation?—I consider all cow-sheds ought to be ventilated as you ventilate a modern stable, with an aperture over the head and an aperture in the roof.

2333. What size should that aperture be per animal?—What they generally use is one of the ordinary small land-drain pipes.

2334. Might that be three inches in diameter or six inches?—Three inches.

2335. With a small opening above?—A corresponding opening to the inlets.

2336. Do you think that would be sufficient?—I think so.

2337. If kept open?—Of course it must be kept open.

2338. Do you find that your people keep them open in cold weather?—Yes, because I send the inspector constantly round to watch them.

2339. If they are closed, what happens?—We simply serve them with a notice that if they do not comply with the byelaws we shall take them off the register.

2340. You have referred to *tabes mesenterica*. A previous witness that we had showed us tables of mortality for all England from 1851 to 1895, and they distinctly show that there is a considerable diminution when all forms of tuberculosis are lumped together during those years. I presume that your experience would lead you to expect that?—I have not any absolute statistics, but—

2341. You would expect that?—I believe that is so from general knowledge.

2341. Taking the deaths from *tabes mesenterica* in 1852 to 1860, the figures are 3,169 per million births, and in 1891–1895, instead of having decreased,

the same as other forms of disease, the figure has gone up to 4,046. Would that accord with your experience?—Yes. I do not see why it should not be so. I believe that breast feeding has very largely gone out of fashion amongst a lot of people in later years.

2343. Breast feeding having gone out of fashion, of course milk from the cow has to be used?—Yes.

2344. And you would trace a connection between the diseased udder and this disease?—To some extent I think so; I think it is a fair inference.

2345. Then we have had another table put before us showing diseases of a scrofulous nature. Taking the same years, in the period from 1851 to 1860, the figures are 464 per million deaths for children under one year, and for the period 1891–95 they come up to 1,634 per million. Does that accord with your experience also?—I have not personally much experience of scrofulous disease, and I could not tell you whether that has been so or whether it has not; I have no statistics, and I have not watched the scrofulous increment.

2346. You have not been watching it closely enough to give a decided opinion?—No.

2347. (*Mr. Cooke-Trench.*) Wanting some thorough system would not a periodic inspection of the udders of cows, supposing such to be practicable, go a great way towards meeting the milk difficulty?—It would help a great deal, of course, if there were a periodical examination within a reasonable time.

2348. What would you call a reasonable time?—I think every two months.

2349. That is a long period?—I think that would meet it, of course you might get disease in that time.

2350. You have talked of the application of the tuberculin test to cows. Would you condemn a cow for milk if she reacted to the tuberculin test, and apparently she was in excellent condition and had a sound udder?—There is a great deal hangs thereby. The question is whether the tuberculin test would cause the reaction in a perfectly healthy animal, and I am not prepared to say whether it would or would not.

2351. I said in an apparently healthy animal?—I think if you apply the tuberculin test it would form a sufficient ground to exclude temporarily, at any rate until you get further evidence, any animal from being used as a milch cow for human food.

2352. (*Mr. Clare.*) Have you many shippens in Birkenhead?—I have 159 milk shops and dairies on the register.

2353. I referred to the shippens where the beasts and the cows are kept?—I cannot tell you that. I have not the number of absolute shippens. Some of these 159 will be merely milk shops. I find there are 30 shippens.

2354. I presume a great deal of the milk that comes into Birkenhead comes from country districts?—Yes.

2355. And from dairies over which you have no control?—A very large proportion of it.

2356. Do you ever have the milk analysed?—Constantly. We have, I should think, about 80 to 90 samples taken every year.

2357. Then you are able, probably, to give a comparison as to the relative purity of the milk which come from shippens in the borough as compared with the milk which comes from dairies outside?—The fact of the matter is, I may say, that our milk supply, as shown by analysis, comes out exceedingly well. We get very few prosecutions in the year; I do not think we get above three per annum, and those will certainly be about equally divided between the two.

2358. Are those prosecutions founded upon chemical analyses entirely. They are founded upon chemical analyses entirely. He does not give us a bacteriological examination unless asked for. As we have no power under tuberculosis, we do not ask for a bacteriological examination except in cases where we would take a case for examination if we suspected scarlet fever, or something of that kind.

2359. But even an analysis of milk may not be a very correct guide as to whether milk from tuber-

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culous cows is being sold in the borough or not?—I do not think a mere chemical analysis is any test absolutely.

2360. What I meant was that the sample you took might not contain tuberculous bacilli, whereas a second sample if taken might do so?—Yes, it might, and it would depend as to whether you took a sample at the end of the milking or before milking I fancy.

2361. You have told us before, as regards meat, that your experience is that a considerable amount of tuberculosis comes from animals fed in Cheshire?—Yes.

2362. Do you think it is probable that those animals at the time they have tuberculosis, are in the Cheshire dairies?—I believe they are nearly all of them—at least, a very large proportion of them are.

2363. Then one might almost draw the conclusion that it was extremely probable that, at any rate, some milk from animals suffering from tuberculosis is consumed in the borough?—I believe so, I think that is a very legitimate conclusion; but I have no evidence to prove that statement. I have a very strong suspicion that it is so.

2364. Practically, then, if a large proportion of your milk comes from outside your borough, and no proper inspection of the cow sheds in the outside districts is made, the money spent by the municipal authority in trying to purify the milk supplied in the borough is, to a large extent, negatived?—It is, except that we always intercept the milk on delivery at the station. We constantly take samples immediately on delivery at the station, before it is taken to the dairies, and if we got a sample of milk from a dairy that did not prove satisfactory, we should at once ascertain from what source it was coming, and without giving them any warning, take a sample of both a morning delivery and an afternoon delivery, and have them analysed, so as to get at the source of the adulteration.

2365. I assume you can only do that where the milk comes direct from the farmer, and has not passed through the hands of a dealer, where the milk from different dairies is mixed before it comes to the borough?—As a matter of fact, I do not think we have any place in Birkenhead—at any rate, there is no place to my knowledge—where that mixing is done. There may be, of course, but I am not aware of it.

2366. Have the Corporation of Birkenhead made regulations under the powers of the Dairy and Cow-sheds Orders of 1885 and 1886?—Yes, there is a copy of them (*handing in print of regulations*). You will see that section 3 deals with lighting and ventilation; sections 4 and 7 with cleaning and washing; section 5 with drainage; section 6 with water supply; section 8 with precautions against infection; and then section 9 deals with penalties, and you also see that 800 cubic feet of air space are required for every head of cattle.

2367. In Birkenhead, comparatively speaking, we may say, as compared with Liverpool, and many other towns, the cow sheds are modern buildings?—Yes, they are nearly all modern buildings.

2368. Therefore, they have been constructed upon a better basis than such buildings have in any of the older towns?—Where they have been constructed since the incorporation, we have watched them very carefully before we have registered them.

2369. Do you think it would be any advantage to a corporation to have power to lay down regulations with regard to the structure of cow sheds?—I think so. I think they ought to have the power the same as in regard to other buildings and made retrospective.

2370. You could not get that power under the existing Orders of 1885 and 1886?—I think not.

2371. Do you think it would be an advantage if the corporation could have power, for instance, to regulate the position of the privies and urinals which are attached to cow sheds?—I think so, distinctly.

2372. And as to the formation of the floor?—Certainly.

2373. And the position of the midden and the draining of the midden?—I think it is most desirable that they should have those powers.

2374. Do you think that if the cow shed is properly constructed, under such conditions as I have suggested, and is properly lighted and ventilated, that would have a tendency to diminish the disease of tuberculosis among cows?—I think it would tend to make every stock more healthy, and tuberculosis and every other disease would thus be improved.

2375. Do you think it is an important matter that a corporation should have power to require the greatest cleanliness and control over cleanliness with regard to all articles used in connexion with milk?—Most certainly.

2376. I mean to say with regard to the receptacles for storing, troughs, and so on?—Precisely; I think it is most desirable. If you do not look after the cleanliness of the utensils used, then I think that your cleanliness over the shippon is, to a very large extent, wasted.

2377. Do you think it would tend to the general health of the animals if whoever owned the shippons was obliged to clean them out frequently, and particularly to clean out middens once a week?—I think they ought to be cleaned out constantly, most decidedly; and, in fact, we issue instructions and serve notices on them to clean them out every so many days, according to the position of the midden.

2378. Supposing that you found a cow in a shippon which responded to the tuberculin test, I think you said that the milk of that cow ought not to be allowed to be mixed with other milk, and sold?—Yes, I did.

2379. Where would you propose to treat that cow until the time arrives when you decide whether it ought to be destroyed or whether it can be cured?—Of course, that is a very complicated and difficult question. The question is whether the local authority would have a special depot where they could take them—they could not do that in a large town; or whether these animals would have to be treated in their own particular pen. I take it that at the commencement, they would have to be treated in the particular shippon or pen where they stood.

2380. But, practically, unless you can have that diseased animal or animals suspected of disease under the control, to a certain extent, of the local authority you cannot be quite sure that the milk of that cow is not sold to somebody or other?—No, you cannot be absolutely certain, but, of course you can keep a very strict watch, and you can to a very large extent control it. You know what is the amount of milk that she is giving, and you must know where that milk is. The farmer would have to account for everything that takes place, and consequently you would have some control, because he would not care to give you other milk instead of it, he would be no gainer by doing so.

2381. I think you said that milk is very much more dangerous, practically, than meat?—I think the experiments have shown that being always taken in the raw condition, it is more liable from that point of view to spread disease amongst children.

2382. Putting the question of tuberculosis aside for a moment, I presume the milk of any cow that is not in good health is not particularly good for children?—I think not.

2383. Would it not then be safer for the local authority to require every cow, as soon as they find out that it has tuberculosis, even in a minor degree, to be at once slaughtered?—It would be very much better. Of course, that means an enormous expense, because you must pay full compensation to the man under those circumstances. I take it.

2384. Compensation for a diseased cow?—Yes. I think the local authority ought to undertake that duty.

2385. You think it would be advisable that when an animal undoubtedly shows signs of tuberculosis, and when I speak of an animal now I mean a milking

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cow, that cow should at once be slaughtered under the directions of the local authority?—I do.

2386. The question of compensation is, perhaps, a matter of opinion?—That is a matter which would have to be left for other considerations.

2387. Still, when you speak of compensation, do I understand that you mean that a man is to be compensated for the value of the cow, assuming it to be in perfect health, or for the value of a cow which has contracted a disease, and which in all probability will not live, say, more than three months?—I do not think he ought to receive the full value of the cow, because he is selling an adulterated article from it, and I should therefore treat it as if of a lower value.

2388. Milk is sold, is it not, out of carts, we will say, in hot, dusty weather, when the large milk cans are open at the top, a ladle is just put in and perhaps a pint or half-a-pint of milk taken out; will not the effect of opening that milk can constantly be that an immense amount of dust, dirt, and probably contamination must get into the milk before it is all consumed?—I daresay it may, but I do not know how you are going to deal with a practical working of that kind, it would be very difficult. That is, practically, one of those difficulties which you must take in a trade, the same as in the confectioners, where they have to work in a cellar, and where you will have things blown in at the windows.

2389. Speaking generally, do you agree with me that it is desirable that local authorities should have much larger powers than they have at present?—I think it is absolutely essential in order to control the milk trade.

2390. Do you agree with me that whatever those powers are they should obtain over the whole country, and be enforced over the whole country?—Certainly, otherwise they must be a partial dead letter.

2391. (*Mr. Murphy.*) Upon whom would you impose the duty of inspecting the dairy farms in the country?—An inspector under the sanitary authority. If you had, as I suggested for the meat inspection, a properly qualified man, he would be qualified to look after the milk as well.

2392. And you think the sanitary authorities, each acting in its own area, might undertake that duty?—Yes, I think so and ought to do so.

2393. Which authority has the duty of administering the Contagious Diseases (Animals) Acts?—That I cannot tell you at the present moment. If the sanitary authority does not do that, I suppose it will be the guardians, or is it the county council? I do not know which authority now has it.

2394. Have you considered whether there would be any convenience in associating this duty of farm inspection with the authority, administering the Contagious Diseases (Animals) Act?—I take it that that would of course follow as a matter of fact; whoever is administering the one Act will have to administer the other. I think they all ought to be under the one authority; the Contagious Diseases (Animals) Act, the cow sheds, and the meat inspection ought all to be under one authority.

2395. (*Dr. Thorne Thorne.*) One word on that same question, is there not an enormous difference between the two authorities, one having the care of preventing the spread of disease from animal to animal, for the protection of herds, and the other having the control of the public health?—I do not see why a county council should not take care of the public health as well, in certain directions, if it can do it better. It is only a question of which would be the most efficacious.

2396. The sanitary authority at present has power to protect the public health; should you take that away from them as regards meat and milk and hand it over to another authority?—It is a purely economic question. Theoretically I have no wish to take it from the sanitary authority, but if you have to provide an official whose time is not entirely filled up, and who could do the duties equally well, then it becomes an

economic question I think; but it is purely an economic question as to who shall do it.

2397. You said, as I understand, that you have no power of inspecting cows in dairies?—Yes.

2398. I suppose you remember the Infectious Diseases Prevention Act, which gives you that power, under certain restrictions?—Yes.

2399. You must, as the Act says, possess evidence that the consumption of milk from a dairy is likely to cause infectious disease, and then you know you have the right of entry?—Yes, but that is an exceedingly difficult matter, and of course that is a permissive Act.

2400. That is no excuse; an authority ought to adopt it I think if they want it. In that section, you know, if a magistrate is convinced that a cow is producing milk which is liable to cause infection, he can order that the milk supply must be changed or that the cause of infection shall be removed?—Yes.

2401. In the case of a tuberculous cow, he could not do so, and so the cause of infection could not be removed, could it?—No.

2402. Therefore every such cow would be a damaged article, would it not?—Yes, I consider so.

2403. Would that in your opinion be an element that ought to be taken into consideration in connection with compensation?—Decidedly. I expressed that opinion to Mr. Clare.

2404. Mr. Clare was asking you about the cow-houses; do you consider that the 800 cubic feet that you have in Birkenhead is sufficient air space?—Yes. I think so.

2405. And that irrespective of any floor space?—Of course practically one finds that that really means an efficient floor space. One could conceive of a very small amount of floor space with a considerable amount of air space in the roof, but, as a matter of fact, as a practical question, one does not find that so.

2406. Do you mean that the cowsheds are generally of so low a pitch that the 800 cubic feet would give a reasonably sufficient floor space?—Yes, that is really what it works out to.

2407. You know, of course, that as regards slaughter-houses, the powers that can be carried out under byelaw, are far more extensive than they are as regards cow houses?—Yes.

2408. Do you think it would be an advantage that powers of a like character should be extended for the purposes of cow houses?—Certainly.

2409. They would include the periodic removal of all refuse?—Yes.

2410. And regulations as to cleanliness?—Yes. I think we ought to possess those powers.

2411. When a cow is found to be tuberculous, should you object to the owner of it electing to send the cow for sale as meat at his own risk?—Not in the least.

2412. You have been asked one or two questions as to udder disease. Is it not a fact that even the last Commission in selecting cows with udder disease found on their slaughter, that in two of them the udder disease was not tuberculous?—I believe that is so.

2413. Had that any influence upon you in saying generally that any tumour of the udder should lead to the cow not being allowed to supply milk?—Of course I think it should not where there is a suspicion. I think you ought to avoid a suspicion of taint. In the few cases where you would get udder tumours which were not tuberculous, I think the loss from those animals would not be very great on the people owning them, because they would get a value.

2414. Do you agree with Dr. Martin when he says that "the milk of cows with tuberculosis of the udder" "possesses a virulence which can only be described as extraordinary"?—I have no absolute practical experience beyond the experiments which such experts as Dr. Martin have made, and consequently I accept their opinion in forming my own.

2415. Could you form any opinion as to the value of the following statement?—Dr. Woodhead says, "The absence of any definite sign in the early stages,"

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referring to udder disease, "is one of the greatest dangers of this condition"?—I have already expressed that opinion here.

2416. You would, I imagine, fully confirm Drs. Martin and Woodhead where they insist that no tuberculous animal of any kind should be allowed to remain in a dairy?—I am strongly of that opinion.

2417. With regard to butter and milk products, may I assume that insistence upon the removal of every tuberculous animal from a dairy would be the only practical means of preventing butter being made with tuberculous milk?—It would be one of the chief means of preventing it certainly; I would not say the only one.

2418. Professor Brown was referring to cases in which tuberculosis had gone on even to suppuration, which was slightly evident even in the colour of the milk; have you ever heard of a case in which "rich, yellow milk" which turned out to be thus tuberculous, was actually selected in bona fides by the farmer and the parent as nursery milk and paid for as such?—I have no experience practically on the point.

2419. Have you any experience as to the amount of tuberculosis in chickens and fowls in the Birkenhead markets?—We have very few seizures of the kind and I am not aware that there is extensive disease amongst them, still there may be. Our inspection does not lead to many seizures per annum, though we do constantly and habitually inspect the poultry shops.

2420. Have you had any seizures of fowls on account of tuberculosis?—Yes, both fowls and rabbits.

2421. Do you think the method of cooking a fowl, whether by boiling or roasting, would be more likely to destroy the tuberculous matter in the meat than is the case with beef for example?—Much more likely. You very rarely find a fowl underdone; people do not like underdone chicken, it is tough and not very pleasant eating, and so you very rarely find it underdone. Then it is thin in the flesh.

2422. Would the removal of the viscera from the inside facilitate the action of heat more than it would in the case of a joint?—I think so. You are dealing with a very much more limited amount of flesh and thickness of substance, and as I think you are pretty well protected in the case of a fowl.

2423. Then may I take it that your opinion is that in the case of fowls the risk to the human subject is a small one?—Comparatively small.

2424. (*Mr. Speir.*) In answer to Mr. Clare you said that you would like to have the power to cause the removal of middens every week?—Yes.

2425. Did that expression refer to middens in your borough or in the county?—That was in relation to the distance of the midden from the cow house. You do not want to have accumulations of filth anywhere near the cow house. Of course if you have a sufficient distance you can treat it as an ordinary manure heap.

2426. Presuming it was an ordinary farm, you would not insist upon that?—Not if it was an ordinary distance away.

2427. Also in answer to Mr. Clare, in talking of compensation being given for an animal which had responded to the tuberculin test, when he asked you if you would give a limited compensation, you said, yes. Then he said that that would only be three months before death?—He said that might be, but I do not assent to that; the animal might go on milking for months after.

2428. Might it not happen that the animal might go on for many years?—It certainly might go on for some years—three or four years.

2429. Then, in regard to tumours in the udders, might it not also be the case that a very large proportion of those might be other than that of a tuberculous nature?—It might be, but I do not think it would be a very large proportion; a certain small proportion might be. I think you will find the vast mass of tumour in the udder would be tuberculous.

2430. Are you speaking from experience on that point?—I am speaking from my own experience. I have never known any other tumour of the udder personally. I know there are such things, but I have never seen one.

2431. Presuming that powers were given you to remove an animal giving tuberculous milk, you would also ask powers to do the same with regard to the butter and cheese, would you not?—You see butter and cheese are involved in the milk practically.

2432. If you had the power to cause the withdrawal of the milk, you would also require the power to cause the withdrawal of the cheese made from milk of that nature?—Yes.

2433. What would you do with the enormous amount of foreign butter and foreign cheese which we get, and over which we have no control?—You practically have no check over it, because you cannot find the infection.

2434. But if we put such a restriction as that on our own producers, would we not be compelled to put some restriction on foreign producers?—I do not think so necessarily, because you see you would begin at the primary source at the milk, and it would soon be stopped at the primary source, and you would not let it get to the length of butter and cheese. Of course, you would simply take the butter and the cheese as existing now, and that, I am afraid, you would have to let go on the same conditions as the foreign. You would really have to attack the milk.

2435. I expect you are aware that the butter is as infective as the milk?—Precisely.

2436. Is there not the same necessity for stopping the use of butter of that nature as for stopping the use of the milk?—Yes, there is, if you can get at it; but, of course, there are very great practical difficulties in the way.

2437. The same difficulty exists with foreign butter, over which you have no control?—Precisely, but that does not affect one's opinion with regard to the home produce.

2438. But you would consider it surely unreasonable to put these restrictions on the home producer of butter, and to allow the foreign producer of butter to put it on our markets without any restrictions?—I am not dealing with it as a matter of reasonableness; I am dealing with it as a matter of tuberculosis being stamped out. If you come to economical questions, as I say, practical questions then have to come in, on which I have no opinion here. I think I am simply expressing a professional opinion here.

2439. (*Dr. Thorne Thorne.*) If a scheme could be devised for periodically testing at the ports foreign milk, butter, and cheese, bacteriologically and otherwise, and of condemning a whole sample if any amount of it was found to be tuberculous, I imagine that you would desire that the same stringency should be applied to foreign produce as to home produce?—I should most certainly apply it in my own district, if I had reason to do so, and had the facilities given me.

The witness withdrew.

Mr. ROBERT WAGSTAFFE called and examined.

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2440. (*Chairman.*) You are meat inspector at Birkenhead, I believe?—Yes.

2441. Before being a meat inspector what were you by trade?—A butcher.

2442. You have had experience of colonial ranches, I think?—Yes.

2443. In New Zealand and Australia?—Yes.

2444. In short, you have a very wide experience as a cattle breeder, as a butcher, and as an inspector?—Yes.

2445. Have you directed your attention to tuberculosis?—I have.

2446. First in the living animal?—Yes.

2447. And then in the dead carcase?—Yes.

2448. To what extent do you think an animal may be infected with tubercle without being dangerous to the human consumer; have you any fixed point at which you draw the line?—No, I have no fixed point.

2449. You would not condemn a carcase merely for a slight degree of tuberculosis?—I would not.

2450. Could you state generally the grounds on which you go?—In Birkenhead we examine the glands of the carcase, and if we find the glands are free, although the offal may be affected, we pass the carcase and seize the offal; on the other hand, if we find cases where in the offal there is not the slightest trace of the disease, then we cut into the glands of the carcase and we may find the glands of the carcase diseased right through from one end of the animal to the other, then we take the carcase.

2451. Have you had much difficulty with the butchers in Birkenhead?—Not now; we have had in the past.

2452. What is the reason for the improvement?—We made up our mind to seize all tuberculous carcasses. They fought us on several cases, and we pointed the disease out to them, and they seem more satisfied to part with the carcase than they did before.

2453. Have you reason to believe that they are more careful now with the carcasses they send to Birkenhead?—Yes.

2454. Have you any knowledge whether they continue to buy diseased animals and send them elsewhere?—Yes.

2455. That is within your knowledge?—It is within my knowledge.

2456. I do not quite see how it can come within your knowledge. Would you kindly explain how?—Being well acquainted with the butchers just outside the town, if I see a carcase in our town in a cart, and the butcher says to me, "I am going to such a market with this," I should not stop him, although I cast my eye on the animal and see that it is diseased. When it goes outside my borough I do not interfere with it.

2457. And that happens occasionally?—Yes, it happens frequently.

2458. You have been a farmer, a butcher, and now you are an inspector, so you ought have some opinion about compensation. Have you formed any opinion about it?—I have.

2459. Perhaps you will state it?—For an animal that is emaciated and in a very bad condition I should not give any compensation, but I would for animals that are of the value of 8*l.* up to 30*l.*, or something of that sort. My views on this question agree with those of Dr. Marsden.

2460. Are you aware of the practice that prevails in Liverpool?—I am not.

2461. There a jury of butchers examines the carcasses condemned?—Yes, I believe there is a jury of butchers called. I have heard so.

2462. But you have no practical experience of that?—No, I have not.

2463. To whom would the compensation be paid?—I believe that the butcher and the farmer should bear an equal share, and the corporation should bear an equal share; I believe that all three parties should be interested in the matter.

2464. You are not going to compensate the corporation?—No, I believe that they should pay one-third of the loss.

2465. That would be putting compensation on the rates?—Yes.

2466. (*Dr. Thorne Thorne.*) Are the carcasses that you seize in Birkenhead mostly milch cows that are no longer producing milk?—A quantity of them are.

2467. Of what value are they generally?—About 15*l.* each perhaps.

2468. Are you generally present when proceedings are taken before the magistrates in the case of seizures?—Yes.

2469. In how many cases since you have been an inspector in Birkenhead have the magistrates refused to confirm the seizure?—In one case.

2470. One single case?—Yes, and I might say that in that case he gave an order for the destruction of the lungs and allowed the carcase to go.

2471. Then may I take it that as a matter of fact the magistrates have in that way confirmed every case that has come before them?—They have.

2472. I believe that every now and then fowls have been seized in Birkenhead on account of being tuberculous?—Yes.

2473. Would you propose to compensate the owner of the fowls when you seize them in the interests of the public health?—Yes, I think we ought to.

2474. Would you carry the same principle to the seizure of fish when a man has to buy them in the open market in cases, and he has no opportunity of examining the contents?—Yes, I would.

2475. Then you would go in for rather wholesale compensation in regard to foods, I suppose?—Yes, I would.

2476. (*Mr. Murphy.*) Dr. Marsden told us that in the years 1892–96 there were 71 seizures on account of tuberculosis?—I believe so.

2477. Did you see these animals during life time?—A number of them.

2478. Could you say whether while they were alive they looked healthy animals, or did they present any signs that would lead you to suspect that they were unhealthy?—Most of them gave no suspicion. The animals were in good condition.

2479. Most of them?—In most cases.

2480. Perhaps your memory would hardly enable you to state in what proportion they were healthy, and in what proportion unhealthy?—No, I would not like to say that.

2481. (*Mr. Speir.*) Do you think also that the buyers had no suspicion at all that these animals were in any way wrong?—Not in a number of cases.

2482. These are the class of animals that you would propose to give compensation for?—They are.

2483. Not the ones where there are visible signs of disease?—Not those; I would not give any compensation there.

2484. No compensation there at all?—None at all in the case of visible signs of disease.

2485. Has there been any attempt amongst the butchers in your district to tamper with you so as to pass a carcase of that kind?—Yes, there has; there has been the case of stripping.

2486. That is scarcely the class of tampering that I had reference to. I mean has there been an attempt to bribe you?—Yes.

2487. Have you had any attempt at that at all?—Yes.

2488. You have?—Yes.

2489. I presume the corporation gives you a salary which puts you above that sort of thing?—Yes.

2490. You live independent of it and, of course, exercise your own discretion?—That is it.

2491. (*Dr. Thorne Thorne.*) The 71 seizures that we have been referring to relate solely to the home produce, do they not?—Yes, they do.

2492. But taking the whole of the seizures in Birkenhead per annum, am I right in assuming that they do not amount to 10 per annum out of a good deal over 200,000 carcasses or cattle?—I should say from the time that I have been there, that I should think they would not average over that.

2493. I mean as regards tuberculosis?—Yes, that is what I understand.

2494. So that the amount of seizure is really trivial compared with the enormous amount of carcasses and cattle that pass under your inspection?—Yes, that is so.

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2495. (*Chairman.*) We need not detain you any longer, unless you have anything that you think would be useful to us?—There is nothing, except with regard to cheating the inspector by stripping an animal.

2496. I think Dr. Marsden spoke about that?—That is the one great point. If an animal is stripped, then the great point is, that we ought to be allowed to cut the carcass so that we can examine the glands and see thoroughly into the thing.

The witness withdrew.

Adjourned until Wednesday next at 12 o'clock.

EIGHTH DAY.

No. 7, Whitehall Place, Westminster, S.W.

Wednesday, 27th January 1897.

PRESENT:

SIR HERBERT E. MAXWELL, BART., M.P. (CHAIRMAN).

Dr. R. THORNE THORNE, C.B., F.R.S.
Professor G. T. BROWN, C.B.
SHIRLEY F. MURPHY, Esq.

T. COOKE-TRENCH, Esq.
JOHN SPEIR, Esq.

T. M. LEGGE, Esq., *Secretary.*

Dr. THOMAS JOSEPH STAFFORD called and examined.

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2497. (*Chairman.*) I believe you are Medical Inspector under the Local Government Board for Ireland?—Yes.

2498. And Examiner in State Medicine in the University of Dublin?—Yes.

2499. Would you be kind enough to tell us about the law in Ireland dealing with meat and milk?—It is very much the same with regard to unsound milk and meat as the law in force in England, and sections 132 to 135 of the Irish Act correspond practically with sections 117 to 120 of the English Act. There is some very slight difference in one of the sections, section 132. That section gives power to the local authority to seize meat in public places, as in a street, and to insist upon the individual who is hawking meat to give his name and address. Practically that is the only difference with regard to meat; with regard to milk the law is the same. The dairies, cowsheds, and milk shops Orders of the Irish Local Government Board are identical with those of the English Board; I have got copies of them here if the Commission wish to have them. Their adoption, as you know, is permissive, just the same as I believe it is in England. The Diseases of Animals Act, 1894, is in force in Ireland, and is administered there by the boards of guardians, under the central control of the Privy Council, the Local Government Board in Ireland being concerned only to the extent of issuing Orders assessing the rate. In England, I understand, it is different, that is to say, the borough councils administer it in the urban districts, and the boards of guardians, or the rural sanitary authorities, in the rural districts. In Ireland the rate is levied as a part of the poor rate, and therefore urban sanitary authorities have no function with regard to the administration of the Act of 1894.

2500. But the urban authorities have exclusive power of dealing with slaughter-houses, have they not?—They have.

2501. With their inspection and provision?—Yes; but there again the Act is permissive. In that respect it is like the English Act, and sections 105 and 106 of the Public Health (Ireland) Act correspond practically with sections 169 and 170, I think they are, of the English Act. The Irish Local

Government Board, however, I must mention have got power by the Public Health (Ireland) Act, 1896, where applied to by a local authority, to invest a rural sanitary authority with certain powers hitherto enjoyed only by urban authorities; and that is a provision which is the same as is contained in section 276 of the English Act.

2502. By "certain powers," do you mean powers of inspection and of condemning unsound meat?—The Local Government Board have got powers to invest a rural sanitary authority with urban powers, but otherwise in Ireland there is no inspection of meat or provision of slaughter-houses in rural districts. In Belfast there has been some trouble with regard to this. The Belfast people have been most anxious to get power to inspect the slaughter-houses which have been established outside the city; the urban authority have been rather strict about the examination of the slaughter-houses, and the consequence of that has been the butchers establish places outside the city district, in the rural district. Now, the rural sanitary authority under this provision of the Public Health (Ireland) Act, 1896, have applied to the Local Government Board for the urban power of inspecting and insisting upon the erection of slaughter-houses in the rural district, and they have been given that power. This is the only rural sanitary authority in Ireland at present which has got the power to inspect slaughter-houses or to erect them.

2503. That difficulty has been got over in Belfast by the adoption of the section of the Public Health (Ireland) Act, 1896?—Yes.

2504. Has any difficulty arisen in regard specially to tuberculosis?—In Belfast?

2505. In Belfast or elsewhere in Ireland?—Not that I am aware of.

2506. Are you not aware that complaints have been made on the part of Irish butchers of the action of urban authorities in condemning tuberculous carcasses?—They have not made them to our board that I am aware of.

2507. Have you any observations to make on the subject of tuberculosis in carcasses; first, as to uniformity, or the want of uniformity, in inspection, and secondly, as to the danger to the consumer?—I think

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it is very desirable that there should be uniformity of procedure.

2508. To what extent has that been secured in Ireland?—No, I do not think it has. I think the various medical officers of health in Ireland act altogether upon their own knowledge in regard to condemning carcasses.

2509. How has that been brought under the notice of your board, if it has not been brought by the complaints of traders?—I do not think it has been brought under the notice of our board; I am speaking merely from my own personal knowledge.

2510. Are we to understand, then, that no complaints whatever have been made on the part of traders?—Not that I am aware of.

2511. How far has it been possible to establish uniformity in the inspection and control of dairies, milk shops, and cow-sheds?—It has not been possible at all, I think, to establish uniformity of inspection, because, as you will see, the orders of the Local Government Board are permissive, that is, the sanitary authority may or may not adopt them.

2512. Can you tell us to what extent they have been adopted?—I think they have been largely adopted, but I am afraid that they have not always been carried out.

2513. I suppose no returns are made to your board showing the prevalence of tuberculosis among dairy stock?—No, they are not. I think you will probably get all that information better from the Veterinary Department of the Privy Council.

2514. (*Mr. Cooke-Trench.*) Will you just listen to these two answers that have been given to questions put by this Commission. Dr. Sedgwick Saunders was asked this question: (630) "Would you condemn a carcass for the slightest appearance of tuberculosis?"—(A.) Undoubtedly I should not hesitate. (Q.) "Even if it were only in the internal organs?"—(A.) "You cannot show that. Of course an expert anatomist can tell, and you have to take a high standard." It is to the first answer that I wish specially to direct your attention there: "Undoubtedly I should not hesitate to condemn a carcass with the slightest appearance of tuberculosis." Then Mr. Billing, an inspector, was asked at Question 1558: "What examination do you make of the carcasses, for example?" and he answered: "In the case of every carcass where there is any evidence of the pleura and peritoneum having been removed or tampered with in any way, I examine the glands, and if there is any evidence of tuberculosis in the glands—but the beef is fat and otherwise in good condition—I remove those glands, and if there should be any small portions of the pleura or peritoneum present and there are any small tubercles on them I remove them as well, and then the carcass is allowed to pass." That implies a great difference of practice, does it not?—It does. I would like to say that I have not been favoured by my own board with any distinct instructions with regard to questions of this sort, and although I do not object to answer them, if you wish, as an individual; still, I do not wish to commit my own board to a particular line in the matter.

2515. Can you, speaking as an individual, give any suggestion as to how uniformity of practice might be attained?—I am more inclined to agree with the latter opinion which you read out to me—I think you said it was given by Mr. Billing—than with the former.

2516. I want to know how Dr. Sedgwick Saunders' practice can be brought into uniformity with Mr. Billing's, or Mr. Billing's with Dr. Sedgwick Saunders', supposing Dr. Sedgwick Saunders to be right, but quite apart from the question of which is right or wrong?—I am sure that if this Commission come to any conclusion upon the subject, medical officers of health will accept the finding of the Commission or will accept any views of the Commission which are arrived at as a whole upon these questions. I think the differences of action upon the part of individuals is due to, perhaps, not an absolutely thorough

knowledge of the subject by all the medical officers of health.

2517. What amount of inspection of foreign meat is there in Dublin?—I am not aware that there is any; however, I think my friend Sir Charles Cameron can give you information on that, as he is Medical Officer of Health for Dublin.

2518. Can you give us any evidence in regard to the subject of compensation?—The only thing I wish to say, and that is for my own board, is that they feel very strongly that if there is compensation it should not come out of the poor rate. My board feel that a great many things have been put on to the poor rate from time to time in Ireland, and they seem to have no control over the administration of some of these Acts and over the charges which they put upon the poor rate.

2519. In the case of the contagious diseases of animals, who condemns the animals?—The Privy Council inspectors; that is under the Animals Diseases Act of 1894.

2520. Would you just tell us what the course is; a person having a diseased animal gives notice to the police, is that not so?—Yes, or the police find it out, and they communicate with the local authority, and at the same time with the Privy Council.

2521. The local authority, if I am not mistaken, send their veterinary surgeon to inspect?—Yes, that is the usual practice.

2522. And he reports?—Yes.

2523. And it is upon his report, is it not, that action is taken?—Yes; but in the case of swine fever and pleuro-pneumonia action is taken by the Veterinary Department of the Privy Council on the report of their own inspectors.

2524. By whom is compensation paid?—By the board of guardians in the first instance; but in cases of swine fever and pleuro-pneumonia by the Privy Council.

2525. But it is refunded to them?—It is refunded to the guardians in part, when they compensate.

2526. Out of the Imperial exchequer?—Yes; the whole of the compensation in cases of slaughter for swine fever and pleuro-pneumonia is paid out of funds allocated by Parliament from Imperial sources.

2527. In the case of milk is there not in every union a veterinary surgeon attached to the union?—Yes.

2528. Would there be, in your opinion, any difficulty, legal or otherwise, in his inspecting periodically the udders of all cows in the registered dairies in that union?—The only difficulty that I see about it is that the same veterinary surgeon is very frequently veterinary surgeon for two or three unions, and the area might be rather a large one for him to get over.

2529. I suppose that difficulty could be got over by appointing different veterinary surgeons?—As you are aware, in Ireland the number of veterinary surgeons is not very large.

2530. (*Mr. Speir.*) You told us that in Belfast a good deal of meat was killed outside, and from that I inferred that the meat was afterwards brought back into the city?—So I understand.

2531. Have you any control over that meat, or have the municipal authorities any control over that meat after it comes back?—When it comes back it comes under their observation.

2532. Only in the retail shops I expect?—Only in the retail shops and in the dressed condition.

2533. I understood you to say that your own board of guardians had made regulations, and that many others had made regulations which they did not carry out; might I ask what the differences were?—I was talking about the Local Government Board. The Local Government Board issue orders under the Dairies, Cowsheds, and Milk Shops (Ireland) Order, and it rests with the local authority to adopt those orders or not. The Orders when adopted give them the power of making certain regulations, and they have frequently made the regulations, but I say that I

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am afraid they do not always carry out the regulations which they have made under those Orders.

2534. What are the regulations which they have adopted and have not carried out?—Those are the regulations (*handing in prints*).

2535. In your answer to Mr. Cooke-Trench with regard to what should be condemned, and what should not, I do not think you gave us your own opinion, did you?—I did; I said that I agreed rather with Mr. Billing, I think it was—the latter opinion which Mr. Cooke-Trench quoted—than with the former.

2536. With regard to milk, what would you do with reference to the dairy cows?—As to making regulations?

2537. Yes?—Am I asked as to whether I approve of the inclusion of tuberculosis amongst the diseases of animals?

2538. I presume that you are aware of the experiments which were carried out by the previous Commission?—Yes.

2539. I also presume that you concur in great part with what they arrived at?—Yes.

2540. Have you any suggestions to make with regard to the control of, say, milk from a cow with tuberculous udders?—I think that a cow with a tuberculous udder ought to be eliminated from the dairy.

2541. How are you to proceed in order to do that; that is what I want to get at?—I think it is quite possible that under certain regulations tuberculosis might be included amongst the diseases of animals under the Diseases of Animals Act, 1894, but that those regulations should be different to the regulations at present in existence with regard, say, to swine fever or to pleuro-pneumonia.

2542. Roughly speaking, what are the differences you would like to suggest?—You could not, I think, practically have the slaughter of animals coming in contact, as you have in swine fever, and as you have in pleuro-pneumonia.

2543. Then you would like to have the power of inspection, I expect, of all classes of stock at any time you think fit?—Certainly we should have powers of inspection, and where there is shown to be marked tuberculous power of elimination of the animal from the dairy.

2544. If you were satisfied in your own mind that a cow was at least suspicious you would like then to have the power of eliminating that animal from the stock?—If I were satisfied that the cow was suffering from tuberculosis.

2545. In the udder?—In the udder, certainly.

2546. Would you make any suggestion, do you think, in regard to tuberculosis in any other part of the body?—With regard to tuberculosis generally, if you could be satisfied that an animal is absolutely suffering from tuberculosis, I think that that animal is not a proper animal to have in a dairy.

2547. Then you say you are not prepared to advocate slaughter; what are you prepared to advocate?—Isolation.

2548. And ultimate slaughter, I expect?—No, I do not know that I do advocate slaughter.

2549. Ultimately sending to the slaughter-house—not, probably, compulsory slaughter?—Not compulsory slaughter.

2550. (*Dr. Thorne Thorne.*) You refer to the fact that slaughtering had taken place outside the City of Belfast owing to certain stringency within the city; do you consider that stringency in any way unreasonable?—No. Perhaps “stringency” was not a very good word to use. It was the result of the fact that the inspection was very careful in Belfast City.

2551. I am not sure that you used the word “stringency,” you may have used the word “carefulness.” Further, I did not quite gather how that difficulty of slaughtering outside Belfast had been got over; would you kindly repeat that?—Yes, the Local Government Board were applied to to give certain urban powers—

2552. By whom?—By the Rural Sanitary Authority who asked them to give certain urban powers which are not given to rural authorities, except under the Public Health (Ireland) Act of 1896. They were given those powers.

2553. Then may I assume that the Rural Sanitary Authority were as desirous of being as stringent as the Urban Authority of Belfast?—Apparently so.

2554. Because they applied voluntarily for these powers?—Apparently so.

2555. Referring to the question of loss from confiscation, Mr. William Field, M.P., when before this Commission, named certain places where there had been considerable loss; he used these words: “there has been confiscation at Glasgow, Belfast,” &c., &c. Do you know of any such confiscation?—I have no personal knowledge of it.

2556. Have you any official knowledge of it?—No. It might possibly be so, and I may not have had it directly brought under my observation.

2557. He told us further, in answer to question 330: “As a rule we have less tuberculous cattle in Ireland, unless it be in Belfast where old cows are shown more than in most places, that is my opinion.” If that be so, would that not be a special reason for very careful inspection and even stringency in the inspection?—Quite so.

2558. If you have had no complaints at the Local Government Board in Ireland with regard to stringency in Belfast or in any other place, might I ask you to whom the complaints would naturally go if they were made?—They might go direct to the Public Health Committee, for instance, of the Urban Sanitary Authority.

2559. But there is no other central body to whom they could go?—They might possibly have gone to the Privy Council, but I think even if they did it would have to be referred to our Department.

2560. If complaints had been made, in all probability your Department would have know of them?—I think so.

2561. You have been asked a question about inspection by veterinary surgeons, and I am very desirous not to differentiate between veterinary surgeons and medical men in this matter, but may I ask you whether it is not a fact that veterinary surgeons are generally dependent upon farmers for their living?—I do not think they are more dependent upon them than rural medical officers of health in Ireland.

2562. Then I would ask you this: Is it not a well known fact that one of the greatest complaints made against certain medical officers of health, who do not give their whole time to their official duties, is that being dependent upon the population who appoint them, they cannot and do not perform their duties?—That is so.

2563. Then if a veterinary surgeon were appointed to examine dairies with regard to tuberculosis amongst cows, may I ask you whether you do not consider it would be essential that such veterinary surgeons should give their whole time to their official duties and not be dependent upon the very persons whose farms they have to inspect for their living?—I do. I think that such inspectors ought to be appointed by the central body.

2564. You have been asked a question with regard to assimilating tuberculosis to other diseases under the Contagious Diseases (Animals) Act; may I ask you whether, if that were done and the slaughter that is necessitated under that Act, were to be applied to tuberculosis, it would not lead to a serious disaster?—It would lead, I think, to very great abuse.

2565. But the object of that Act is to prevent the spread of disease from one animal to another, and healthy animals are slaughtered under that Act?—Yes.

2566. Therefore to assimilate, as I say, tuberculosis to the other diseases under that Act would amount, would it not, to a serious disaster from that point of view?—It would lead to very great expense; I do

not know about a serious disaster, but it would be undesirable.

2567. (*Mr. Murphy.*) Referring to Dr. Thorne Thorne's question as to the employment of a veterinary inspector on the whole time system, can sanitary authorities in Ireland be combined for particular purposes, as they can in England?—For certain purposes, yes.

2568. If it were desired by sanitary authorities to appoint a veterinary inspector for the inspection of dairy farms, it would be possible by the system of combination to get a sufficient area to wholly employ an inspector's time; could that be done in Ireland?—Yes, that is provided for, I think, by the Diseases of Animals Act, 1894; there can be a combination of districts for the appointment of an inspector.

2569. But at the present time there is no power in Ireland that would prevent the milk of a cow, having a tuberculous udder, from being sold for human food?—No.

2570. About the inspection of meat, I understand that in Ireland there is a power to examine meat in a thoroughfare?—Yes.

2571. Is it true also that the sanitary officer may require the person who is in charge of the meat to give his name and address?—Yes.

2572. And if he is dissatisfied with his answer and doubts its accuracy, he may detain such person?—Yes.

2573. And give him into custody until his real name and address have been ascertained?—That is so.

2574. Do you know whether that power is found to be a useful one?—I do not think it has been much used.

2575. I suppose as a matter of fact there has not been a large amount of meat inspection in Ireland?—There has not been a great amount of it, of course, except in the urban districts.

2576. And in some urban districts more than in others?—In some urban districts distinctly more than in others; Belfast and Dublin, I think, are the chief places where it has been carried out.

2577. (*Chairman.*) You are very strong on the point that milk coming from tubercled cows should not be allowed to be sold?—Yes.

2578. May I ask what is your opinion founded upon?—It is founded very largely upon the evidence given before the Tuberculosis Commission.

2579. And you do not confine that to cows with tubercled udders?—No, not absolutely; of course the danger is very much greater where the udder is diseased, but I do not confine it to those cases.

2580. You have no idea, I think you said in answer to a former question, to what extent tuberculosis prevails amongst dairy stock in Ireland?—I believe it prevails largely, but I can give you no statistics as to the extent. On that I do not know whether you intend to examine later on any of the Veterinary Department of the Privy Council, but that is in their department and they could of course give you absolute details.

2581. (*Mr. Cooke-Trench.*) You said that you thought the inspectors of dairy stock should give their whole time to the work?—I said it would be desirable.

2582. Have you at all considered what the cost of that would imply?—I said in answer to an earlier question that the Local Government Board were very anxious that the cost of such things should not be put upon the poor rate. It is already provided for, I think, by one of the sections of the Animals Diseases Act of 1894—section 77—which runs as follows:—"The Lord Lieutenant with the approval of the Treasury, may fix the salaries and allowances of the officers and persons acting in execution of this Act or under the Veterinary Department of the Privy Council in Ireland, and the same and all charges and expenses incurred in the maintenance and management of that Department shall be paid out of money provided by Parliament."

2583. I do not mean where the cost would fall, but what would be the amount of the cost itself. If, say, a veterinary surgeon is to give his whole time, what would you consider fair remuneration for him—by yearly salary, I suppose?—I could hardly answer that question, but Boards of Guardians under the Diseases of Animals Act, 1894, have got the power of combining to do that.

2584. It would probably be four times what it would be if he only performed certain duties?—I think it would be probably largely in excess. The sanitary authorities or boards of guardians have under this Act got the power of combination to employ an inspector—that would mean a veterinary inspector—so that the cost may fall lightly upon two or three boards.

2585. Have your board considered the question of public abattoirs?—Yes, generally it comes under the observation of our board.

2586. In relation to this question of tuberculosis?—Yes, we have.

2587. What conclusion have they arrived at with regard to the establishment of abattoirs; I am speaking only in relation to tuberculosis?—We think it is generally very desirable that we should have public abattoirs, and that all meat should be slaughtered in those public abattoirs; but the question of expense is one which we cannot overlook.

2588. (*Chairman.*) Why do you think it desirable? Because we think it desirable that meat should be inspected and that tuberculosis should be detected.

2589. But the private slaughter-houses are equally subject to inspection?—It is very difficult. I will give you the instance of Dublin. We have got 76 private slaughter-houses distributed over the whole of the city of Dublin, and it would take an enormous staff of inspectors to inspect those slaughter-houses. The butchers kill at different hours, and inspection under those circumstances is not only difficult, but it is almost impossible.

2590. (*Mr. Cooke-Trench.*) Would it be possible for your board to issue general instructions which would bring the practice more into conformity than it is at present?—With regard to what?

2591. With regard to the condemnation of the carcasses?—I think my board would see a difficulty about making absolute instructions which would hamper medical officers of health in their discretion. It is very easy to make orders, but it is very hard to deal with every point that may arise, and the board are rather inclined to leave it to the medical officers themselves, hoping that their discretion would be founded on sound judgment. My board think that if your Commission come to a conclusion upon this subject, medical officers of health in Ireland and elsewhere will act generally upon it.

2592. (*Dr. Thorne Thorne.*) Are you aware that in England one of the principal inducements held out to sanitary authorities is that by the combination of, say, 10 or more of them for the whole services of one officer, it is found more economical than by the separate appointment of a number of separate officers who only give part services?—I have heard so.

2593. (*Mr. Murphy.*) Can you tell me whether the Local Government Board for Ireland has given facilities to urban authorities for the construction of public slaughter-houses by granting loans for that purpose?—I think we grant loans; I think that is one of the things for which we can do so.

2594. Do you know to what extent that power has been utilised?—To a very small extent indeed.

2595. (*Chairman.*) Can you tell us where?—In Dublin it has been utilised; in Belfast I think it has been utilised; and in Cork, I fancy. In Dublin, unfortunately, although the abattoir was erected, it has been of very little use to the city, because the public health authorities erected it just on the city boundary, but it was said to be outside; and in those circumstances it was held on a point of law that it was not

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necessary for the butchers to slaughter in this abattoir because it was outside the city boundary.

2596. I do not understand?—The abattoir was erected and it was erected just outside the city boundary.

2597. But its use is not compulsory?—I think the city authorities wished to abolish a good many of their slaughter-houses, and they had no power at that time to do so.

2598. Have they power now?—They have not, I believe, without compensation, because they took powers as I understand in a local Act in 1890, which practically endows the slaughter-houses in Dublin—that is, you cannot abolish them now without giving full compensation.

2599. I do not think you have made the point clear; you say the slaughter-house is erected outside the city boundary, and, therefore, has been a failure?—It has not been largely availed of, and it has not decreased the number of slaughter-houses in the city.

2600. What powers have the city authority to make it a success—its use is optional with the traders, is it not?—Its use is optional, but they would have limited the number of slaughter-houses in the city otherwise.

2601. They could have suppressed some?—Yes.

2602. Under what powers?—They need not have given fresh licenses. I think Sir Charles Cameron, perhaps, could make it much more clear, because he has been actually engaged in the matter.

2603. (*Mr. Speir.*) I would like to return to this question of hardness in the udder. Dr. Thorne Thorne raised a most important question with regard to the employment of veterinary surgeons or medical officers solely in the duty of inspection, if such was thought necessary. Now presuming that you had such powers in Ireland, do you think it would be within reasonable bounds that you might ask each owner of a licensed dairy to report all indurated udders that might come under his notice?—Yes, I think he might. It would not be unreasonable to ask him to notify a diseased udder.

The witness withdrew.

Sir CHARLES ALEXANDER CAMERON called and examined.

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2612. (*Chairman.*) You are, I believe, Professor of Hygiene and Chemistry in the Royal College of Surgeons, Ireland?—I am.

2613. You are Medical Officer of Health for Dublin, and Public Analyst for Dublin and various other cities and counties?—I am.

2614. You are also a member of the Army Sanitary Committee?—I am.

2615. I understand that you have devoted a great deal of attention to the subject of the transmission of disease to man through the medium of food?—I have.

2616. I suppose, in the course of your official duties, you have examined a great number of carcasses in Dublin?—Thousands, living and dead.

2617. Have you formed any estimate as to the extent of the prevalence of tuberculosis, first in the living animal slaughtered in Dublin, and secondly in the carcasses slaughtered elsewhere and brought to Dublin?—There are not many carcasses brought into Dublin. As Ireland is a meat-producing country we do not import very much foreign meat. The meat used in Dublin is meat of animals purchased either in the market or brought in from country fairs and slaughtered in Dublin.

2618. We have just been told by the last witness that the only public abattoir in Dublin is outside the city boundaries?—In 1842 there was a general Towns Improvement Act for Ireland, on the same lines as the English Towns Improvement Act, which abolished the various ancient corporations. That Act gave power to the municipal authorities of towns which came under the provisions of that general Act to establish public abattoirs in their own districts, and then gave them power to compulsorily make use of

2604. Do you think it could be carried out in practice?—Yes, I do not see any objection to it in practice.

2605. Presuming you are right in that, the amount of inspection by one person would be, comparatively speaking, limited, because he would in reality only have to satisfy himself whether this udder was a tuberculous udder, or was indurated from some other cause; would that not be in reality what it would amount to?—I do not think you can do away with the ordinary inspection at the same time, if that is the object of your question.

2606. I mean to say that it would make it very much easier for the inspector if indurated udders were reported to him; he could then satisfy himself as to whether they were tuberculous or not?—Yes; but I take it that the examination of tuberculous udders would be a very small proportion of the whole work which a veterinary surgeon would have to do, because I think tuberculous udders are not very common things; in fact I think they are rather rare.

2607. But they are certainly the most important part of the whole work?—Undoubtedly.

2608. Therefore it is most important that his attention should be drawn to this at the very first possible opportunity?—The very earliest intimation of tuberculous udders ought certainly to be given.

2609. Consequently, if he knew that a certain animal had a new induration of the udder, he should be on the spot at once, and certify whether or not that milk was usable; is that your opinion generally?—Yes, certainly.

2610. (*Mr. Cooke-Trench.*) Might there not be a danger, if those indurated udders were required to be reported, that the inspector would rather limit his inspection to cases where they were reported?—I do not think so; I think his work would go on all the same.

2611. Would you kindly tell us whether an inspector has legal power to condemn a cow because her milk is bad?—I do not know of any such power.

the established abattoirs, and close up, with compensation, those that were in existence at that time. It also enabled the sanitary authorities to issue what were termed temporary licenses, but when an abattoir was established these temporary licenses were to cease, provided that the public slaughter-houses were established within the limits of the municipal authority. Unfortunately the Dublin abattoir, which cost 20,000*l.*, was established within 6 or 8 feet of the municipal boundaries, because it happened to be near the great market there—the Smithfield Market. This was the fault of the lawyers, who should have pointed out that it was necessary, under the Act, to establish it within the city. We could not, therefore, for more than 20 years close any of the slaughter-houses compulsorily, because the municipal slaughter-house was outside the city. That defect was remedied by the Dublin Corporation Act of 1890, but that Act most unfortunately contained a clause, inserted when the Bill was in fact almost in its last stage, which converted the temporary licensed slaughter-houses into permanent ones, and therefore more than doubled the number of slaughter-houses, the owners of which would be entitled to compensation if they were compulsorily closed. We have power at present to close these slaughter-houses, but must compensate the owner. Only one person can be compensated for each slaughter-house, which complicates the thing very much, because the question is, who ought to be compensated—the owner of the slaughter-house or the man carrying on the business. We have only been able to close three since 1890 under this Act, but these were very insanitary ones—with a compensation of only a few hundred pounds.

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2619. Then you count animals slaughtered in the corporation abattoir as animals slaughtered in Dublin?—The Dublin Corporation Act extended the boundaries of the city so as to include this place within it, though it is really in the county.

2620. Is the meat inspection carried on in a satisfactory and efficient manner in Dublin?—No.

2621. Owing to what causes?—Owing to the fact, which Dr. Stafford has stated, that we have such an enormous number of slaughter-houses, and as the animals are killed very much about the same time in these slaughter-houses it is an utter impossibility, without having a much larger staff than I think the Local Government Board will allow us to have, to have an efficient inspection of these slaughter-houses. We have inspectors, and a considerable quantity of unsound meat has been from time to time destroyed. The existence of so many slaughter-houses in Dublin, and there are about 70 of them, renders it impossible to have a thorough examination made of the animals slaughtered in them. In one year I made an effort to ascertain the number of animals slaughtered in these private slaughter-houses, and found that they included 2,202 bulls and bullocks, 4,838 cows, 8,808 heifers, 2,112 calves, making a total of 17,760 oxen. This number was, no doubt, much below the actual one, but it shows how difficult it is, without great expense, to inspect thousands of carcasses distributed throughout scores of slaughter-houses. The animals furnishing the carcasses are slaughtered much about the same time in the different slaughter-houses, which renders the inspectorial work more difficult. It is clear that the inspection of carcasses cannot be properly performed in large towns unless there are public abattoirs.

2622. Under the disadvantages of these conditions, can you tell us what number of carcasses were condemned for unsoundness in that period?—Before 1870 there was no inspection of slaughter-houses in Dublin, and in the previous year only one carcass of a cow had been sent to the knackers' yards. I take it for granted, then, that all the animals before that time were in some way or other consumed as human food, no matter what condition they were in. From 1870, when a very strict inspectorial examination was made, to 1876 inclusive, they were condemned as unfit for food—all on my certificate—2,231,193 lbs. of diseased and otherwise unsound food, of which 80 per cent. consisted of carcasses of oxen.

2623. That is diseased and unsound?—Yes, but by far the larger proportion consisted of animals suffering from the epidemic of pleuro-pneumonia, a disease which now, by isolation and by the vigorous measures adopted by the Veterinary Department, has been completely extinguished, no case having occurred in Dublin or its neighbourhood for the last two years, although it existed there from the year 1842 and carried off annually hundreds and hundreds of animals. My point is this: that as soon as we had inspectorial work, and a number of inspectors stationed watching the different slaughter-houses, we detected this enormous amount of diseased animals. Many of these were brought into town; every dodge was resorted to to smuggle into town all the animals that died from natural causes in the surrounding district, and on one occasion even a small hearse was employed for the purpose of bringing in a diseased cow. In consequence of this, during this short period of which I speak, there were no fewer than 90 persons fined in sums varying from 5*l.* to 20*l.*, and 31 persons were imprisoned for traffic in diseased meat, getting periods of imprisonment varying from one month to three months, so that, at all events, in that period there was a roaring trade done in diseased animals in Dublin.

2624. I presume you have no figures showing what proportion of those diseased carcasses were carcasses of animals suffering from tuberculosis?—Not exactly, but it was a very small proportion. Foot-and-mouth disease was very prevalent in those years. A great number of animals were suffering from foot-and-mouth disease, and some from swine fever, and 75 per cent.,

at least, were animals that were very much affected with pleuro-pneumonia,—some of them in the most advanced stage of the disease, with lungs weighing in one case—I weighed the lungs—over 100 lbs., when they ought to have weighed from 11 to 14 lbs.

2625. To what extent do you consider the presence of tuberculosis in carcasses sufficient to condemn the meat?—My own practice some years ago was, if I saw any evidence at all of the disease, to have the carcass destroyed, but in consequence of reading everything that I came across in reference to the disease—reading continental journals and journals published in our own country—I may say that I have modified my opinion of late years, and now I would not go so far as to destroy an animal that I saw single tubercled, or with very slight evidence of the disease; I have not got so far as that for some two or three years past. Before that, whenever I knew an animal to be suffering from the disease, I always got a magistrate's order to confiscate. I may say that in Dublin the magistrates will not hear any evidence at all against the Medical Officer of Health—they take his opinion, and I have never been refused a magistrate's order.

2626. On the whole you find that a small proportion of the animals suffer from tuberculosis?—Very small. I have not met with that extensive prevalence of tuberculosis that I have heard of in other countries.

2627. Are those animals confined more to one particular class than to another?—Dairy cows that have ceased to be used for dairy purposes, and then are fattened up, or tried to be fattened up—sometimes the attempt to fatten them up is a failure—are the animals I have found to be, as a rule, affected, but I have sometimes seen magnificent animals, bullocks, with tuberculosis. I may say that I felt considerable qualms of conscience in my earlier days in condemning magnificent carcasses of animals when the peritoneal cavity showed decided evidence of tuberculosis.

2628. (*Mr. Cooke-Trench.*) Still you did so?—I did; I hope I am forgiven for it.

2629. (*Chairman.*) I suppose the owners complained at the time?—The owners invariably complained, and I lamented with them. I said I was sorry that they could not get any compensation, which I thought they ought to get.

2630. On what grounds?—On the grounds that they had *bonâ fide* purchased these animals as sound animals, and had given a fair price for them, and that in the interests of the public it was necessary to destroy these animals just as it was the interest of the public to destroy clothing infected with small-pox, and to compensate the owner on the same principle, *pro bono publico*.

2631. I was just going to ask you for an illustration of property being destroyed *pro bono publico*?—We do it every day in Dublin.

2632. In the matter of small-pox?—If I found a case of scarlet fever in a dairy or in a provision shop I would at once have all the provisions in that place destroyed, and their value ascertained, and compensation given to the owner—always. We have spent some hundreds a year in Dublin; in one year it has gone up to more than a thousand pounds in compensation.

2633. Compensation paid for what?—To the people for destroying things that might possibly produce disease in other persons; as, for example, I would say the contents of a provision shop or a vegetable shop. It has also been paid for the clothes of the person suffering. During the great epidemic of small-pox which we had lately, in order to insure the disease not being in any way transmitted by the medium of the clothing and bedding: the clothing and bedding were destroyed by fire, and compensation given to the owners.

2634. Now, in respect of milk supply, are there many cow-houses and dairy yards in Dublin?—There are about 260 dairy yards in Dublin in a population

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consisting of 245,001 persons—I am not including the suburbs, but within the municipal boundaries. Dublin consists of the City under the Corporation of Dublin, and it is closely invested by a number of townships, but within the City itself there are no fewer than 260 dairy yards.

2635. Are these regularly inspected?—They are

2636. And efficiently?—I am not quite prepared to say efficiently.

2637. What are the difficulties in the way of inspection?—The difficulties are these: that they number 260 dairy yards, and in order to ensure thorough cleanliness—to see that even the cows were kept, and the people themselves were kept, in a cleanly state—requires almost daily visitation of these places.

2638. How many inspectors have you?—We have for ordinary inspectorial work about 24. We had four dairy inspectors specially, but I was not quite satisfied that they did the work efficiently, and quite recently I made all our ordinary inspectors dairy inspectors also, leaving one man alone to look after the structural conditions of things, that is the size of sheds and the condition of the pavements, and so on. But I find it extremely difficult to get dairy yards kept in a proper state. The condition of the cows is very bad; the cows are not kept clean. We would have to have an army, almost, of inspectors, to get the dairy yards kept in the state that they ought to be kept in, and the cows kept in a clean state.

2639. Does tuberculosis prevail to any large extent among them?—I do not think so—at least not very largely.

2640. Are the inspectors directed to examine the udders periodically?—I had an inspection made in view of this inquiry, which I took part in myself, within the last few days. We found out of somewhat over 5,000 cows examined—and we have between five and six thousand cows at the present moment in these 260 dairy yards—which were all examined this week—only one infected udder, and that I had not time to see whether it was tuberculous. Just as our own lips get cracked in wintry weather so the udders suffer from the rough handling of the men who are not over tender in their handling of the cows. They are a very rough class of men who are engaged in dairy work, and there might be many sores and ulcers on the udder which are not of a tuberculous character. But I may say there was only one sore of any kind found in this large number of cows.

2641. Did you adopt any other means of inspection except external means?—We made a stethoscopic examination, but we adopted no other than external means. In order to make this inspection, all other kinds of sanitary work had to be suspended for the time. I thought this Commission might like to know what was the actual state of things, and therefore our other work was set aside this week until we ascertained the condition of these five or six thousand cows. I was surprised myself at the result.

2642. At the small proportion of tuberculous cows?—Yes; one single cow.

2643. In spite of the general insanitary condition of the cowsheds?—Yes. It is not so much that the cowsheds are not of proper construction, but it is the want of cleanliness which I noticed in the dairy yards in Dublin. My idea is that in a dairy the animals should be groomed and kept like the horses in a gentleman's stable.

2644. Are these cowsheds sufficiently ventilated, as a rule?—They are, because they are quite open, and the regulations with regard to the amount of space for each animal and the height of the sheds, are all strictly enforced. It is the position of the dairy yards in Dublin which is objectionable as they are closely surrounded by houses. There is also want of constant cleanliness. We are perpetually serving notices for the removal of manure and prosecuting the dairymen. In Dublin, in fact, we have between 2,000 and 3,000 summonses issued every year for non-abatement of nuisance, and of these a considerable number consists

of notices on the owners of dairy yards to remove manure.

2645. Would you say generally that cows kept under these conditions in a town are more liable to disease than animals in the country?—I have not the slightest hesitation in answering that question in the affirmative; not the slightest.

2646. And yet it is said that a very large proportion of the old dairy cows brought in from the country for slaughter are tuberculous?—Those are cows sent out from Dublin and fattened in the country, but they are sometimes fattened in the city itself. I may say, as showing the influence of urban conditions upon the health of animals, that long ago there could be no question that the Dublin dairy yards were the nursery of pleuro-pneumonia, a disease which was dreaded; all the farmers in Ireland made the same statement that Dublin was the nursery for pleuro-pneumonia. That disease existed from 1842 until two years ago, and in some years carried off from 600 to 700; I have known whole dairy herds in Dublin to be completely swept away with that disease.

2647. Is there any power of closing dairy yards?—We did close a few as a nuisance under the 107th section of the Irish Public Health Act. That is a section which is worth all the other sections put together, because there are no technicalities in it. Under it we have done more good for Dublin than under all the Acts of Parliament that have ever been made. It is one simple section which says if any place is in use which is injurious to health, that nuisance should be abolished. Under that 107th section we have abolished a few dairy yards that were in a very bad state and in very crowded localities. I regret very much that there is in no general Act of Parliament a clause by which the urban sanitary authorities could at least prevent the erection of new dairies, some of which have been put up in Dublin lately in very objectionable places. There is nothing to prevent a dairy yard being established next the Bank of Ireland, College Green, formerly the Parliament House.

2648. (*Professor Brown.*) I understood that you said you paid a great deal of attention to the transmission of disease from cattle to the human being?—What I said was, the transmission of disease from the lower animals to man, but not exclusively in that way; typhoid fever, for instance, in fact, much more as regards the transmission of enteric fever to man.

2649. Have you any evidence which you think at all satisfactory that meat from tuberculous animals is dangerous to human beings?—I have never fed anyone upon it myself personally, and therefore cannot give you the results of my own experience. My knowledge is confined to general principles, analogy, and what I have read as to the researches of others. If I were put into the witness box I would not be able to swear I ever knew anyone got tuberculosis from either meat or milk; and there are very few people who could do so.

2650. Are there any records of any reliable kind of experiments made on human beings?—None.

2651. You have not met with them?—I have never met with any on human beings.

2652. Have you not heard of any experiments on the Continent on criminals—some years ago?—I heard that there were experiments proposed, but I heard that they were not carried out.

2653. Do you think that the evidence relating to lower animals to whom the disease has been experimentally conveyed is sufficient to justify some action to prevent the consumption of tuberculous food?—Most undoubtedly. I believe myself, from the experiments with lower animals—and I have read of a great many of them—that the disease itself is transmissible.

2654. Would you say from that evidence that the risk from the consumption of meat—especially cooked meat—would be at all considerable?—If the meat was well cooked I think that the chance of getting it in that way is very remote, because I believe myself that it is not the usual channel by which tuberculosis

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is communicated from an affected individual or animal to a healthy person. I do not think that is the ordinary channel. I think it comes through just getting into the lungs or respiratory passages, not out of the stomach.

2655. Then am I right in supposing from what you say that you do not consider that in the event of its being possible to extinguish tuberculosis in the lower animals it would considerably decrease the amount of tuberculous disease in the human subject—confining the question to meat?—I have never been able to satisfy myself by what I have read that any large amount of disease is produced in that way from meat.

2656. In the case of milk and its products, what would your opinion be?—I have always taken a different view with regard to milk, because milk is an article that, as a rule, is consumed raw. I think the bacilli would be destroyed in the preliminary treatment that meat gets, even if it is eaten underdone. That is a thing that is very rarely the case in Ireland, because the Irish people, as a rule, quite unlike the English people, like their meat thoroughly cooked; and therefore in what would be called in Ireland slightly underdone meat I think the bacilli would in all probability be destroyed. The milk is a different thing. Where milk is taken raw of course the bacilli not only get into the stomach, but in the passage down from the mouth there might be absorption.

2657. Would you consider that the risk exists in the case of milk from tuberculous animals where there is no disease of the udder?—I would; there is the possibility.

2658. You would not, therefore, allow a tuberculous cow to be used for dairy purposes?—I should be very sorry to give to my own child the milk from a cow that had tuberculosis, even if it was not a matter of certainty—if there was even a possibility of danger. I do not think anyone I know would drink the milk of a tuberculous cow knowingly.

2659. Would you consider it safe to give such milk to children, and to drink it yourself, if it had been properly boiled and sterilised?—I would not hesitate to drink it myself if properly boiled and sterilised.

2660. You are aware, of course, of an objection of a sentimental kind which exists among a large number of people to the use of cooked milk?—Which objection did you say?

2661. The objection on the score of its altered taste?—I myself never drink it; I have a great objection to drinking it. I would rather run the risk of getting tuberculosis and drink it as it is.

2662. That view which you take is shared by a great many people, is it not?—I am sure it is. It may alter the alimentary value by rendering the albumen very insoluble and perhaps indigestible.

2663. Is there anything which you can suggest in the face of that difficulty for dealing with milk as an article of food, taking into account the risk from the number of tuberculous animals that now give milk?—The only means that occurs to me as being feasible would be the inspection of dairies by competent veterinarians.

2664. You would not think it necessary, if you had the power, to insist upon any treatment of milk prior to its being consumed?—Most unhesitatingly I would not. I would not object to anybody sterilizing the milk; I would allow them to do it, but I certainly would not enforce it.

2665. In reference to the inspection of animals in cow-sheds, what test would you consider sufficient to indicate that the milk was dangerous?—There are a great many very eminent veterinarians who are not pathologists, and who are not bacteriologists. It would be a very difficult and a very nice investigation if all the milk in all the dairies had to be tested bacteriologically for the purpose of developing, if it existed, the bacillus of tuberculosis. I should think the inspection would be performed by the animal being examined in the ordinary way stethoscopically and by the udders being examined. It would perhaps

be a fair test if the animal looked fairly well in health and the lungs were found to be sound, and it could be easily ascertained, as you know better than most people, whether the animal was suffering from disease of the lungs, at all events.

2666. You do not share that opinion which we have had from a great many witnesses that tuberculosis may exist in an animal in such a condition that by no possible clinical examination can it be detected?—Certainly, if it is in the abdominal cavity. I have seen hundreds of animals infected with tuberculosis in the last 30 years, and I have often seen what the butchers call grapes—masses of tubercle lying in the peritoneal cavity with not the slightest sign of disease in the lungs. It would be very difficult to detect the disease in such an animal as that.

2667. But where the lungs are decidedly affected, you think that by a careful stethoscopic examination, and by other tests which would be applied to the human subject, a veterinary surgeon might get a very good idea as to the condition of the parts?—I think he would in the vast majority of cases, and in those cases really that ought to be dealt with. I think that would be quite sufficient, and that is, I think, what should be done.

2668. Have you any experience of the tuberculin test?—I have seen it tried. I am connected with the Government Model Farm; I am lecturer there. It was tried there some time ago and the effects appeared to be favourable.

2669. You would probably not be disposed to insist that that should be one of the methods of diagnosis?—I would not insist on it. I would rather, however, leave a question of that kind to be decided by veterinarians; I think they are the most competent persons to decide that point.

2670. Would you think it desirable to exclude for dairy purposes all kinds of disease of the udder until such time as the exact nature of the disease could be ascertained?—I think if an inspector saw an animal had an ulcer, or a sore of any kind upon the udder—a place at all events where there is a possibility that the matter must necessarily get into the milk—that cow should be isolated at once, and either the medical officer of health or the veterinary surgeon made acquainted with it, and the milk from that cow certainly should not be allowed to be mixed with the milk of the other cows, or sold.

2671. There are many cases, as you know, of hardening or induration from the common disease which they call garget (inflammation of the udder)?—Yes.

2672. Would you exclude those cases?—I would not.

2673. You would not?—I do not think I would.

2674. In saying that I must assume, of course, that you mean when the milk is healthy in appearance?—Yes.

2675. And does not contain any pus cells?—And does not contain any pus cells or much epithelium.

2676. Do you think there would be any great advantage, supposing it were possible, in having large dairy establishments to supersede the numerous small dairies?—I think that is a consummation devoutly to be wished for. I have been always most anxious in my own country that these little establishments should be got rid of altogether and that the milk trade should fall into the hands of capitalists. We have a few of that kind round Dublin, and it is a pleasure to go into their dairy yards and see the cleanliness of the animals. They are groomed just like horses instead of having, as is the case in the smaller dairies, thick masses of cow dung all over their bodies and the udders dirty. The small men never wash their cows by any chance and the manure is not removed as it ought to be removed twice a day at the very least from the neighbourhood of the cows, and the milking is carried on in the neighbourhood of the manure. We have one dairy near Dublin where there are some hundreds of cows, and the cows there are kept in a way that leaves nothing to be desired and if there is

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anything the matter a veterinary surgeon is in constant attendance and a bacteriologist examining the milk occasionally which comes in from the country to that place, and every measure is taken to ensure that the animals shall be kept in a healthy state and cleanly. I think there is more danger often from common dirt getting into the milk than from other things. I have recorded several cases of some kind of continued fever of a non-specific character from mere dirty milk.

2677. It is also the case, is it not, that with a small number of cows the danger of conveying tuberculosis in the milk is considerably increased?—I do not see exactly how that could be.

2678. Is it not a fact from experiment that diluted milk is much less infective than milk from an actually tuberculous animal?—Diluted milk?

2679. Diseased milk mixed with a large quantity of other milk?—Diseased milk mixed with milk from a large herd of cows? Would it not be rather the other way; would not the danger increase in proportion to the number of animals contributing the milk; would it not be directly proportional to the number of cows.

2680. The experimental evidence is to the effect that where mixed milk is given from a large herd where a certain number of animals are known to be tuberculous, the results are considerably less serious than in those cases where the milk of one tuberculous animal is employed?—I understand there are two points to be considered, first there is the greater probability of the bacilli being in the milk of a large number of cows when mixed together, of course, the chances must increase directly as the number increases; but then on the other hand there is the dilution. I may say I have always believed that the *materies morbi* of any disease may be taken in such a small quantity as to be innocuous. I think a big dose sometimes is required in order to produce the disease. In that way I dare say it would be more desirable to have the mixed milk of a large number of cows than the mixed milk of two or three cows.

2681. In asking the question I have in my mind an instance, where during the slaughtering-out in pleuro-pneumonia it was necessary to kill three neighbouring cows belonging to a medical man, who had kept them simply for the purpose of supplying his children with milk; every one of those three cows was found to be tuberculous. If he had got the milk from the dairyman, would he not have incurred less risk of giving his children tuberculosis?—He would. He must be doing a fine business in his neighbourhood in his own profession.

2682. I gather from what you said that you would be disposed to advocate for exactly the same reasons, large slaughter-house establishments and also large dairy establishments?—Undoubtedly.

2683. You have told us about the value of large establishments for slaughtering and dairy purposes, and you have also told us that the butchers objected to use the abattoirs, or the one now existing in or near Dublin; have you found out the reasons why they are against it?—The two objections that they always urge are first, the inconvenience of having their cattle slaughtered there, and then having to convey them home. That was one reason; and then they thought that they would be able to slaughter the animals more economically at the back of their own places. Their slaughter-yards are generally convenient to the shops, and they are sometimes at the rear of their shops, or at least in the immediate neighbourhood, and they think that they can slaughter and dress the carcass much cheaper in their own establishments than they can in the abattoir after taking carriage and other things into account.

2684. Is that not rather a defect in the arrangement; should it not be made encouraging to them to bring their animals to be slaughtered at the abattoirs?—Certainly it should be. The abattoir is a loss at present because it cost 20,000*l.* to erect. Very large amounts have been spent for the purpose of paddocks. We all know that corporations do not carry out

business as economically as private persons can do. Officials are always asking for increases of salary. I am altogether in favour of that practice myself, I mean that private persons can work establishments cheaper than corporations can, at least in Ireland. I do not know what is done in London, but in Ireland the disposition of public bodies is to be very liberal with their employees.

2685. Is that not rather a good trait in public bodies?—I highly approve of it, but that makes the expenses of working a business—for this is really a business department—greater than for private persons. The abattoir, therefore, is a loss to the citizens—not very much. The working expenses are less than the revenue, but then the interest on the loan obtained through the Treasury and the instalments of the loan are not paid out of the revenue as well as the working expenses; there is a loss, but not very great, and it is decreasing. I think one way of inducing the butchers to use the place would be to make the tariff as low as possible. That ought to be the case with every public abattoir, because if it is desirable in the interests of the public that the slaughter of animals should be conducted under the supervision of the municipal authorities every inducement should be given to the butchers to make use of such places. The great inducement will be to reduce the costs of slaughtering to a very small sum, in fact, the smallest possible sum.

2686. I understood you to say in reference to the dealing with milk, that you would not insist, and would not make it compulsory upon any one to treat milk in any way previous to consuming it; you would leave it to their discretion?—I would, because when you consider that in Dublin alone we have 250 places from which milk is distributed it would be difficult to enforce a compulsory system of sterilising; and besides that many persons would not like sterilised milk. I myself am one of those, and would not drink it.

2687. You also said that you thought the danger to public health from the consumption either of meat or milk from tuberculous animals was comparatively small?—My individual opinion is that it is not very large in that way.

2688. Is there a very large death-rate in Ireland and Dublin from consumption?—Dublin stands very high. Dublin is very peculiar with regard to its vital statistics; it has a fever death-rate, notwithstanding the bad reputation it has, a little lower than the mean of the 33 large English towns. We are generally credited with a fearfully high zymotic death-rate; but our rates in the last six years have been lower than that of the mean of the 33 English towns. Our adult death-rate and our phthisis death-rate are high; the latter about three per thousand.

2689. Is not a large proportion due to tuberculous disease?—About three per thousand; which is very high.

2690. But if you take the other forms of tuberculous disease, would it be very much higher?—They are trifling; it is the ordinary phthisis, tuberculosis of the lungs and pleura.

2691. And that does not indicate that there is any very large injury done by the tuberculous products of animals?—I find that cows do not eat any animal food, and they suffer from tuberculosis; and I do not see that there is any difference in the people who feed largely upon fresh meat in Dublin and the people who get very little, that is to say, those who live largely upon bacon. I made inquiries as to the food of those suffering from phthisis some few years ago, and I found that it very largely prevailed amongst women who hardly use any fresh meat at all.

2692. Have you any theory to account for its existence under those circumstances?—I think it is communicated from human being to human being chiefly by means of dried sputa.

2693. Which may be readily inhaled on any hot, windy day?—Yes. I think that the real sources of infection are the diseased human beings themselves.

2694. (*Mr. Speir.*) You have been telling us that you had in the City of Dublin 24 inspectors. What were the qualifications of those gentlemen?—Well, I regret to say that their qualifications are not of a high order, because the salaries which they receive are not very great, namely, 11. 5s. per week.

2695. Were those the gentlemen who made the inspection of the cows, or how was the inspection of the cows made?—The inspections of the cows were made by them, and by some members of the Metropolitan Police—sergeants of the Metropolitan Police, who are generally very intelligent men, and special instructions were given them to see what they were to look for. I must say that though they are not highly paid men, many of them, like most of my countrymen, are full of intelligence, and if they were told exactly what to look for they would look for it.

2696. And they would find it, would they?—No, no; but tell them to find it, or not find it, and it would be all the same then; they would tell the truth.

2697. Do you, as a medical practitioner, consider that those policemen and the other inspectors were quite competent to get anything like near the truth with regard to the number of tuberculous animals?—One thing I am certain of from my knowledge of them, namely, with the instructions given to them, and knowing that I, myself, and other persons above them in position were also going to visit those places and look after some of the places that they were looking after, I am perfectly certain that they would ascertain whether the udders had sores on them, and those I saw had no sores.

2698. In answer to the chairman when you gave the figures in detail as to the number of thousands of bullocks, cows, heifers, and calves which were slaughtered in Dublin, you mentioned that there were a very small proportion of those animals that were tuberculous?—We did not examine all those.

2699. Those were the ones slaughtered?—In all slaughter-houses in Dublin.

2700. You said they were a small proportion that were tuberculous. What I ask you is this: if you could put that into figures?—I think the very large number of tuberculous cows that I certified as unfit for human food and got magistrates' orders for their destruction would be about 20 per cent.

2701. And you had 4,000 cows in one particular August?—But I did not examine all those 4,000 cows.

2702. I find that, looking at the thousands you have given us, there are 25 per cent. of all the animals slaughtered in Dublin which are cows, so that I presume you would have more than many places?—Yes, because in the case of dairy cows their existence is determined prematurely, and the females of the ox tribe are brought up to produce milk.

2703. From that source alone you would expect that bullocks would naturally be very much healthier than cows?—Yes, I certainly would; they are all in the country.

2704. Would you expect any difference between the bullock and the heifer, as regards tuberculosis?—If they were placed on the same conditions in the country I should not. If they were on grass at West Meath, for instance, there would not be any difference, but if two-year-olds were brought into dairy yards, then they would be liable to the same conditions as the others.

2705. You said that the constructive details of the cowsheds in Dublin were fairly complete?—Well, the Corporation made byelaws and we took the byelaws, which came from London, as to the cubic space, and the space that should be open in front. The whole front of our cowsheds are open. No doubt we have regulations, and I have forgotten to bring them, as to the floor space; that is the space between the cows. When these regulations were made the cows were placed so near that they could not all lie down at the same time. When I asked a dairyman, many years ago, when these regulations were being framed—“Why is it that you do not give the animals more

“space; how do they manage to lie down?” “Be—“gorra, sir, they take it turn about to lie down,” he said. Now they can all lie down simultaneously.

2706. (*Chairman.*) Will you insert the bye-law in the proof of your evidence?—Yes. “Bye-law 8.—“Every cowshed should be so constructed as to give “to each animal kept therein a standing space of not “less than 6 feet in length by 3½ feet in breadth, “exclusive of channel passage cut through, and “manger. The outer support of every cowshed shall “be 6 feet high from the level of the floor of the “interior.”

2707. (*Mr. Speir.*) Do you remember what is your cubic space in cowsheds? The cubic space is something like 500 to 600 feet—about 500. Well, the whole side of the shed is entirely open; that is the tail end.

2708. In all weathers and at all times?—Yes, because they are enclosed in yards; at all times they must be open to the extent of one side of the shed. You can just get under it by stooping; it is about five feet in height, completely open all the way; and the channel course must be concreted. The usual regulations are quite the same as those of the Local Government Board.

2709. You occasionally, or very often, used the word that you gave compensation for foods, vegetables, clothing, &c., in case of fevers?—We do constantly.

2710. How do you arrive at it. Do you take the supposed value for the time being?—They make a claim; they say that they paid so much for these articles and we get some person to value them. If it is obvious, for instance, that so much bread is destroyed, well, one knows the price of bread, and the price of cabbages and those things. We have even matchboxes charged for. The other day there was a case when a female who was engaged in making matches for a match manufacturer, made a claim for matchboxes. We destroyed all the matchboxes, and gave, I think, 31. 15s. as compensation to the match-maker.

2711. Well, then, in connexion with the compensation to slaughter-houses, you had compensated four owners?—Three or four.

2712. Can you give us any rough idea as to how you arrived at what compensation is just and reasonable?—By means of a valuer. One of the ordinary persons who value properties for sale.

2713. You have no idea as to how you arrived at the figures?—By seeing what was the revenue made out of the place by allowing animals to be slaughtered. In one instance a person was retiring from business; he was a butcher, and he offered the place for a sum of money—I think for 50l.—so that no one else could slaughter in it afterwards; he gave up his license and we gave him 50l. and put an end to the slaughter-house. At the present moment the law agent is instructed to take proceedings under the Public Health Act to close three slaughter-houses which are in a very objectionable place. It will probably cost 1,000l.

2714. What distance is your public slaughter-house from the centre of the city?—The City of Dublin is of an oblong shape, about a mile and three-quarters by about two and half miles. There is a road that completely invests the city, and the River Liffey flows through the centre of the city. The Corporation abattoir is situated on the county side of the north circular road, and is therefore on the northern border of the city, close to the New Marlborough Barracks.

2715. Presuming that you had been able to put your slaughter-houses fairly near the centre of the town, do you think there would be much objection from the butchers to use it?—There would.

2716. For what reason?—Because they prefer to slaughter on their own premises, and actually, if they could, in their own back parlours; many of them did kill their sheep and other animals of that kind in their parlours. At any rate, some of them like to carry on work on their own premises.

2717. What proportion do take advantage of the slaughter-houses where they stand at present?—I

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should say not one-tenth of the butchers in Dublin use them.

2718. Do they carry their carcasses far?—The butchers who use it are distributed all over the city. Many of the butchers have very large and well-constructed private slaughter-houses, and there would be no pretence whatever for abolishing them.

2719. But the other ones, you appear to be firmly of opinion that there would be no great hardship to call upon the owners of those to use the public slaughter-houses?—I do not think there would. It would not be a very great hardship, it would be a little more convenient; and it was for that reason that I would like the tariff of any slaughter-house to be as low as possible, even if the abattoir was a loss.

2720. You think that the abattoirs should exist for the public benefit, and only such charges be made as would pay expenses and nothing more even, rather the other way?—Not even to pay the expense of the interest or instalment of the loan in order to induce all butchers to use it.

2721. Is it a fact that in Dublin cows are very often sent out into the country after they come into the city?—Oh, yes, strippers.

2722. In that respect the practice in Dublin is different from all the other large towns in Britain?—From my experience, when a cow begins to fail in giving a proper supply of milk, it is shunted off to be sold and fattened; they do not keep the cows more than two or three years. The object is only to keep a cow which is yielding its maximum amount of milk, and as soon as it begins to fall off in the supply of milk it is sent off to the country.

2723. In most of the large towns but few dairymen keep a cow more than one year; they never send them back to the country again?—I do not know that.

2724. It is certainly the case in all the towns?—They have them only for one year?

2725. Yes?—That surprises me. A cow surely gives a maximum supply of milk for more than one year. What object is there in getting rid of a good milk cow?

2726. They milk them and feed them as long as they give a suitable quantity of milk, and when they cease to do so they sell them for fat animals?—That is what is done in Dublin, but they take more than a year's milk out of some of them.

2727. In answer to Professor Brown you appear not to be of his opinion that a small herd would be more dangerous than a large one?—Well, I say there are two ways of looking at that point. First, for instance, there is no doubt that if 20 people are sleeping in one dormitory in an institution, and that there is one person affected with, say, phthisis, that might affect the atmosphere of the whole place; the danger will increase if there are 40 people, and there would be more likelihood of a person suffering from phthisis where there are 40 and so on until you get a number, that there is a certainty to be one only on that principle. On the other hand, as Professor Brown said, there is the smaller chance of there being milk of a tuberculous cow where there is only the milk of three cows mixed—a smaller chance, but the amount of poison there would be much greater.

2728. On that basis you are inclined to believe that large herds where changing has been going on must necessarily be more liable to infection than smaller ones?—That is a matter that admits of no doubt whatever. Everyone can see that if occasionally a cow has tuberculosis that the larger the number of cows contributing to mixed milk the greater the chance of infection being in the milk, but that the excessive dilution is another element to be taken into account, and I have always been of opinion that a few bacilli getting into a body will not necessarily give disease. In fact, if that were not correct we would be all dead.

2729. (Chairman.) And the larger number of cows are more apt to be kept in better sanitary conditions

than a smaller number?—Yes, where you have a large well regulated dairy like the Lucan dairy you have cleanliness and healthy animals.

2730. (Mr. Speir.) Speaking about the death-rate from phthisis, &c., in Dublin, you did not make any reference to those of children. How do the deaths of children from tuberculous diseases compare with those of adults in other towns?—Our infantile death-rate for the last five years has been slightly below the mean infantile death-rate (that is children under five years old) of the 33 English towns. But the reason of that is that diarrhoea, which is so terribly fatal amongst children in the English towns, is not nearly so fatal in Ireland. On the other hand, meningitis and cerebral meningitis and phthisis are more prevalent amongst the children in Dublin than amongst the children in the English towns. Taking the mean of the English towns there is more phthisis certainly.

2731. I understand from what you have said that diarrhoea complaints amongst children are not very prevalent in Dublin?—No, the fact of it is the higher the temperature of a place the greater is the death-rate from diarrhoea diseases amongst children. We have no very high temperatures in Dublin in summer, and, therefore, the children do not suffer so much from diarrhoea diseases as they do in England, the children do not suffer so much from tubercle in the lungs.

2732. Have you tubercle in the bowels there to any extent?—Yes, that is very common. What is popularly known in Dublin as consumption, that is phthisis of the lungs, is not so common amongst children as amongst persons over 14 or 15 years old. But then other forms of tuberculosis are very frequent amongst children in Dublin.

2733. Are the abdominal forms of tuberculosis any more common or less common in Dublin than elsewhere?—They are more common in our children than elsewhere. The excess of those diseases and in meningitis, which is very common amongst children in Dublin, compensate, in a bad way of course, for the smaller death-rate from diarrhoea.

2734. Presuming that those cases to which you do refer are of a tuberculous nature, have you any reason to account for your cases being slightly higher than the average of the other 33 towns?—For years and years I have been endeavouring to ascertain why it is that Dublin has two diseases in which they have a bad pre-eminence, namely, enteric fever and phthisis. With regard to enteric fever I have come to a conclusion, but with regard to phthisis I have not. I do not understand why we should have more than they have in other places. The lower class in Dublin who suffer considerably from phthisis are not a meat-eating people to the same extent as the corresponding classes are in England. The poorer classes in Dublin are not a fresh meat-eating people as a rule compared with the corresponding classes in England—they live very largely upon bacon.

2735. But if your children have a large amount of bowel complaints of a tuberculous nature, there must be some reason for it. Can you give any reason or likely reason for it?—The hygiene of infancy is not attended to very carefully. I think that the food of the children is not what it should be. Many of the children are bottle fed, and the milk gets bad and sour.

2736. That would only cause diarrhoea complaints, which might not be of a tuberculous nature?—Quite so.

2737. But if the milk was bad you might not only have the same class of complaint, but there would also be a risk of it being of a tuberculous nature?—One reason, I think, is this, that in Dublin an undue proportion of the population are underfed, and badly clothed and badly housed. The want of great industries in Dublin, and the fact that large numbers crowd up from the country, when they are in a poor condition produces in Dublin a very large poor population. I have always been of opinion that the Irish cities, on the whole, compared with the English cities are very

very much poorer; and the report on the financial relations between England and Ireland quite established my belief in that reason. Whether we have poor people living even in Brighton, or in Bath, or in London, it is all the same with the poor; there is a high birth-rate and a high death-rate. I say wherever the poor are there there is a high death-rate and a high birth-rate. Now there is an unduly large number of that kind of the population in Dublin, and they produce a high death-rate.

2738. Might I ask you to prepare a short table for us giving the exact percentage of deaths per million from those children's diseases under five years old?—Certainly; I can furnish that to the Commission.

2739. (*Mr. Cooke-Trench.*) You heard the extracts which I read from the evidence of Dr. Sedgwick Saunders and Mr. Billing as to the great diversity of practice in condemning carcasses?—Yes.

2740. I suppose that the best possible means of combatting that great evil would be the establishment of abattoirs all over the country, and disestablishing private slaughter-houses?—Undoubtedly.

2741. How far is Portobello from the abattoirs in Dublin?—There is no direct way; it is between 2 and 2½ miles; say 2½ miles.

2742. Even so, the butchers do not very much care to go that distance?—They do not. Take them as a class in Dublin they have an aversion to the use of the abattoir.

2743. Now it would require an immense number of abattoirs throughout the whole country to bring them even within that distance of all the butchers, would it not?—Of course; in rural districts it is out of the question.

2744. Taking the cost altogether, the cost of the building and the cost of compensation to those whom you disestablish, and the cost of maintenance and everything, do you think it is possible to establish abattoirs all over the country, and disestablish private slaughter-houses?—Beginning first with Dublin, with which, of course, I have the most intimate knowledge, it would cost a most enormous sum of money to get rid of those slaughter-houses. They might be reduced, and I hope they will be reduced, and in that way the number of animals slaughtered in the abattoir might be increased.

2745. You have a very great knowledge of Ireland altogether?—Yes.

2746. Would it be possible to establish abattoirs all over the country?—Not except at an enormous cost, unless we get a million or two from England.

2747. Another suggestion that has been made before us for abating this evil is that of having a higher class of inspectors, that is, better educated inspectors; veterinary surgeons and practical butchers have been particularly named. Would you give us your opinion about that; whether that would effect the object?—I think the ordinary sanitary inspection is not perfectly reliable.

2748. Please confine your evidence to the question of the uniformity of practice, that is what I want to bring out. It has been suggested to us that this great diversity of practice arises considerably from not having well-educated inspectors, and that if we had a higher class of inspectors we should not have the same diversity of practice; is that your opinion?—That is my opinion. Of course I thought you were asking about the two classes of inspectors, unskilled men and professional men—

2749. Professional men, yes?—Well, the higher we get the qualification of the inspectors, I should say, the more uniform the practice.

2750. But would it not be possible to displace the present inspectors and to replace them all with educated men?—Not the ordinary sanitary inspectors. But I would not have them inspecting animals at all; they are not competent.

2751. Practically could you displace the present class of inspectors?—Certainly; there is no difficulty whatever about that.

2752. Could you displace them?—Certainly.

2753. Could you turn them all away?—No. That forms an insignificant portion of their duties. It would enable them to do their other duties better.

2754. You mean to take those duties from them and leave them where they are, and give the other to other persons?—Yes, and they would be able to do their other duties more efficiently.

2755. But that would involve an immense additional cost all over the country; we are talking of their being made all over the country?—Certainly it would, because the only proper inspectors are veterinarians.

2756. I come to the only other suggestion that has been mentioned here, that is, as to the instructions from the Local Government Board; do you think it would be possible to frame some instructions, which I do not say would bring the practice into uniformity, but would bring it nearer uniformity than it is at present?—I am undoubtedly of opinion that it would; certainly it would depend though very much upon what basis the Local Government Board constructed their instructions.

2757. Can you suggest any basis for those instructions?—I believe that in a matter of this kind as to the transmission of disease through the medium of meat and milk the whole thing is a question of experiment that could be only performed by very highly competent men, scientists; and that even apart from experiments the opinions of men of great eminence in pathology ought to be taken into account. If the Local Government Board would give instructions that were based upon the opinions of the most eminent men, I think that men who were less eminent, like myself, would be very glad to be guided by their opinion. I certainly would.

2758. Then that is the only practical way that you see of dealing with the question?—I say the only way of dealing with it. Like a dogma of the church, a dogma once established I would firmly believe in it.

2759. I think you said there is no inspection of foreign meat in Dublin?—Yes; we inspect the places, but there is not much that comes into Dublin. We have inspected Eastman's, but there is very little foreign meat in Dublin; it is not like English towns.

2760. Now I come to the question of compensation. In your experience is it the general rule of English law that when private property is confiscated in a way for the public benefit that the public are made to pay for it?—No; I think the public ought to pay.

2761. Is it your experience that this is done, for instance, when land is taken for railways or barracks?—Surely they are more than compensated—that is my experience—and they are given more than the value; at any rate that is the case in Dublin.

2762. I think the Corporation of Dublin, of which you are an officer, have the power of clearing whole districts of houses for the purpose of sanitation, making open spaces, for instance?—They have exercised that power several times.

2763. They have given full compensation in those cases?—In my opinion they have given far too much; they are obliged to do it, of course.

2764. (*Professor Brown.*) Who pays the compensation?—The ratepayers.

2765. It is paid by the Corporation, is it not?—Yes, it is paid out of the rates and loans are obtained from the Treasury.

2766. It is not paid out of the Imperial funds?—No; loans are obtained from the Treasury on the recommendation of the Local Government Board and through the Board of Works. We have borrowed enormous sums of money for that purpose and have compensated the people whose premises we took.

2767. I believe there is a single exception to that, and that is, in the case of insanitary houses that are condemned?—That is so.

2768. You give no compensation to those?—Sometimes we do now. I have always been of opinion that we can deal with insanitary houses under two Acts. If a house is in an insanitary state we can call upon

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the owner to put it into a sanitary state, and if he refuses to do so, we can get the magistrates to compulsorily close it and de-tenant it. In that case he is the author of the confiscation, and we say, "make it right, and then you can keep it." In other cases where an insanitary area is dealt with, a number of houses are really insanitary and ought to be taken down, and a number of houses are not, but in order to make a good wide street and make convenient approaches, perfectly sanitary houses have to be taken down, and in that case full compensation is given; that is *pro bono publico*.

2769. When you condemn insanitary houses by yourselves your first step is to serve them with a notice to put them in a sanitary condition?—Yes.

2770. That pre-supposes that he does so, and that it is his fault?—Yes, it is his own fault, so that I do not think that applies to the meat question.

2771. You have given evidence about dealing with infected clothes, and also destroying large quantities of food, and in those cases full compensation was given?—Yes.

2772. Does it ever fall in your way to have to condemn fish?—Yes, every year.

2773. Have you ever attended the fish market?—I have.

2774. Would you just state how the fish is sold?—Fish is sold by auction to fishmongers in the early morning; the fishermen bring in the fish, and the brokers or auctioneers sell it generally at four times what they pay for it.

2775. Is it sold in baskets?—In baskets and boxes sometimes; the boxes come up from the country.

2776. Has the buyer any opportunity of examining what is at the bottom of that box?—He has not.

2777. I suppose the man who filled it knows pretty well what there is there?—He does.

2778. And if he put bad fish at the bottom and good fish at the top where it is seen, that is a distinct fraud?—It is. We often have cases of that kind decided in the courts in Dublin. We had a case of fraud where the auctioneer himself was held responsible, where he himself could have seen that it was bad.

2779. But there it was a distinct fraud. Now as to the tea and fruit; have you ever had to condemn those?—Oh, yes; not lately, tea, because it is now examined in the bonded warehouses, but formerly I got a magistrate's order to compel the destruction of seven chests of tea. But now, under the last Sale of Food and Drugs Act, the tea is examined by the Excise officers, so that it is impossible for any very bad tea to come in.

2780. Is there anything in the nature of things that prevents a buyer from opening a box and seeing what is in it?—Yes, they will not allow you to do it at the auction.

2781. Is there anything in the nature of things to prevent it?—No; that is a thing constantly occurring in Dublin. There was a man fined 10*l*. the other day for selling fruit—that is, fraudulently made up fruit. A few good ones were on the top and the rest were rotten; he had to pay 10*l*.

2782. Can you mention any single case that is perfectly analogous to that of a bullock which is apparently perfectly sound until after it is killed, and it is then found to be tuberculous, in which compensation is not made when the property is confiscated?—For the public good I do not know a single case; not one.

2783. In the case of fowls, which I believe are very much subject to tuberculosis, what do you say?—Very often I have fowls sent to me supposed to have been poisoned, and I find extensive tubercular disease of the internal organs.

2784. Would inspection be possible in the case of fowls?—Quite impossible; they are bought in coops in immense numbers, and it would be quite impossible.

2785. It would be practically perfectly impossible, you think?—Yes.

2786. In the case of milk, I think you have given your evidence pretty fully about that, that it would be perfectly possible to inspect all the udders in all the registered dairies?—With our present staff it would be quite impossible; we should have to have a special staff.

2787. But with a special staff there would be no difficulty?—Not at all; not the slightest difficulty.

2788. You could then make a periodic inspection?—Yes, especially if we had large dairies.

2789. And such a periodic inspection would keep the community practically free from danger?—I have no doubt it would, always provided that the inspectors were veterinarians and capable of doing their work.

2790. Persons educated specially for the purpose, you mean?—Yes.

2791. Do you think that milk products, such as butter and cheese, ought to be inspected?—I do not think so; butter certainly not. You could inspect every mortal thing, and if we did we would not have time to eat anything.

2792. Are foreign imports of that kind inspected?—I do not think they are.

2793. You do not inspect them in Dublin?—Except during the apprehensions of cholera, and then fruit and everything is inspected; but only at that time.

2794. The inspections which you made lately of all the udders of those 5,000 cows were perfectly exceptional inspections?—They were perfectly exceptional; it was done for this Commission—I thought the Commission might want to know.

2795. It was a most excellent idea. There is no inspection, practically, of dairy cows?—Oh, there is; I will not say perfunctory; it is only very trifling.

2796. You are sure there is?—There is.

2797. Can you condemn a dairy cow?—If it was diseased.

2798. Yes: supposing you found a dairy cow with a tuberculous udder, have you legal powers now to deal with it?—Absolute powers under the Public Health Act. Certainly any animal that is diseased would be unfit for food, and therefore the milk would be.

2799. (*Professor Brown*.) How do you interpret the word "diseased"; do you make it include any disease?—Any disease that would render it unfit for human food.

2800. You do not limit yourself to cases under the Animals' Diseases Act?—We go under the Public Health Act and we do not go under that definition in the Animals' Diseases Act. Any animal that is, in the opinion of the medical officer of health, diseased, unsound or unfit for the food of man may be dealt with. I have got cows slaughtered even that have been suffering from actinomycosis.

2801. (*Mr. Cooke-Trench*.) But that was intended for human food?—Milk is human food.

2802. (*Mr. Murphy*.) With reference to what Mr. Cooke-Trench was asking you questions upon; when a railway company takes land for its own purposes the land has not been taken away because it is mischievous, but because it is wanted by the railway company, and it is a mere question of purchase, is it not?—Yes.

2803. They are going to use it for their own profit?—Yes.

2804. Then as to the houses that are acquired in the clearances of unhealthy areas, I think the Housing of the Working Classes Act of 1890 applies to Ireland?—It does.

2805. Under section 21 of that Act the conditions upon which compensation is given depend upon the condition of the houses, do they not?—Yes, and the business carried on.

2806. And in regard to their fitness for habitation?—Yes, and the business carried on. If it is an improper business that is carried on, no compensation is to be allowed.

2807. If it is an illegal business you mean?—Yes.

2808. But where the houses are unfit and not reasonably capable of being made fit for human habitation, is it not a fact that then the compensation is

based upon the value of the land and the materials of the buildings thereon?—Undoubtedly.

2809. And that no compensation is given for the house as a house?—Not if the house is worthless. I say these are valueless, even under the Public Health Act. You can close them without any compensation. Mr. Cooke-Trench referred to this class of houses. It is just the same under this Act as under the Public Health Act. If we could close them without compensation in one case it would be absurd to give compensation for the other. I admit that where a house is unfit for habitation, and the owner of it knows it to be so, there ought not to be compensation, and there is not. Certainly where a house is unfit for habitation it may be closed under the Public Health Act, and if taken under that Act there is no compensation. It would be inconsistent to give compensation under that Act if you could close up the houses compulsorily under the Public Health Act.

2810. Section 21 of the Housing of the Working Classes Act relates to the clearance of unhealthy areas where the property has been acquired by a public authority?—Yes, you compensate where the houses are good, where the houses are perfectly fit for human habitation, but in order to make proper approaches you have to take good houses; to those full compensation is to be given. But if houses are unfit for habitation of course no compensation is given; I agree with that.

2811. Will you kindly tell me about the meat which is consumed in Dublin; what proportion of meat comes in dead from country districts?—Very little.

2812. Is it mostly brought in alive, and killed either in the public slaughter-houses or in the private slaughter-houses?—Very little meat is brought in; very little indeed comes in from the country. Formerly a good deal did come in, that is, unsound carcasses. All the animals that died within 50 or 100 miles of Dublin came up to Dublin, but now we are pretty vigilant and our officers watch the railways, and where animals are sent off alive and come in dead by being smothered or trampled to death, we take them; but very little comes in that way. There is some American and Australian meat that comes in, but by far the greater proportion of meat consumed in Dublin is derived from animals that are slaughtered in the city.

2813. You say that meat coming by railway is watched?—Our men watch the railway stations as cattle cars come in.

2814. But I am speaking of dead meat?—That is very rarely sent up.

2815. Have you only such inspection as is made in the butchers' shops?—It is inspected at the railway stations also. We have one man who has been for years and years at North Wall watching the ships coming over from England and looking for consignments of bacon and things of that kind, which are inspected. We destroy a great quantity of unsound bacon.

2816. Would there be any convenience if you had the power to require dead meat introduced into Dublin to be brought to some station under the control of the authority?—We have a large place intended for that purpose in the abattoir, a dead meat place; but it has not been much used.

2817. Was it designed for the purpose of dead meat being brought for inspection?—Yes.

2818. But without the power to require dead meat being brought you would hardly anticipate its being used?—We have no power to compel dead meat to be brought there.

2819. Would you wish it?—Yes, I think we would. But Ireland is not very much interested. Ireland sends out more meat than it receives; 170,000 head of cattle are sent from Dublin to England; that is one of the few things that we export.

2820. Can you tell me whether there is any difference between the amount of cooking of the meat in England and in Ireland?—Undoubtedly. I have noticed that the Irish people of all ranks like their

meat much more thoroughly cooked than is the case in England. There is the red stage and the white, and the vast majority like the meat in the white stage, when the red corpuscles are completely altered.

2821. Notwithstanding that habit of the people, you would still wish public slaughter-houses established?—I would.

2822. And even if they could not be established throughout the whole of Ireland in sparsely inhabited districts it might be possible to establish them in certain urban communities?—Every town of a few thousand inhabitants, I think, ought to have an abattoir. But you see, whilst in England two out of every three people live in big towns, in Ireland only one out of every seven lives in a big town, and it makes it difficult where six-sevenths of the people live out of the big towns, whilst in England two-thirds of the people live in large towns.

2823. The butcher in the rural districts, I take it, always lives in a village practically?—Yes.

2824. Do you think it possible to institute some inspection of his meat in his slaughter-house in a rural district?—I can say when a butcher in an Irish village kills a cow it is known to the whole neighbourhood; it is well inspected.

2825. The fact that the public slaughter-houses are not much used is, you think, due practically to the unwillingness of the butchers to submit to the inconvenience?—That is it, precisely, and they think they can do the work a little cheaper too.

2826. Are there any railways in connexion with the Dublin slaughter-house; is it on a railway?—No, it is not on a railway, but it is a very convenient place in one respect. A road only separates it from the market in which all the cattle that come into Dublin are sold. Underneath the roadway is a subterranean passage, and the cattle, if purchased in the market, can be conveyed through it.

2827. Then the practice of the butcher is to buy the cattle in the market, and drive them immediately across to the slaughter-house?—Yes.

2828. And then to have them slaughtered there, and to take the carcasses to his shop?—Yes, in his own carts. We have carts too, but he prefers carrying them in his own carts. We either kill them for him or allow him to kill. We are most generous to him; we say, "You may kill your own animals or we will kill them for you; you may bring your own animals or we will send them home to you."

2829. So that the inconvenience is not really a great one?—No, but the butchers appear to think it is; they would rather bring home their own cattle at their own convenience, and slaughter and dress them.

2830. Have you any cooling chambers cooled by ice?—No; we have a place for ice, but it is not habitually used.

2831. But that would be a great convenience to butchers slaughtering there?—It would. We have a cooling chamber, and it is sometimes used, but it is not extensively availed of. They generally take the meat home at once, instead of letting it remain 24 hours to harden.

2832. Have they got cooling chambers in connexion with their own private slaughter-houses?—One or two of the larger ones have. A great number of them use ice. Those that import meat have cooling chambers. Eastman has, for instance.

2833. I should have expected that much of the meat would go bad in hot weather in the shops without the cooling chambers?—Yes, it does. People are constantly bringing portions of meat that they purchase, and we are constantly having prosecutions for selling meat of that kind—merely tainted meat.

2834. If the system were more largely adopted of killing it in the public slaughter-houses and storing it in the cooling chambers, drawing upon it as it is wanted, that would effect a saving in the meat supply?—I am strongly of that opinion, and have been always of that opinion, but in talking to butchers, it is very

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difficult to convince them. They like to bring home their own animals at their own convenience and to kill them when the workmen are not employed on anything else and to bring meat into their shops from the killing place in the immediate locality; some do use the abattoir, but it appears to me to be a difficult thing to get rid of the Dublin slaughter-houses, as there are so many of them, without an enormous cost.

2835. About the inspectors who inspect the meat at the slaughter-houses; how have they been chosen?—Till lately it was a butcher, a rather superior kind of butcher, a man of very great general intelligence, and who had a good idea of meat; but in every case that is at all suspicious, I am always sent for—if there is anything abnormal I am sent for, unless the case is very transparently bad and there is no doubt about it.

2836. Do you often find that the seizure of meat is objected to and protested against?—They used to do so, but they never do it now, because they know it is no use objecting. The magistrates will hardly listen to their evidence. They know very well that we would not ask for the confiscation of any carcass unless it ought to be destroyed. Not for many years has there been any case in which the application to the magistrate for the destruction of the carcasses has been objected to—not for 20 years. Some years ago, when I was prosecuting great numbers of persons engaged in the cattle trade, they asked three experts, three medical men to act for them; they objected to the destruction of animals in any stages of pleuro-pneumonia, and they asked Professor Macnamara, of Dublin, and Professor Reynolds, of the University of Dublin, and Professor Macalister, now of the University of Cambridge, to act for them, and to dispute the first case that occurred before the police magistrate, and they feed them. But the first case that came on, those gentlemen saw the carcasses and they did not go into court, and that was the last opposition that we had. There was in fact, no opposition, because when those gentlemen saw the case they would not act *contra*.

2837. Has any system of insurance been designed as between the purchasers and vendors of the cattle?—I have never heard of any; nothing but the ordinary insurance against disease. There are insurance companies against diseases—all the cattle insurance companies that are all over the United Kingdom.

2838. But that does not extend to compensation for the loss of a carcass that is seized because of tuberculosis?—No, it does not.

2839. (Dr. Thorne Thorne.) Would you tell me at whose instigation the operation of the Dublin Act of 1890, as regards the abolition of private slaughter-houses, was frustrated in its last stages in passing through Parliament?—It was not frustrated.

2840. I thought you said that a compensation clause was introduced into it which frustrated it?—No, the Corporation Act of 1890 contained a clause extending the boundaries of the city so as to include the Corporation abattoir which, being outside the city, could not be made use of compulsorily. That was what was in the Act, but some way or other when the Act was being passed through the House of Commons, and when it had reached the third reading stage, owing to some opposition on the part of the butchers to the extension of the city in that direction a kind of compromise was arrived at—I regret it very much, and I have always regretted it, and I have said it openly—by which the temporary slaughter-houses were made permanent.

2841. Then it was the action of the butchers that practically frustrated the original intention as regards the abolition of private slaughter-houses?—The abolition of the temporary licenses. The slaughter-houses were divided into two, those in use at the time of the Towns Improvement Act, 1842—the celebrated Act—one for Ireland and one for England. In that Act the Corporation were first enabled to make these public abattoirs and to close the slaughter-houses—they have that power now—with compensation to those which were in existence at the time only.

But after that time about as many new slaughter-houses were established with temporary licenses.

2842. I asked at whose instigation the alteration was made, and you told me it was at the instigation of the butchers?—Yes, the instigation of the butchers.

2843. Are there any other means available by which the butchers' demand for uniformity of inspection in towns can be obtained except by public abattoirs?—I do not think there is, except at enormous expense. Of course, if the element of expense is disregarded you can have a perfect inspection, but the expense would be enormous.

2844. Do you think that the preference for private slaughter-houses in Dublin may be due to the desire to avoid the strong inspection and uniformity of inspection of the public abattoirs?—I do not think that enters into their calculations at all, it is altogether a matter of convenience with them.

2845. You told Mr. Shirley Murphy that in Dublin you did not compensate for houses that are unfit for habitation, but only where houses fit for habitation are compulsorily taken?—Yes, fit for habitation under the Housing of the Working Classes Act.

2846. Why, then, would you compensate for meat that is unfit for human consumption?—For this reason, that if a man criminally allows his house to get into a state of neglect, which, I think, is a criminal action, and does not bring it into proper repair as every owner ought, and he allows it to become dilapidated, and it is transparently dilapidated to everyone, that house becomes unfit for habitation and the authorities close it, and do not see why compensation should be paid in a case of that kind.

2847. Do you imagine that the owners of poor houses in poor districts are criminally aware of the fact that their houses are unfit for human habitation?—They are careless or criminal, it does not matter which.

2848. Then it is a matter of education?—I would punish them for carelessness.

2849. And their lack of education?—I think that the owners of houses ought to have sufficient education to know that their houses were in a dilapidated state and they should maintain them in a proper condition.

2850. You were drawing a parallel from infected clothing that is destroyed; may I assume that you have in Ireland a definite statutory enactment to the effect (I am quoting section 121 of the Public Health Act, 1875) "that where a local authority directs the destruction of such material they may give compensation for the same"?—Yes, we have a similar one.

2851. Have you anything that is in any way similar with regard to food?—With regard to food we apply that.

2852. Kindly tell me first whether you have such enactment?—I do not think there is a specific statute relating to food. We take these as household effects of the people; the auditor of the Local Government Board has always allowed it.

2853. Supposing a person takes such infected clothing, and exposes it in a shop for sale, do you compensate him then?—We prosecute him.

2854. I asked you, do you compensate him?—No, on the contrary, I say, we prosecute him.

2855. Who did you compensate for the seven chests of tea which you seized, to which you have referred?—We did not compensate anyone then, because that was a clear fraud. It was known as "lie" tea in those days.

2856. You did not seize it from the purchaser, then?—No, in that case the purchaser brought the specimen for examination, and when I examined it I saw that it was "lie" tea, and I went to the merchant's place and seized the whole of it. The person who sent it to him was the person who suffered, and he was the fraudulent person; he was not paid for the seven chests of tea.

2857. If you were not a borough auditing your own funds you would not, I assume, be able to go on

compensating for vegetables and all sorts of articles when you seize them?—We do not audit.

2858. I was under the impression that it was the same as in England?—No, we are not nearly so free in those matters.

2859. May I take it that the auditor passes those accounts although there is no statutory power to make the compensation?—Yes; in the interests of public health that appears to be a very proper thing to do, because else why take the clothes and leave the vegetables, and other things more likely than the clothes, to spread the disease?

2860. You have already mentioned that you do not compensate for the clothes if they are exposed for sale,—and the meat is exposed for sale?—No. That is a very rare thing; I hardly ever remember anyone doing that; that would be clearly a criminal act.

2861. Only criminal, though, if with knowledge?—If with knowledge. Of course, if we found that a person had sold a feather bed or a mattress which a small-pox patient had been lying on, we undoubtedly would prosecute.

2862. Would you compensate the person who was selling it?—Certainly not. They had no need to do such a thing as that; we could have disinfected it or compensated.

2863. You have referred a great deal to the question of sores on udders; do you consider that they are, as a rule, in any way comparable in point of danger as regards milk with the existence of a definite induration in a gland?—That is a sore without regard to whether it is of tuberculous origin?

2864. A tumour without regard for the moment to whether it is tuberculous. I want to know which is the more likely to be tuberculous?—I think the gland undoubtedly.

2865. My reason for asking you is that you have so frequently spoken of sores?—I should say the gland undoubtedly.

2866. Could you form any general idea as to whether tuberculosis in children in Dublin is to any noteworthy extent the result of the use of uncooked milk as an habitual article of food?—There is no scientific evidence that I know of to prove it.

2867. I am asking you whether, as a medical officer of health of long experience, you can form any judgment at all in your own mind?—I could not. I have thought that over and over again, but I have no proof. Merely as a matter of opinion I think there is some disease that way, but I have no absolute proof of it; if you ask for an opinion, which of course is a different thing, I would say that it is occasionally derived from that source.

2868. Is it not the fact that Irish mothers have the good sense beyond ordinary mothers to suckle their children?—Yes, the great majority; do but, still, there is a great deal of bottle-feeding carried on in Dublin, but less so than in the manufacturing towns, less so than in Belfast, because mothers are always with their children.

2869. Would you kindly give me your opinion as medical officer of health as to the danger to men from eating as a food meat from carcasses, which, though partially tuberculous, are free from any evidence whatever that the meat itself is infected and are otherwise in an apparently healthy condition?—That is the internal organs being affected, but the flesh not being affected?

2870. I mean where there is, for example, a partial tuberculosis, but the meat is apparently healthy, and the carcass is apparently healthy; what is your view as to the danger to men through eating such meat?—I think myself it is very slight; but, as I have already stated, I base that opinion to a very great extent, if not wholly, upon the statements that have been made by competent authorities that the bacilli have not been found in the muscular tissue. That is what I am acting upon at present; if I find some evidence of disease in the internal organs, in either the pleura or in the peritoneum, I do not condemn the carcass.

2871. We have been told that some officers of health would not condemn a carcass unless, indeed, the meat itself showed evidence that, apart from tuberculosis, it was not proper for human consumption; is that your attitude, or do you go beyond that?—I would hardly go that far, because that would be only dealing with a totally different state of things from the question of the existence of tuberculosis. If the carcass is excessively wasted from any cause, from chronic disease, from starvation, or anything else, and it would be really innutritious, I condemn it then as being unsound, but not in reference to tuberculosis.

2872. Will you tell me how many carcasses you condemned last year, for example?—Something from a dozen to 20—about 20, I think.

2873. In how many of those was the meat perfectly good to eat apart from obvious mischief which was not the result of tuberculosis?—In one case only.

2874. In only one?—Only in one. They were all wretched carcasses, and the lungs were in a very advanced stage of disease.

2875. The majority of them were wretched carcasses?—Yes.

2876. In the cases of those wretched carcasses you would not give compensation, I suppose?—No, because in one case I ascertained that the animal had been purchased for some very trifling amount, so it was evidently diseased; but another case was a very splendid animal—a bullock.

2877. How many of these cases of splendid animals do you get in a year? I gather you only had one or two last year?—That is all, but I am sure there are plenty of them if I had seen them; I am sure there are dozens of them.

2878. Would you condemn those carcasses—those dozens?—Certainly not.

2879. Then there would be no difficulty about compensation?—I remember some time ago a gentleman from county Waterford—Mr. Chearnley—sent up a whole carcass to me, and I never saw more extensive tuberculosis in the internal organs of an animal than I saw in that case, and yet the carcass was a very fine and heavy carcass. I condemned it in that case.

2880. Are those cases exceptional?—They are. Generally speaking, an animal with tuberculosis is a poor animal. One reason for that is that they are animals that have ceased, to a great extent, to be used as milch cows, and therefore in any case, whether they are tuberculous or not, they would be poor carcasses. If they were not tuberculous I would not condemn them for merely being thin poor animals, because the poor buy that kind of flesh at a cheap rate.

2881. Then on your own showing the question of compensation in Dublin would be a very trivial matter?—I do not think it would be very large. I have always said that I think there is great exaggeration as to the number of animals suffering from tuberculosis to that extent, that you should destroy their carcasses; but there is a certain number. If I detect 20 in the year, when there is the merest pretence of inspection, surely there must be ten times that number.

2882. You told me that the majority of those 20 were obviously unfit for human food on account of emaciation and other things?—Yes, but I am not prepared to say I would not in some cases give compensation, because we must consider that old strippers that are perfectly healthy, but very thin, bring a very small price. I have known perfectly healthy animals, but thin, wasted, and small, which would bring only 3*l.* or 4*l.* or 5*l.*, and their meat is sold at 3*d.*, 4*d.* or 5*d.* a pound to the poor. A very large quantity of meat sold in Dublin comes from very poor thin cows. If I found these cows suffering from tuberculosis I would certainly compensate the owners.

2883. Would that not encourage men to keep their cows until they were emaciated and tuberculous in order that they might get compensation for them?—I do not think so, because they would get whatever the value of the cow was, and they would only get

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that value, supposing it to be a healthy animal, in any case. Supposing that there are two cows, very thin, with very little fat on them, and they are both sold at 5*l.* apiece, one is found by the butcher to be extensively diseased with tuberculosis, and the other is found not to be diseased; would it not be fair to give compensation to the butcher who paid a fair price, supposing it to be a healthy animal? Why should he lose his 5*l.* if the authorities take that animal and destroy it?

2884. I was not speaking of taking any animal and destroying it. I was speaking of a man who exposes meat for sale; I have not spoken of an animal at all. I am taking this case: A man for a long period of time gets his profit out of a milch cow. When the cow becomes useless, then, because it happens to be useless by reason of tuberculosis, you would compensate that man, on your own showing, when he exposes the carcass for sale?—I cannot answer that offhand, because it would require a rather long answer. In the first place, how would the man know that his cow had tuberculosis? He is not a veterinarian. How would he know it more than any other cow that he kept, until it ceased to give milk and then tried to fatten it and sell it, as they all do? How would he know that this particular cow had tuberculosis? If he killed it and found it had tuberculosis he knows very well that he could not be compensated.

2885. I thought you were saying you would compensate him for it up to the extent of the value of the animal?—Then he would not expose it for sale; he would report it and he would be compensated. What I say is this:—We either must eat the flesh of these animals—and we do not want to do that—or we must give compensation in some way or other. If we do not give compensation in the way I think it ought to be done legally, then we give compensation by having to pay an increased price for what is safe, and it comes to the same thing in the long run. Therefore, if a man had a cow that he found to be tuberculous I think he ought to be compelled to report it to the authority, and that a reasonable sum should be given to him if the veterinarian or the medical officer of health considered that the flesh of that animal should not be consumed. That is an opinion I have formed now; I have expressed that opinion dozens of times at various congresses and medical meetings.

The witness withdrew.

Adjourned until to-morrow at 12 o'clock.

NINTH DAY.

No. 7, Whitehall Gardens, Westminster, S.W.

Thursday, 28th January 1897.

PRESENT:

SIR HERBERT E. MAXWELL, BART., M.P. (CHAIRMAN).

Dr. R. THORNE THORNE, C.B., F.R.S.
Professor G. T. BROWN, C.B.
SHIRLEY F. MURPHY, Esq.

T. COOKE-TRENCH, Esq.
HARCOURT E. CLARE, Esq.
JOHN SPEIR, Esq.

T. M. LEGGE, Esq., *Secretary*.

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Mr. CONWAY SCOTT, C.E., called and examined.

2896. (*Chairman*.) I believe you are a civil engineer, a member of the Sanitary Institute, a member of the British Institute of Public Health, and executive sanitary officer of the city of Belfast?—I am

2886. You put the case in that respect on the same footing as all food, and you would give compensation for all food supplies which are condemned and seized in the interest of the public health?—Not all. There are not many kinds of animals, and there are not many forms of disease that we would have to deal with, I am only referring to diseases of that kind.

2887. I was referring to your compensation for vegetables and all sorts of food supplies. Would you put the cow on the same footing as other food supplies?—I would, because I say we pay for it in some form or other. We pay for it directly or indirectly.

2888. (*Mr. Cooke-Trench*.) Are you aware that there is no demand on the part of the butchers for compensation in cases where there has been obvious wasting of the animal?—I am, of course.

2889. I did not quite understand your answer to one question which Dr. Thorne Thorne asked you. When you clear spaces for the purpose of public health, did I understand you to say that you give compensation to everyone in that case?—No, we would not give compensation for houses that were unfit for human habitation. We get magistrates' orders to close those houses.

2890. You proceed against a certain number of houses under one Act?—Yes.

2891. And then you take the others under another Act?—Yes.

2892. Has that been your practice in those cases of cleared spaces?—Most of these houses that are on the areas being cleared have been dealt with under the Public Health Act, but there is a class of houses that are intermediate between houses that are absolutely good and houses that are obviously bad; in that case we give compensation.

2893. In the cases where you proceed without compensation your first step is to serve the owner with a notice to put that house into a sanitary state?—Yes.

2894. If he does that I suppose you give him compensation?—No, not if he puts it in a proper state.

2895. I am talking of a case where you are clearing an area in order to make new houses and new streets; but have you ever in such a case refused compensation?—There were very few such houses—a very few; because we had previously dealt with these areas, and most of the bad houses in them had been already tenanted and closed.

2897. Can you tell us what has been the course of events in regard to the detection of tuberculosis in meat exposed for sale in Belfast?—Prior to the year 1888 we practically did not make any seizures for tuberculosis, but about that time it was taken up by

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several of the medical men in Belfast and brought before the public health committee, and the chairman of the committee, Alderman Graham, took it up. They sent a deputation to the market committee to insist upon an examination of carcasses for tuberculosis. Several of the first cases that we brought into court were dismissed, as the magistrates did not think the evidence of tuberculosis was sufficient; but I was instructed to bring forward as much scientific evidence as possible, and I brought in three or four medical gentlemen, and we obtained a conviction. Since then the evidence brought in has been the evidence of the medical officer of health of the district, and we have established the position, practically, from about that time that tuberculosis is considered to be a disease which renders an animal unsound and unfit for food, and we have succeeded ever since in securing convictions and orders for destruction.

2898. Is it held now that any degree of tuberculosis in any carcass is sufficient to condemn it?—If it is brought into court; but if a case is brought into court the tubercles are usually to be seen by the inspector, that is, they are apparent. If the inspector sees the carcass and has any difficulty, we send on the medical officer of health; he examines it, and if he finds it tuberculous we go into court with his evidence; but we would not go into court unless we had sufficient evidence to obtain a conviction.

2899. In short, the regulations for inspection are exceedingly stringent?—They are considered so in Belfast.

2900. I suppose they were the occasion of some dissatisfaction among butchers and traders?—Of a very considerable amount of dissatisfaction. They appeared as deputations several times before the corporation, or committees of the corporation, and urged that they were being treated very harshly, and that they should be entitled to some compensation for animals purchased apparently in sound health, but which afterwards when slaughtered were found to be affected with tuberculosis.

2901. Have you any views on that question yourself?—I have. I consider in such a case that they would be entitled to some compensation.

2902. Can you mention any analogous instance where compensation is given?—Not exactly analogous. We give compensation where we burn clothes which are affected with any infectious disease, that is, the corporation have power to destroy those clothes and to give some compensation. I think that would be the most analogous case that I know of.

2903. Are the proceedings in Belfast taken under the local Acts?—Usually; for this reason, that the market inspectors, or the meat inspectors, were appointed under the local Acts. We are now applying to the Local Government Board to make them sanitary officers in addition. Being local officers, they have had to proceed under the local Acts, but we would rather proceed under the public health Acts, for under the local Acts we can only fine a man 5*l.* for selling meat of that class, but under the sanitary Acts you can send him to prison for three months. The sanitary Acts are stronger on that particular point.

2904. What are the provisions as regards slaughter-houses?—We have one public slaughter-house in Belfast; that is under the public authority entirely.

2905. How long has that been established?—About 25 years.

2906. Are there any private slaughter-houses?—Yes. When I use the word "private" I mean that these slaughter-houses are registered or licensed under an old Act, and there are five of them in Belfast at present.

2907. Is that a reduction from the former number?—It is; we used to have as many as 30. It used to be the case that nearly every respectable butcher in Belfast had a private slaughter-house just behind his shop, which was very convenient for him; but year after year I have recommended the corporation to reduce the number, and have reduced them now down to five.

2908. Has that caused dissatisfaction among the butchers?—I do not know that it has caused very much dissatisfaction among the butchers, but they have removed their slaughter-houses to outside the city boundaries, where we have no means of inspecting them at all.

2909. They will not use the public abattoir?—A great many of them do not. About 61 of the Belfast butchers use it. The others have established slaughter-houses or use slaughter-houses outside the city boundaries.

2910. Then do they have to go to some authority outside the city for a licence?—No, there are no authorities for that. Outside the city the rural authority is the authority, but rural authorities in Ireland have no power to grant licences for slaughter-houses up to the present, so that in the rural districts of Ireland every man can slaughter a cow in his own back yard if he thinks proper.

2911. How many carcasses are slaughtered in the city abattoir?—I have a table here which will show that (*the witness handed in the following table*):—

STATISTICS OF BELFAST PUBLIC SLAUGHTER-HOUSE.

Population of City.	Year.	No. of Carcasses through Slaughter-house.	No. of Seizures unfit for Food.	No. of Seizures, Tuberculosis.
219,222	1885	12,102	No record	No record
221,822	1886	14,351	"	"
224,422	1887	15,726	"	"
227,022	1888	14,937	11	8
229,622	1889	10,921	45	14
232,222	1890	7,052	41	18
235,822	1891	8,173	33	14
241,646	1892	13,644	31	13
265,123	1893	15,665	53	36
269,390	1894	13,616	67	38
273,277	1895	12,698	66	35
300,000	1896	12,385	83	41

2912. Can you tell us the general increase or decrease?—The results practically are that for the last nine years, although the population of Belfast has increased about 75,000, the number of carcasses passing through the slaughter-house has diminished by 3,341.

2913. Is that owing principally to the existence of slaughter-houses outside the city, or to the importation of foreign meat?—It is owing chiefly to the fact that in the year we commenced the systematic seizure of animals suffering from tuberculosis, the butchers established slaughter-houses outside, and have been using them ever since.

2914. Then the meat that is slaughtered outside can be brought into the city and sold?—It can, and is. I wish to make an explanation there. The boards of guardians have power to inspect for the purpose of a nuisance, and they have also power under the 132nd section; so I will not say there is no inspection; but I do say the inspection is thoroughly insufficient and useless. That is proved by the fact that no seizure was ever made of an animal suffering from tuberculosis in these slaughter-houses outside the city of Belfast.

2915. What machinery of inspection have you?—The machinery for inspection is, first, the superintendent of the public slaughter-house is an inspector; there are also two additional meat inspectors; in addition to those, there is one of the inspectors under the Public Health Act, who also inspects meat. Then we have a veterinary surgeon, who is called in in any case of difficulty; then we call in Dr. Torrens, the Medical Officer of Health of the district, and, if that is not enough, we call in Dr. Whitaker, the Superintendent Medical Officer of Health.

2916. When you say, "if that is not enough," what do you mean?—I mean that if the case was a disputed

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case in court, and we wanted more evidence, we would call them all in.

2917. When the carcasses are seized or reported, are they destroyed?—In regard to all that we have brought into court, with exception of a few in the first year, orders have been obtained and the carcass destroyed. In the first year there was a magistrate, an old gentleman, a stipendiary, who held that it was monstrous to condemn an animal for such a thing as tuberculosis, and who would not make an order.

2918. I suppose as a matter of fact, there is a great deal of excellent meat destroyed?—As far as a person not an expert can say by looking at it, some of the meat is excellent in appearance.

2919. What is your return of the number of carcasses slaughtered in slaughter-houses outside the city, as compared with those slaughtered in the other slaughter-houses?—I have had that estimate made in two or three different ways, and I have also, practically, the estimate which has been made by the butchers themselves; I also adopt, as a basis, the fact that Edinburgh, which has a smaller population than Belfast, passes about 27,780 through the slaughter-house. I estimate that in the case of Belfast, 28,600 carcasses should go through the slaughter-houses every year.

2920. You take Edinburgh, I suppose, because there are no private slaughter-houses there?—Yes. I also check it by our own returns as far as we can make them, and, as I have said, by the butchers' estimate. I consider, roughly, that more than half of the meat used in Belfast does not go through the public slaughter-house, and, therefore, is not, practically, inspected.

2921. Then, I suppose, that in your opinion, the people of Belfast consume a certain amount of meat which is unfit for food?—I should say, judging by what we do at the public slaughter-house, that the people of Belfast must be annually eating more than 83 carcasses of unsound or unwholesome food, and that 41 of those would be tuberculous—that is, taking them at the same ratio as we find prevails at the public slaughter-house; but I think the ratio should be higher, because the tendency would be to take the diseased animal to a slaughter-house outside and not to bring it to us at all.

2922. Has this question of the outside slaughter-houses been before the Belfast Board of Guardians?—It has been both before the Belfast Board of Guardians and before the Belfast Public Health Committee, and deputations have met and discussed the matter. The board of guardians took a peculiar view of it; they said "We cannot inspect these places unless we get powers to license these slaughter-houses." Then in the new Act, that is the Act of 1896, there is power given to rural authorities in Ireland to get urban powers, and the Belfast Board of Guardians now have had an inquiry sitting to get urban powers; and in future they will have the power of registering slaughter-houses within the limits of their jurisdiction, but they have not had it up to the present.

2923. Without that extra urban power, meat inspection in a town must be more or less of a farce, would you say?—Outside the city it was a farce.

2924. As conducted at present in Belfast it comes to this, that half the meat consumed within the town is inspected efficiently, and the other half practically goes without inspection?—That is my evidence.

2925. I think you said there are five licensed slaughter-houses within Belfast?—There are.

2926. That is besides the abattoir?—Yes, we have reduced them from 30 to 5. They belong to rather the better class of butchers, and even though those 5 slaughter-houses—I want to draw your attention to this—are inspected twice a week, we have never made a seizure in them for tuberculosis.

2927. I suppose these butchers are particular where they buy their stock?—I should say they are. They are about the best class of butchers in the town. But I hold that you cannot inspect meat in a slaughter-house, unless the inspector or superintendent is there

to see the meat when it is killed and before the butchers have dressed it, perhaps, and removed the evidence of disease.

2928. Is there any importation of foreign meat into Belfast?—There is, but I cannot get any figures for it. The foreign meat imported is meat purchased chiefly in Liverpool and probably in Glasgow and sent over by the ordinary cross-channel steamers. I could not give you an estimate of that.

2929. Does that undergo inspection?—I do not know of any inspection. It comes into the town as dead meat, it is landed at the quay, and carried to the butcher's shop. There is no inspection of it at all that I know of.

2930. We have been told that a large number of the carcasses slaughtered for consumption in Belfast consist of old dairy stock?—That is a fact, but it also could not be anything else, because the vast majority of carcasses that go through the slaughter-house, say upwards of 90 per cent., are cows that have been used for dairy purposes. When that fact is taken into consideration you will see that you could not have anything else.

2931. Ninety per cent.?—That is the estimate that I have, that 90 per cent. of the carcasses going through the Belfast slaughter-house have been dairy cattle.

2932. Of course that is a class in which you would expect to find the larger proportion of tuberculosis?—There is a good deal of difference of opinion on that subject, but I should think so myself.

2933. Are we quite right in taking that somewhat startling statement, that 90 per cent. of the beef consumed in Belfast consists of old cows?—I could not say that. I said that about 90 per cent. of the carcasses going through the slaughter-house were carcasses of cattle that had been dairy cattle. That is the information I have.

2934. Have you any reason to suppose that the same proportion would be observed in the other slaughter-houses?—I cannot give you any information about that, but probably it would be much the same.

2935. Who are the consignors of these carcasses?—It would be the local butchers that send these carcasses into the slaughter-houses.

2936. Would they be bought in the neighbouring country?—They would probably be bought in the fairs around, and it may be that the butchers, who usually have farms of their own, fatten them up a little before they are brought in.

2937. I think you have told us the number of carcasses seized and condemned in recent years?—Yes, I have handed in a table which gives that information for the last nine years. The fact is we have been increasing our strictness, but if we became any stricter we probably would be boycotted altogether, and would drive the trade away from the slaughter-house entirely. Last year 41 carcasses were seized for tuberculosis.

2938. I suppose if compensation were given for carcasses condemned, the butchers would be reconciled to the slaughter-house?—If compensation was given the butchers would have no inducement, I believe, to go outside, that is it is more convenient for them to use the public slaughter-house if there was not this fear of animals being "confiscated," as they call it.

2939. Now, turning to the milk supply, what is the system of inspection there?—The only inspection we have for milk would be the inspector taking samples of milk under the Food and Drugs Act, which would be sent to the city analyst, but they would be no criterion whatever that the milk had not tuberculosis in it. We have practically no inspection to ascertain whether the milk is affected with tuberculosis.

2940. But you have powers of inspection of the cow sheds and dairies?—Yes. We have one inspector half time, and another inspector whole time. They inspect the cow sheds to see that the regulations are carried out; but practically they do not inspect the

cattle. I would not consider that our present inspectors would be qualified to make an examination of cattle as regards what was wrong in them.

2941. Do you know how many there are of these buildings—I do not know what you call them in Belfast—cowsheds or shippens?—The term is usually “cowshed and dairy,” and we call the men cowkeepers. There are about 332 cowkeepers in the city.

2942. Have you ever had the curiosity to make experiments upon milk?—Yes, I picked out some of the worst cowsheds in the city, that is, cowsheds where the animals are kept all the year round, which I consider a very bad system; and I had samples of the milk taken, and Dr. Loraine Smith, the Professor of Pathology in Queen's College, examined them, but his report was that he could not find any of the bacilli of tubercle in the samples sent him.

2943. There would be other impurities no doubt?—That is the only impurity we asked him to examine for.

2944. Have you any recommendations to make in that respect?—I think there should be power to make regulations with regard to infection. I think that if a governing body go to great trouble and expense to find out whether milk has a little water added to it, and if people are fined heavily for water being added to milk, trouble should be taken to ascertain whether the milk contains any infection, and the parties should be similarly punished for selling diseased milk.

2945. The addition of water to milk is a wilful offence, is it not?—I know it is.

2946. But it does not follow that the sale of tuberculous milk need be wilfully and wittingly done?—It may not be done wittingly, but still it is a practice that should be put down in my opinion. We cannot be too stringent. I would punish no man who acted in ignorance; but after he knew about it I certainly would punish him. I certainly would make it as strict as looking after adulterated milk.

2947. What has given you such a strong conviction of the risks involved from tubercled milk?—Chiefly the reading of the report of the previous Commission. They used the word “virulent.” If the milk from a cow with a diseased udder is virulent, public authorities are bound to see that such milk is not sold for food, particularly to children.

2948. When your inspectors go round to the cowsheds, are they able to inspect the udders?—They would and do look at the cattle, but they are not veterinary surgeons, and I do not think that their evidence would be sufficient.

2949. Do you think it requires a veterinary training to detect a tubercled udder?—I think so. What I would say is this: if an inspector going round a cowshed found any of the animals in what he might understand to be an unhealthy condition, the local authority should have power then to send a veterinary surgeon to examine the cows in that cowshed and report upon them.

2950. In that case would you prohibit the sale of the milk of that animal?—I would close that dairy, just as you would close a dairy if a child or any other person connected with that dairy had scarlatina. I would follow that same precedent.

2951. Do you mean that you would close the whole dairy?—I would close a whole dairy. If a case of scarlatina breaks out among the family of any dairyman or of anyone connected with a dairy, at present we have powers to close the dairy until such time as we are satisfied that it is free from infection.

2952. Do you compensate?—No, we give no compensation under such circumstances.

2953. Would you?—No, not under circumstances like that.

2954. Why not?—Because that would raise a very difficult question. Every person that has an infectious disease in his house, suffers greatly from it, and if they all claim compensation, why, you do not know where it would stop. For instance, suppose a person in a house has small-pox, the family probably lose all their work over that.

2955. Yes, but you do not seize the victim and slaughter him?—You do not, but you put him into a hospital, which is quite as bad for them, I suppose, financially.

2956. (Dr. Thorne Thorne.) I think I will take the milk question first, as you have just been speaking about it. May I assume that you agree with the last Royal Commission to the effect that the danger from milk is infinitely greater as regards tuberculosis than the danger from meat?—I do not know that I should use the word “infinitely,” but considering that milk is taken without being cooked, and children usually use it without it being boiled, and that meat is usually cooked, in some way or other, I should say the danger was greater.

2957. I understand you to say that if a butcher finds that he has a tuberculous carcass, you would compensate him?—No, except on one condition; if he had purchased that carcass at the full price, and as a sound and apparently healthy beast, I would compensate him; but if the beast had been a beast in bad condition, and he had bought it at a low price, knowing it to be so, I would give no compensation.

2958. But in the case of milk, which is liable to do much more mischief, if a man had honestly bought a dairy cow, and you believed that that was giving tuberculous milk, you would not compensate him?—Excuse me, do you mean if that cow was slaughtered?

2959. You said you would close the dairy?—Yes.

2960. Is not this infinitely more stringent than slaughtering one cow?—I would follow the precedent of what we do at present in the case of an infectious disease.

2961. Perhaps, as you are not a medical man, it would not be fair to ask you the difference between infectious diseases such as tuberculosis and scarlet-fever, as regards the danger of their spread?—No, I would not like to answer that question.

2962. You were saying that your inspectors might examine udders; have they any power whatever to touch a single animal in a dairy?—I believe they have the power.

2963. Under what Act?—The power would be derived from the Orders in Council made under the Contagious Diseases (Animals) Act, 1878.

2964. Pardon me, but does the Contagious Diseases (Animals) Act apply to tuberculosis?—The word “tuberculosis,” in my mind, is not mentioned in any Act that I know of.

2965. Will you read the section on which you rely?—Section 34 of the Contagious Diseases (Animals) Act, 1878, says, “The Privy Council may from time to time, make such general or special orders as they think fit, subject according to the provisions of this Act, for the following purposes or any of them: for the registration by the local authority of all persons carrying on the trade of cowkeepers, dairymen, or purveyors of milk; for the inspection of cattle in dairies—”

2966. Now will you stop please; have they made any order which brings tuberculosis under that section?—I have never known the word “tuberculosis” mentioned in any order that I am acquainted with.

2967. In the absence of any such order, what right has any man to inspect any cowhouse as regards tuberculosis in the cows?—I do not know that you have any right as regards tuberculosis. Your right would be the general right to examine if the cow was sick, I presume.

2968. But if that Act applies to certain specified diseases, and does not include tuberculosis, then there would be no such power?—If that section only applies to certain specified diseases, and tuberculosis is not included, he could not examine for tuberculosis.

2969. Is any control of milk, as regards the danger of conveying tuberculosis to man, possible, unless the inspectors are empowered not only to inspect animals but also to take milk direct from the cow?—I consider that those things are absolutely necessary in order to secure that milk subject to these diseases is not sold.

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2970. May I assume that the absence of any real inspection as regards cows in Belfast, as in other towns, is really due to the fact that there are no powers for such inspection?—Practically I should say so.

2971. Now, coming to meat, I notice from the return that you have handed in, that during 1896, when you made more seizures than in any previous year; the seizures for tuberculosis only amounted to 3·3 out of every thousand carcasses passing through the slaughter-houses?—That is the calculation I made, counting 12,385 carcasses and 41 seized, I think 3·3 is about it.

2972. Could you give me any idea what was the condition of the tuberculous carcasses which led to their seizure?—You are not referring to their general condition?

2973. No, to the special conditions which led to their seizure?—The tubercle was apparent to the inspector; that is, the ordinary inspector would be able to detect it.

2974. Could you give me any idea as to the amount of it?—I could not.

2975. Would your inspector seize an animal if he knew, for example, that there was one small nodule of tubercle in the lung, and that the whole of the rest of the carcass appeared sound and in good condition?—He might not, but the general orders of the committee are to carry out the inspection stringently, and I expect in that case he would call in either a veterinary surgeon or a medical officer of health.

2976. Could you tell at all what has been the judgment of the veterinary surgeon or of the medical officer of health in such a case?—In one case the veterinary surgeon allowed the butcher, under his supervision, to cut out and remove certain portions where there was a very slight amount of disease, and he passed the rest of the carcass. That is the only case I ever knew where a carcass was passed.

2977. But all the other cases were such that, as you say, it was obvious to the inspector that the animal was a tuberculous animal?—Yes.

2978. Does he see all the internal organs, or does he form his judgment upon the carcass only?—He sees all the internal organs in the slaughter-house. The first man to see it is the superintendent who is nearly always on the spot; if he is away, some other man will take his place. I do not consider that they can make an examination of the organs without seeing the organs.

2979. We have a paper before us this morning from the Belfast Butchers' Association, giving particulars of cattle confiscated, and, if you will take my addition of the figures for the moment, there appear to have been 116 "cattle" confiscated, which I assume means "carcasses," and out of the 116, 114 were cows and only two were bullocks. May I assume that nearly all those cows were dairy cows?—I should say that they were originally dairy cows.

2980. This return does not state on what grounds the carcasses were seized?—I assume that if they paid compensation it must have been tuberculosis, as they pay compensation for nothing but tuberculosis.

2981. There is no statement here as to compensation, but that is not the point I want to ask you. The seizures are almost exclusively cows, according to this return?—According to that return, yes.

2982. Now with regard to the question of compensation, would you or would you not place the question of milch cows on a different footing to the other carcasses? When a man has made considerable profit out of an animal as a producer of milk, and when it is notorious that there is a large amount of tuberculosis, especially amongst milch cows, would you consider that he is entitled to compensation, when he, so to speak, has to get rid of that animal which has become useless for dairy purposes, and when the very conditions that conduce to produce tuberculosis have been brought about by him and have been a matter of profit to him? I ask you, should he be compensated for the very results which he personally has brought about?—I should say not if it were the

case of a dairyman, but those cows that are seized are cows which a butcher has purchased; it was the butcher who brought them down to the slaughter-house, and it was the butcher who suffered the pecuniary loss, not the man who sold them to the butcher.

2983. True; but if the butcher is compensated, there will be no inducement whatever upon the dairyman not to let his cows become tuberculous before he sells them, because he will say to the butcher, "Never mind whether it is tuberculous or not, you can get compensation for it; therefore you can give me a good price for it?"—I would not give them the full price in the case of compensation. I certainly would limit it to a certain proportion of the value. I would have regard to those other questions; I would have a sliding scale, and would not give a man full compensation under these circumstances.

2984. Would you compensate a man who knowingly buys what is probably a damaged article, because it turns out to be more damaged than he thought it was?—No, I would not. If he bought an animal at a low price, knowing that animal to be in a damaged condition, I would not give him a penny. I would like to put down the trade in diseased meat.

2985. Now your private slaughter-houses in Belfast are inspected a hundred times a year, I think?—About that.

2986. Am I right in understanding you to say that there has never been a single seizure for tuberculosis in those private slaughter-houses?—In those particular five there was not, but the private slaughter-houses in Belfast have been a variable quantity, and they have been reduced. We did seize a carcass for tuberculosis in a private slaughter-house which has since been abolished.

2987. Should I be at all wrong in assuming that the reason why there has been no seizure for tuberculosis in the private slaughter-houses, and why there is a fair proportion of seizures in the public slaughter-houses, lies the fact, that, the one man takes care what he buys, and the other one buys cows that are diseased, and are practically worthless for milking purposes?—I would not say that. The fact is, that in a private slaughter-house you might kill a tuberculous animal and have the animal away before the inspector comes round, or you might remove the traces of the disease. Both causes might work.

2988. With inspection twice a week, do you think that that is taking place in your private slaughter-houses?—I would not like to say so, because the men who have those private slaughter-houses are butchers of rather a superior class, who would suffer more by having the name of that; but I say it could happen.

2989. Then it is the inferior class butcher that you want to compensate?—No, I want to compensate any man who buys a sound, solid animal.

2990. Do you call a cast-off dairy cow that has to be fattened for meat a sound animal?—I could not say.

2991. When it is known that they are more tuberculous than any other animals of the bovine race?—I do not know that of my own knowledge.

2992. Why should you inspect carcasses in your private slaughter-houses, and not inspect the carcasses of foreign meat?—I do not consider that we have any power to inspect the carcasses of foreign meat which come in.

2993. Do you mean to say that the authorities of the city of Belfast have no power to inspect all the food supplies that come into their city?—You merely have to inspect it in the butchers' shops wherever you can, but there it is practically an impossibility when the animal is cut up, and dressed, and prepared. It comes under the head then of any other meat coming into the city. We have no central station where meat would come into for the purpose of inspection.

2994. Is the foreign meat sold mostly at shops specially set up for that purpose?—We have a few shops for that purpose, but any butcher can sell foreign meat if he likes; there is no divisional line.

2995. Do you inspect butchers' shops as regards meat?—Yes, we do, but the results are not very satisfactory.

2996. Do you think the foreign meat is not subjected to the same stringent inspection as the home meat?—The only meat in Belfast that is stringently inspected is the meat coming from the public slaughter-houses. All the other meat coming into the city, whether foreign or local, is not, in my opinion, at all rigorously inspected.

2997. Could you give us any idea as to the number of carcasses that are condemned on account of tuberculosis out of the 3·3 per thousand which are condemned annually, but which are, apart from tuberculosis, fit for human consumption?—I should say apart from tuberculosis—I am only talking now to the best of my judgment—that if the animals had not been found to be affected with tuberculosis, they would not have been seized at all.

2998. None of them?—I should say so. It was for tuberculosis, and tuberculosis alone, that those carcasses were condemned.

2999. What I was rather trying to get at was this: There are tuberculous animals, the flesh of which is obviously unfit for human consumption by reason of emaciation and other conditions?—Yes, that is so.

3000. Could you give me any idea as to the proportion of those among the 3·3 per thousand in which the meat was in what you call first-class condition?—I could not, but I should say that generally it was in fair condition.

3001. (*Mr. Murphy.*) You said just now that you had no power to require the meat coming from outside to be brought to any central station for the purpose of inspection?—We have not.

3002. Would you desire to have such a power?—I should say that it is most desirable, and until we have such power the people of Belfast will always be eating some unwholesome meat.

3003. Do you think it would tend to make the butchers of Belfast who now have private slaughter-houses, go in greater numbers to the public slaughter-houses?—It certainly would, because one of their complaints is that there are two classes of butchers—one class of butchers who bring their cattle to the public slaughter-houses and voluntarily submit them for examination, and it is a rigorous examination, and their cattle are seized; and the other men who escape that inspection by going to the private slaughter-houses outside, bring their meat in, and their meat is not condemned, and so they suffer no pecuniary loss.

3004. Do you think there would be any practical difficulty in adopting a course of that sort?—I do not see why there should be. I do not see any other way by which you can guarantee that the people will not be eating diseased meat.

3005. Would you propose to require that the organs should be brought with the carcasses for the purpose of inspection?—I would think so, because so far as I can judge, it is in the organs that you will find the seat of the disease; as far as my information goes, the butchers can dress a carcass and scrape off the evidence of the disease, or perhaps spread it over the carcass, so that the inspector would have great difficulty then in detecting it. Among the meat coming into Belfast outside the public slaughter-houses, we have seized, I think I might say, very nearly three carcasses, and three carcasses only, during the last eight years practically, in the butchers' shops.

3006. Do you think it would be regarded with disfavour in Belfast if you were to exercise a power of stamping meat that had passed through such a station as you are suggesting?—I do not know that technical word.

3007. On the Continent it is a very frequent custom when meat has been examined to put a stamp upon it, so that the purchaser can know that the meat has undergone inspection. Do you think it would be acceptable to the inhabitants of Belfast if they were able to assure themselves that the meat they were purchasing had been examined by the proper officers?—

I think it would. The members of the Belfast Butchers' Association have put an advertisement in the paper, and I can give you the advertisement if you wish, in which they state that the meat they sell has all been killed in the public slaughter-houses, and that there is therefore a guarantee that that meat is sound and wholesome.

3008. Do you think the public are sufficiently interested in questions of the wholesomeness of meat to make them willing to buy or desirous of buying, meat that had been examined in that way rather than meat that had not been examined?—There are some people who are not particular what they eat; but I think all sensible people would desire when they are paying the same price for meat to get meat that they could be guaranteed was sound. This is the advertisement of the Belfast Butchers' Association (*handing in newspaper cutting*). The advertisement runs:—“Exposed to view in the shop of the undersigned members, which certifies that they slaughter in the city public abattoir, where all cattle undergo a rigid inspection by the city meat inspectors before, during, and after being slaughtered, and the association would also respectfully draw the notice of the public to the important fact that one of their rules strictly forbids the member to traffic in diseased cattle or cattle that are in an impoverished condition. Rule VI. says: That where a carcass of beef, the property of a member, is confiscated by the authorities the owner shall be compensated for the loss of same, provided that the said beast was brought in a bonâ fide way, showed no signs of disease, and was not evidently in poor condition at the time of purchase.” Those are the rules of that society which gives compensation.

3009. Who compensates?—Themselves; that is they have a society for the purpose of compensating each other for animals that are ordered to be destroyed.

3010. Do you know how much they pay towards the society?—I do not, but I can give you the amount of money they have paid for the last seven years. I have a corresponding statement to that advertisement; it is a statement of the Butchers' Association's case and of what they pay. They estimate that they pay 1,500*l*.

3011. Would you explain to me a little how this system works?—I have here a letter signed by the President and Secretary of the Belfast and District Fashers' Protection Association. It is dated the 11th January 1896. They handed me this a short time before I left Belfast. “Dear Sir,—You will do us a great favour by placing our views before the Commission of Enquiry (Tuberculosis) as we consider it a great grievance that this association should have had to pay to its members during the past eight years, various sums amounting to fully 1,500*l*. for cattle found to be suffering from tuberculosis and confiscated by the city meat inspector at the public abattoir. We are of opinion that the owner of the beast should be compensated for his loss when the carcass of meat is ordered to be destroyed, as the cattle were in apparent good health and condition when purchased by the butcher. Almost all the cattle confiscated were of the best procurable, having cost the owner from 12*l*. to 23*l*. each, which shows that members of this association deal in a perfectly bonâ fide article. This will be fully explained by reading Rule 6, which says: “In cases of carcasses of meat condemned by sanitary authority the association shall compensate any member who may have bought the beast in a bonâ fide manner, but in no case will the association compensate any member where the beast had a visible sign of disease or was in an impoverished condition at the time it was purchased. In all cases falling within the first clause of this rule, when the carcass is ordered to be destroyed, the association shall repay to the owner of such carcass its fair marketable value.” We are also of the opinion that the port of Belfast should be opened for the importation of live stock. We

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" understand that a petition for the erection of a foreign animals wharf for the landing and slaughter of cattle has been refused by the Irish Government. We consider this a great injustice as we are fair, honest traders, and expect as much consideration at the hands of the Lord Lieutenant as any other body of traders. It was in the interest of breeders that this wharf was refused, but we are of opinion that the breeder should not have influenced the decision of the Government, as it is cattle for feeding and not fat cattle which are exported from this country. The supply of first-class cattle in the markets and sales held in this city is far below the demand, so it would be a boon to butchers if the wharf were permitted. We are, Sir, your humble servants. Signed on behalf of the Association, Francis Foley, President; John McArdle, Secretary."

3012. Where do the butchers get their funds from for the purpose of compensation?—I presume by subscription from the members; in no other way.

3013. Would the subscriptions be in proportion to the amount of business?—I could not answer that question. That is a matter among themselves.

3014. How are the meat inspectors guided in their work? Are they guided by written instructions, or by verbal instructions?—It would be probably by verbal instructions.

3015. Are there no written instructions?—Not that I am aware of. They have printed instructions governing the slaughter-houses and giving the regulations for it, and they would be guided by those; but those printed instructions do not contain anything about the seizures; the seizures are made under no slaughter-house regulations at all.

3016. Dr. Thorne Thorne referred to a paper from the Belfast Butchers' Association. From this paper it appears that of the total number of carcasses seized on account of tuberculosis, the carcasses of cows constituted by far the largest proportion?—Yes; I think that proportion was to be expected.

3017. You told us just now that when you destroyed infectious clothing you compensated for it?—Yes, certainly.

3018. Is the quantity of the clothing destroyed large?—No. It used to be a large amount in Belfast in the time of an epidemic. We used to burn all garments, but we have got now disinfecting apparatus, and we do not burn so much. Still in serious diseases we would burn a good deal if there were a serious epidemic. We always give compensation.

3019. What decides you as to whether the clothing shall be disinfected or burnt?—What decides it would be this: if it was the bedding of a patient, and if it had been saturated with the discharges from the patient, and was in a really thoroughly filthy state, we would burn it.

3020. So that your decision turns upon whether the clothes are worth disinfecting?—Not exactly, whether they are worth disinfecting, but upon the state that they are in. There is a good deal of old clothes that are not worth disinfecting, but we have often burnt fairly valuable clothes because the discharge were over them, and we thought it best to burn them. In fact I will burn anything that the medical officer of health recommends to be burnt. That is our rule.

3021. (Mr. Clare.) In regard to those slaughter houses that you referred to which are outside the borough, do the butchers combine in taking one slaughter-house for several shops, or does each butcher have his own slaughter-house?—In some cases butchers have their own slaughter-houses, but in other cases the man that owns the slaughter-house has it on speculation, and just charges so much to a butcher for anything that he wishes to come to kill.

3022. As a rule, cow beef is not as good, is it, as bullock beef?—That would be a matter of opinion; I suppose it would not be as good.

3023. I will put it in this way; a cow that has been milked till, say between three or four years of age in a cowshed, or perhaps, up to five years of age, and is

then fattened, is not as good a class of beef on the average as well-fed bullock beef, is it?—My own opinion would not be so good, but I do not put up to be an expert on butchers' questions.

3024. If 90 per cent. of the beasts that are slaughtered in the abattoirs of Belfast are cows, that rather leads to the conclusion that it is not the best quality of animal that is slaughtered in the butchers' private slaughter-houses?—Yes, but there might be a good many different qualities of milk cows; there might be some of them good.

3025. Do you think that the butchers who supply the best quality of meat in Belfast have their beasts slaughtered in the town, or in the slaughter-houses outside?—I should say some of the best butchers do use the public slaughter-houses, and some of our best butchers have private slaughter-houses of their own. One man in Belfast, who is nearly at the head of the business—at least he is a large man in business—has a slaughter-house of his own about a quarter of a mile outside the city limits.

3026. Why do you not inspect the butchers' shops?—We do inspect them.

3027. How often?—The inspectors are constantly going round the butchers' shops. The difficulty is after the meat is in that form to detect the tuberculosis.

3028. As regards the milk supply the present powers of the corporation are, I think you said, insufficient for the purpose of dealing with tuberculosis?—I would say so, particularly as regards the inspection of the cattle themselves.

3029. I think you said that the inspector should have power to examine the cows and take samples of the milk?—He should, but I am not sure whether he has not that power at present. He would have no power to send that milk to an expert, say, and get him to give an official report upon it.

3030. Do you attach much importance to the building of the cowsheds and the provision of proper ventilation and light?—I think we have. Our regulations were made in the year 1889, and I think the cowsheds are considerably improved, and that we get the manure away pretty regularly; but they are subject to further improvement.

3031. Supposing that upon an examination of an animal by a veterinary surgeon or an expert inspector, or upon an analysis of the milk being taken, there are indications of a cow suffering from tuberculosis, in your opinion should that cow be merely isolated from the others, or should it at once be destroyed?—If it were proved that the milk of that cow was conveying tuberculosis to persons taking it, that is, if there was evidence that the milk was actually effected with the tuberculosis disease, I would have the cow slaughtered, I think, because if you allow the man to sell it, you might have it taken away and brought back to you and eaten. I would be inclined to slaughter.

3032. Suppose from what I call an outward examination of the cow, no expert could say that there was any apparent disease in the cow, but on examination of the milk evidence of tuberculosis appears; if the local authority order that cow to be at once destroyed, do you consider that that is a case where some compensation ought to be paid to the owner of the cow?—I should say there should be some small compensation in that case.

3033. If the cow happened to be fit, and the carcass was not condemned, the compensation would hardly arise, would it?—If the carcass was not condemned afterwards, and it was found that the cow was not suffering from tuberculosis, you would be bound to pay him the full price of it.

3034. I am assuming that there may be tuberculosis, for instance, in the intestines, but that the meat is absolutely free from any evidence of tuberculosis; in that case would you condemn the carcass?—That would be a matter entirely resting with the inspectors who would examine the carcass.

3035. If you did not condemn the carcass; then, of course, it would be sold?—Yes.

3036. And the owner would get the full price of the meat?—You would be bound to pay the owner the full price in that case, I should say.

3037. The owner would receive the full price on selling the carcass?—He could not get as good a price for his meat, under such circumstances, as he might have got for his cow; there might be some difference in that.

3038. Supposing a cow is slaughtered out of condition, which, ordinarily speaking, would not be sent to the butcher, then do you think that some compensation ought to be paid by reason of forcing a man to slaughter his cow out of condition instead of when it is fit?—I think when you force a man for the benefit of the public health to slaughter his cow, he should be entitled to some compensation; that compensation might vary according to the condition that the cow was in.

3039. But if you think he has a diseased cow in his shed, through some negligence or wilfulness on his part, you would not give him any compensation, would you?—I would not give him any compensation, but as a general rule I think the cow-keepers do wish to keep good cows. It would not pay them to have it said that they were selling bad milk. If the inspector calls and finds that there is a cow in bad condition, they usually send themselves for a veterinary surgeon. They get a veterinary surgeon's opinion on it, and they usually throw the milk down the drains in that case.

3040. Do you think it would be an advantage if the local authorities had power to insist upon a periodical examination of all cows in the cow-sheds throughout the country?—I think it would, but I should hardly be inclined to go that far, because it would be a great expense. I would go the length of saying that where the cows in any cow-shed appear to be in a bad condition, then there should be power to send a veterinary surgeon to examine that particular cow-shed. But if you commence to pay men a high salary for going round to all the cow-sheds in Ireland, it would lead to a great deal of money being spent, and I am afraid it would not be passed. You must take what is practicable.

3041. I understand from what you tell us that you thought all the work that you do in Belfast with regard to the examination of meat and milk is to a large extent rendered nugatory by the fact that no private inspection takes place outside the city?—That is the result of my evidence. It is based upon the fact that no carcass has been seized in the slaughter-houses outside the city for tuberculosis.

3042. So that there must be some system of inspection in the rural districts, such as exists in the urban districts?—Yes. I wish to explain that the relieving officer calls in sometimes to see it, or the local medical officer may be called in, but they admit they are there so seldom that it is impossible to inspect the meat; in fact, it is not a meat inspection, and you may say that they inspect for the abatement of nuisances or something like that. It could not be called an efficient meat inspection.

3043. (*Mr. Cooke-Trench.*) I suppose the cows that are giving milk are very rarely in a condition to kill for beef?—They are still sold, but I think they are usually fattened up a little before.

3044. If you condemn a milk-giving cow because her milk is bad, you are condemning her to be slaughtered at a period when she is hardly available for food?—Yes; she would be in a worse position than for getting a price in the market, I presume.

3045. Can you tell me how long the dairymen in Belfast are in the habit of keeping a cow?—I could not; I do not know.

3046. You do not know whether they breed from that cow during the time she is in the dairy or not?—I think not; I do not think they do, but I could not answer that question.

3047. Can you tell me at all whether a dairyman reckons the price he will get from the sale of the cow, as recouping him in a very large measure for the

expense he has been at?—I presume so, and that he would expect that he would recoup himself by selling his cows.

3048. Can you form any opinion whether having milked that cow, if at the end of the time the cow is confiscated, the milk in the meantime would have repaid him the cost he has been at in purchasing that cow and feeding her all the time?—That is in the case of a cow being confiscated and destroyed?

3049. Yes?—I would say not.

3050. So there is no profit, but a loss to the owner in that case?—I think when an animal is slaughtered and condemned in this way it is a loss; and there is no abatement for that loss that I know of except he belongs to that society.

3051. You say that the rural sanitary authorities at Belfast do apply for powers to bring their district under this Act?—They have applied for permission under the Act of 1896 to get the same powers as an urban authority would have as regards the registering of private slaughter-houses, but it is not in force yet.

3052. That is to extend the powers to the union?—To the limits of the Belfast Board of Guardians or the Belfast Union.

3053. But that will not affect the district outside the union?—It will not. The extension of Belfast in the month of November will bring the most of those slaughter-houses, or a good proportion of them, within the city. We are going to extend our area from about 6,000 to 17,000 acres, and that will bring a large number of those private slaughter-houses within the city in the month of November next.

3054. That would merely then be throwing the evil a little farther from you?—Yes, they will just move a few yards outside the new boundary, and they will not then be under the Belfast Board of Guardians, they may be under the Lisburn Union, or a whole lot of other unions who have no inspection whatever.

3055. Can you make any suggestion how that inspection could be made general, so as to avoid such an evil as that?—The best way to inspect it would be to prohibit the slaughter of animals used for food in any place, except either a public slaughter-house or a licensed slaughter-house.

3056. (*Chairman.*) Do you mean within a certain distance of the town?—I mean all over the country. At present a man may slaughter animals in his back yard.

3057. (*Mr. Cooke-Trench.*) Considering the question of cost and everything, do you think it is practically possible to establish the large number of public abattoirs that would be necessary to cover the whole of Ireland?—I do not think the local authorities would be willing to do it. I have a return here giving the slaughter-houses in some of the different places, if you like to see it. I addressed a note to the different sanitary authorities in the North of Ireland, asking whether they had public slaughter-houses or not. This table shows you for different towns in Ireland whether they have public slaughter-houses or private slaughter-houses, and what seizures were made in different towns and districts of Ulster (*handing in table*).

3058. I see the great majority in reply to the question "Have you any public slaughter-houses in your district," answer "None"?—Yes, there is a public slaughter-house in Londonderry and I think, one in Newry, and one in Newtonards—that is only three. The rest have private slaughter-houses, and the only place I can find where they make any seizures for tuberculosis is Londonderry, where they seize some three to five carcasses every year.

3059. Then practically we may put aside the question of establishing the public slaughter-houses over the whole of Ireland?—If you will refer to the reply of the city of Armagh you will see that they wanted to establish a public slaughter-house, but that the local vested interest were quite too strong for them. I am afraid you could not do it.

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3060. Apart from that you suggest the registration of private slaughter-houses, do you not?—Yes, under more stringent regulations than there are at present.

3061. Stringent regulations for what?—For governing inspection and the management of those private licensed slaughter-houses.

3062. What suggestion have you to make as to how you can get better inspection of private slaughter-houses outside cities?—What I mean is, that supposing there is only an inspection once a week, then the carcasses may have been removed in the meantime or they may have removed the organs or the portions that were diseased; now I would suggest that one of the clauses of the licence should be that they should not remove the carcass or any of the organs till the meat had been inspected, either by the local medical officer of health or by an inspector appointed for the purpose.

3063. Then the inspector would have to be at their service at all times?—No, I would say at particular times he would be there; they would know when he would be there; but let them not take any animal out till he passes it.

3064. We have had a good many complaints as to the diversity of practice in condemning carcasses—have you any suggestion to make as to how a greater uniformity of practice could be arrived at?—The only way in which I think more uniformity of practice could be arrived at, would be by giving compensation. The procedure itself is uniform enough. The inspector inspects the carcasses, finds tuberculosis, seizes it, brings it before the magistrate, the magistrates go down and look at it—and then the irregularity rests with the bench. They may or may not convict, and I think you would have many more convictions for tuberculosis if there were some compensation; there is a feeling that there is an injustice in this matter of tuberculosis confiscation.

3065. As to the milk question, can you now give us any suggestions how a better inspection of cows can be carried out all through the country—I am not talking of Belfast alone?—I think in nearly all the unions, you have a veterinary surgeon, and all I should say is, extend the power to call in that veterinary surgeon to examine suspicious dairies and cow-sheds. They have the machinery at present.

3066. How is he to know what cows are in a suspicious condition?—You have all through Ireland now, I believe, an inspector of dairies under the Local Government Board Order.

3067. That is usually the relieving officer, is it not?—In Belfast it is not the relieving officer, but in other places it might be. Under the Belfast Board of Guardians there is a special officer for that purpose.

3068. In rural districts are you aware of there being any special officer for that purpose?—Only in the district of the Belfast Board of Guardians; but, I believe, that they have an officer for that purpose.

3069. In rural districts?—I think in some of them.

3070. Apart from the relieving officer?—Outside the Belfast Board of Guardians I am not certain about that, there is a case in the Lurgan Union. He says the veterinary inspector of the union reports no disease existing among cattle.

3071. "Veterinary inspector"?—Yes.

3072. Does he inspect all the cattle?—I would say not. You see, in that particular district he does do something of the kind, but I do not think it is uniform or that they usually do it.

3073. As you say there is a veterinary surgeon attached to every union?—And I believe there is—

3074. Do you think there would be any practical difficulty in the veterinary surgeon inspecting the cattle periodically?—I think not, except the question of paying him his salary, and they might not be willing to find the money. That is the real difficulty; in all these things it comes down to a financial difficulty.

3075. It would require a considerable enlargement of his salary?—Yes.

3076. You say that at first you had considerable difficulty with the magistrates about getting convictions, but that is not so now; I want to ask whether your magistrates hear any evidence for the defence, or whether, as we heard yesterday, they will not hear any evidence except for the prosecution; I mean do they go into the case fairly for the defence as well as for the prosecution?—They not only go into the case fully but really some of the cases have been argued the whole day. We have brought forward witnesses, the defence have brought forward witnesses, and the case has been thoroughly investigated.

3077. Do you prosecute in cases where there does not appear to have been anything criminal on the part of the salesman?—We consider that the confiscation is punishment enough in that case, but in a case where we may seize some meat in a butcher's shop and it has been found to be tuberculous, we would prosecute for selling unsound, unwholesome, or diseased meat.

3078. But if a beast was brought to the abattoir apparently perfectly sound, and on being slaughtered was found to be tuberculous, would you prosecute in that case?—No, we consider the price of the animal quite a sufficient fine for the offence.

3079. If there was compensation given there would be no such penalty?—I do not know that; I would look upon exposing meat for sale in a butcher's shop as a bigger crime than exposing it in a public abattoir; you have power after the meat is seized and condemned to summon the party, and the magistrates might give them three months imprisonment for selling it.

3080. (Mr. Speir.) What qualifications have your inspectors?—In what respect?

3081. For the inspection of meat?—Some of them are butchers, the last man appointed was a butcher and he was supposed to have had long experience in meat.

3082. To my mind you have never given us a very distinct answer as to what extent of disease would cause your men to condemn a carcass or to pass it. Might I ask you to try and be as definite on that point as possible?—The condemnation does not rest with the local authorities, it rests with the magistrate. What we have got to do is to bring the case into court and to produce a sufficient amount of technical evidence to convince a magistrate that that carcass is unsound, unwholesome, and unfit for food.

3083. Yes, I understand so, but that is only in the case where the owner objects to its being seized. Supposing he did not object, what now would cause you to seize any carcass if you were just on the doubting point whether you would seize it or not?—It would rest entirely with an inspector.

3084. I understand you are the head of the inspectors, are you not?—Not necessarily; I am Executive Sanitary Officer of Belfast, and these things come under my control to a certain extent. An inspector will have full power to seize any carcass that he thinks unsound, unwholesome, or unfit for food.

3085. I will put it in a different way: if, say, two square inches of lung were diseased, would you seize that carcass if it was sound in all other respects?—At present, and under the present orders of the corporation, the inspector would seize it under such circumstances.

3086. Do you consider that to do so coincides with the experiments of the experts of the late Commission?—It strikes me that according to the experts of the late Commission, perhaps Belfast people are going a little too strong on this matter.

3087. That is the very point I wanted to bring out?—I rather think so.

3088. In answer to Mr. Murphy, you said that your inspectors, as far as you remember, had only got verbal instructions; do you think it would be any advantage if you had a sort of general instructions from, say, the Local Government Board as to what carcasses might or might not be considered suitable for food?—I do not think the Local Government Board have any power to issue such instructions at present. Their powers would be under the 132nd section of the Public

Health Act, 1878. The power rests entirely with the magistrates.

3089. In the matter of compensation, you have never given us any idea how you would differentiate between a case where you would give compensation and where you would not?—I think it has been clearly laid down that in a case where a man has purchased an animal bona fide, believing it to be sound, and that animal superficially, as far as can be judged, is a sound beast, you would give compensation, but that you would not give compensation for any animal that showed evidence that it was in a diseased state.

3090. Would not many of the animals that have been condemned in your own market show no evidence outwardly of it, unless you make a thorough clinical examination?—As far as I can judge, the animals that were condemned would outwardly appear to be fairly sound.

3091. According to the statement of the Belfast and District Flesher's Protection Association the average price of 116 animals during the last seven years is given at 9*l.* 17*s.* 7*d.*?—I do not know anything about that return. I never saw it until I came into this room, so I cannot speak of it.

3092. If an animal was sold in the market at that price would that warrant you in believing it was likely to be sound?—9*l.*, I should suppose so, but I do not know anything about that return.

3093. Several of the butchers who have been before us objected to the public slaughter-houses very strongly, on the ground that they were away from their place of business; do you think that that objection is fairly well grounded?—In my opinion there is nothing at all in that objection. It is an advantage to a butcher in a large town to kill in a public slaughter-house, that is as long as he is not allowed to have a slaughter-house at the back of his own butcher's shop. In the old times nearly every respectable butcher in Belfast had a nice little slaughter-house behind his own place, which no doubt was a convenience to him.

3094. What do you put down as the real objection, for that is a formal one apparently?—The real objection is to the carcass inspection.

3095. Does not your own case pretty well point that out? Your butchers have found it to be to their convenience now to kill a mile or two miles away from the shop; does not that condemn the others who have been advocating differently?—I should say so.

3096. Now about your own slaughter-house, does it pay?—It does not pay us, but I think if we had the full amount of work done in the slaughter-house that should be done in it, it would pay us. I think it pays working expenses, but that it does not pay interest on capital.

3097. And yet you are only getting half the amount of trade that you ought to have?—If we had the full amount the slaughter-house would pay us, and even if it did not pay we would keep up the slaughter-house for the benefit of the public.

3098. If you pay working expenses with only one half of the animals going through, surely the double of that would possibly more than pay the interest?—Possibly it would, but I will not answer that question definitely, because I have not the figures here. We have added greatly to the public slaughter-houses in the last three or four years.

3099. In reference to a cow which had a bad udder, in answer to the Chairman you said that if you were definitely certain that such was the case, you would close the whole dairy; did you not express yourself a little too strong there?—I did not, not if the report of the previous Commission is correct, that milk from a cow with a diseased udder is not only dangerous but I think they used the word "virulent." If that is correct, you cannot take too serious a view of the position.

2100. Why close a whole dairy for one animal?—Because I would take the same view of it as if it were a case of scarlatina or small-pox, or any other disease

occurring in that dairy. I am following the precedent laid down in our own regulations.

3101. As far as I can understand the case, the one does not appear to be a precedent to the other at all. In this case if you remove the animal might not the whole of the other animals be used for the supply of milk to the public without any risk?—It seems according to the Commission's report that where animals have not a diseased udder, the milk does not show the disease.

3102. Why do you advocate stopping the milk of a whole herd for the sake of one animal?—Because that animal may give disease to the whole. It is for the safety of the public.

3103. Why not take it out and leave the others alone?—As soon as that animal would be removed or destroyed, or the dairy proved to be free from infection, then let it be opened again. It might be a week, or it might be a couple of days, but as long as that animal is there I would close the dairy.

3104. That is putting it in a different way altogether; I said why not open the dairy and take away that animal?—The danger of taking away that animal is that they may sell it to some butcher, and he may take it outside and kill it and bring it back, and you may eat it. That is my objection to it. I have no objection to it, if you can guarantee that you will not eat that animal.

3105. Do you think you could have any better control over, say, a cow-shed or a large number of cow-sheds if you had any power to compel the owners to give notice of, say, every case of a bad udder?—I should think that that would be a most desirable improvement to make; that the owner of the dairy should report to the sanitary authorities every cow that is sick. He is bound at present to report any case of infectious disease, and I should say that he should equally report the other. I think in some of the new regulations in Edinburgh there is such a clause.

3106. Then you could send up a duly qualified inspector to report whether it was dangerous or not?—That is my idea; send a veterinary surgeon then to see if that is really a dangerous thing or not.

3107. You read a letter from the Butchers' Association which said that the animals condemned in Belfast had ranged in price from 12*l.* to 23*l.*?—That is the statement of the butchers. I do not know anything about the price.

3108. They sent also a table here giving the details of each, and there is scarcely a single cow where the price goes up to 12*l.*?—The two accounts do not agree.

3109. They do not correspond; therefore, I suppose we draw our own inference from them?—I am not responsible for them.

3110. (*Professor Brown.*) You propose to give compensation in certain cases which you very clearly stated. Have you thought at all about the authority who should pay that compensation?—I think, following the precedent of the Cattle Acts it should be the Imperial Government—I should say so.

3111. Do you know on what principle the Imperial Government gives compensation?—I do not administer the Contagious Diseases (Animals) Acts, but, I believe, they pay up to three-fourths in some cases.

3112. Upon what principle do they give it?—I presume it is to prevent the spread of the epidemic amongst the cattle.

3113. That is not what I mean. Have they anything at all to do themselves directly with the conditions under which compensation is given; by any act of theirs do they implicate themselves in such a way that they ought to do something in the way of compensating the individual?—Yes, in that case the Government order the cattle to be destroyed; in our case the cattle is usually destroyed before the inspector seizes it.

3114. Will you allow me to suppose, now, that this section of the Act which refers to compensation, instead of saying that the animal shall be slaughtered

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should say that the animal shall be seized; would it not be right that the person or authorities seizing the animals should pay the compensation?—That might be a debatable question, but I am afraid that if you put the expense on the local authorities the local authorities might not care about making so many seizures; it is for the benefit of the public, and, practically, it is not the local authority that condemn—it is Her Majesty's justice of the peace; so that it really is the Imperial authorities who make the condemnation.

3115. Is it not the case that the sanitary authority acts?—The sanitary authority brings the case into court, but it is Her Majesty's justices who make the order for its destruction.

3116. Surely in a large number of cases the magistrate has nothing whatever to do with it?—Yes, the cases are brought into court unless the man does not object to it at all.

3117. Surely that commonly occurs—that the owner himself does not object, knowing that objection is useless?—That is a matter for himself.

3118. But in your experience is it not the case that there is seldom any objection?—When we first commenced the tuberculosis business, as we might call it, they were objected to in every case, and we fought every case for nearly the first year.

3119. What is the custom now?—Now usually the case is brought into court and there is no defence.

3120. Do you mean that in every case where you seize an animal you take it into court?—We take it into court and the magistrates come out and look at

it, and make an order for condemning it. We go through that form always whether the man is going to fight it or not.

3121. Are you aware that that is not the practice over the country generally?—I cannot speak about that, but you have no right to take the man's carcass and bring it away and destroy it without the magistrates ordering you to do it. I expect he could bring an action against you if you did it.

3122. But on that principle do you think really that the magistrate ought not to pay the compensation?—The magistrate himself, personally?

3123. Yes?—I would not like to say that.

3124. I want to understand your view of the matter?—My view is that compensation should be granted, but that it might be an open question as regards who should pay it.

3125. You put it in that way; your point is that the man ought to be paid, but you do not propose to say who should pay it?—I will not; only, following the other precedent, probably it should be the Imperial Government. I do not care who pays him, but I think he should get some compensation under certain circumstances.

3126. (Mr. Cooke-Trench.) In the case of the Contagious Diseases (Animals) Act, in regard to pleuro-pneumonia, who condemns the animal, do you know?—It is the Government Inspector, as far as I know; I do not think it is the same precedent, but I do not administer that Act. In the country that Act is administered by the rural authority—the board of guardians.

The witness withdrew.

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Mr. GEORGE WILLIAM COOPER called and examined

3127. (Chairman.) You are Honorary Secretary of the St. Helen's and District Butchers' Association, I think?—Yes.

3128. That association is associated with the National Federation of Meat Traders, is it not, of which we have had the chairman before us—Mr. Field?—Yes.

3129. I understand there are certain causes of complaint which have arisen on the inspection of meat in St. Helen's?—Yes.

3130. Will you give us the circumstances?—We in St. Helen's have considered for some length of time that the Act in connexion with this particular question is carried out by our own local authorities—that is by the medical officer—in too stringent a manner. We were led to believe by a declaration which was made by the last Commission which sat on this very important question, that, providing the disease could be localised to a certain portion of the carcass, and could stop there, the carcass might safely be eaten.

3131. I think you are referring to paragraph 82; perhaps you had better read the words of it?—“Provided every part that is the seat of tuberculous matter be avoided and destroyed, and provided care be taken to save from contamination by such matter the actual substance of a tuberculous animal, a great deal of meat from animals affected by tuberculosis may be eaten without risk to the consumer.” We think, and in St. Helen's we feel that we are justified in thinking, that that particular clause has not been acted upon by our medical officer Dr. Robertson. We do not wish for one moment to say that he has acted unfairly. What we say is this, that that is merely a suggestion by that Commission, but still it is not embodied in any particular Act. This is a question I have brought before the notice of Dr. Robertson on several occasions, and he always meets me with this remark, “this is merely a suggestion, it is not the Act, and that he is compelled to act in conformity with the Act of Parliament,” his contention and idea being that if infected at all in any portion the carcass should be confiscated. I assure you that we have had several carcasses come under our observation in St. Helen's and we think it a very great hardship inasmuch as they

have been bought at local sales and have been bought for sound animals, that there should be no compensation. We have paid a good price for them, and have become the purchasers by being the highest bidders at an open sale, after those cattle have been inspected by a veterinary surgeon employed under the Board of Agriculture. We feel that we are the aggrieved party, inasmuch as we not only lose the price of the carcass, but if it becomes known to the public we lose to a very great extent our reputation as meat traders. One particular case I can cite with respect to an old gentleman who is fast approaching his 80th year. A little before Christmas he was found in possession of some of this tubercular meat. He was not in a position on account of his age to inspect the slaughter himself, which was left to subordinates. After receiving this meat in his shop he was proceeded against and fined, and, singular to relate, the very next week the very next beast that he bought in the local sales was seized and confiscated for the very same disease in the local abattoir. Our medical officer has made a very great deal of the situation that the cattle are reared or fed in. We have, I may say, a very great deal of dairy-fed cattle in our district. This was one of the dairy cows. Our medical officer says that it is the surroundings that cause to a very great extent the spread of this disease, and that there is not that air space that is necessary for their accommodation and for the good being of the cattle. Still in this particular instance this particular cow was bought from the farm of one of our largest land proprietors in the district—in fact a very well-known man who was the mayor, and it was bought off one of the mayor's farms. He was a gentleman of good standing in the town, and undoubtedly one would think from the sanitary surroundings that evidences of tuberculosis would not be found on his place. Still singularly to relate this poor old gentleman was unfortunate enough on the second occasion, after being fined and his business destroyed, to receive a second rebuff in the shape of forfeiting another carcass. That carcass was inspected by our local meat traders and also by representatives from the Farmers' Association.

3132. Before or after slaughter?—After slaughter and after seizure. Of course we did not know that

anything at all was the matter with the beast until it was seized and brought before our notice. When the seizure was announced, we made an inspection. I can honestly say a better fed, better nourished carcase of beef never was witnessed by a human being, and coming from a place of that description we naturally thought—and the old gentleman himself naturally thought—he was having something that was sound and pure.

3133. Have you any objection to give his name or some other means of identifying that case?—He is Mr. William Fishwick. I am very sorry to say that the result of those cases has nearly brought the poor old gentleman to his grave. At his advanced years, the strain on his mind has been so much that he is altogether incapacitated from following any business avocation at all, in fact, I believe he is in bed now.

3134. You are of opinion that if the present system of inspection is to continue, it is only fair that you should have compensation?—Certainly.

3135. But who is to be compensated?—That is a question I should hardly like to deal with. For my own part I think the farmers ought to be compensated.

3136. And then the butcher would have redress against the farmer?—We say this, that we should receive a guarantee. I might say we in St. Helen's have inaugurated a system now of guarantee; we have served the vendors with a notice to the effect that on and after Tuesday next we shall refuse to buy any cattle at local sales unless they are guaranteed as sound from the disease, tuberculosis. This probably seems a somewhat premature step to take, but still we feel our losses have been so hard upon our members that we determined to take the matter into our own hands.

3137. Is the inspection under the conditions you have described an uniform one or do you complain of it as capricious?—We think the inspection is extreme. We think there really ought to be a certain uniformity in the inspection of these animals.

3138. You do not complain of it as wanting in uniformity as compared with other places?—Yes, there are many places in the surrounding districts, I can assure you, where beasts that are seized in St. Helen's would be allowed to pass free. Some, I grant you, have certainly been in an advanced stage of tuberculosis, and to these we take no exception; but we have had cases where it is almost impossible to detect traces of tuberculosis, without, you might almost say, a microscopic examination.

3139. As in the case of that cow that you have just described, would you say?—I could not say particularly that cow, but relative to some pigs that were taken.

3140. I thought you told me that the cow had been inspected after slaughter?—Yes.

3141. And that it was very good beef?—Beautiful beef; we could not see any signs of tubercular matter in connection with the beef.

3142. You were going to talk about some pigs?—Yes; we had another case of two pigs—there were three, but there were two at that time.

3143. Was that on the 18th June last?—Yes. There were two that we disputed to a certain extent. To all appearances, to the appearance of the human eye—sounder animals, better fed animals never were killed in a public abattoir. They were killed in the public abattoir. We contend it is very hard indeed that we should have to engage in microscopic examinations to detect this disease. We, as butchers, do not profess to be microscopic experts.

3144. Did you inspect those carcasses after slaughter in the same way?—Yes. We brought in to aid us in our inspection, four medical men of repute in the town, and three veterinary surgeons; two of the veterinary surgeons were veterinary surgeons under the Board of Agriculture, one was Mr. Morgan of Liverpool, and another was a gentleman from Knotty Ash, a well-known gentleman. They were really inspectors under the Board of Agriculture, and their certificate given to our association was to the effect

that they would certainly give a fiat that the pigs were sound and fit for human consumption.

3145. Have you a copy of that certificate?—No. The Liverpool and District Butchers' Association has the copy of it. It was forwarded to the Liverpool Association.

3146. Could you get a copy of it for us?—I daresay I could get it and send it to you.

3147. Thank you, if you will kindly do that?—Yes. One of our principal men also made microscopic examinations, and he emphatically declares that in the case of one pig there were no traces in any shape or form after microscopic examination of tubercular matter. In the other pig he said that there were traces, after he had examined certain of the glands, but so slight were they that he had no hesitation in passing his opinion, and to giving his certificate to the effect that they were sound and fit for human food.

3148. (Mr. Clare.) Who is Mr. Morgan, is he a veterinary surgeon?—Yes, he is a veterinary surgeon; he is an official under the Board of Agriculture.

3149. (Chairman.) Is Mr. Morgan a Liverpool gentleman?—Liverpool or Bootle; he is in connexion with the ports. The gentleman from Knotty Ash was Mr. Welsby.

3150. (Professor Brown.) Do you know the authority by whom Mr. Morgan was appointed?—I was given to understand by Mr. William Ramsden of Liverpool, who was the gentleman that sent Mr. Morgan down; that he was an inspector under the Board of Agriculture. That is my ground for making that statement.

3151. Do you think it is probable he meant that he was an inspector appointed under the Act under which the Board of Agriculture proceeds?—I think, probably, my conception of that might be that he was an inspector under the Board of Agriculture, or rather under some such board, inasmuch as he inspected cattle in the local markets previous to sale, for the infectious diseases that are at present scheduled, such as rinderpest, pleuro-pneumonia, and swine fever.

3152. He inspected the cattle in the local market?—Yes.

3153. If I tell you as a matter of fact that the Inspector of the Board of Agriculture would not be permitted to inspect cattle in a market, would that alter your view?—I do not think that it would alter my view. I can only say that I had a conversation with Mr. Ramsden, and he sent me a letter to the effect that he would send down Mr. Morgan who was a veterinary surgeon under the Board of Agriculture. That is my only ground for using his name.

3154. (Chairman.) Perhaps you will be able to find out the exact official capacity of this gentleman?—Yes, I will ascertain and let you know what Mr. Morgan is. I believe on Mr. Welsby's notes there is something to the effect that he is something in the Board of Agriculture; whether he is connected directly with the Board of Agriculture or not I could not really say.

3155. (Professor Brown.) I think you said just now that you thought the farmer should be compensated for any carcasses condemned?—Yes, I think myself that if the farmer was compensated and gave a guarantee for his cattle, it would eventually be the means of eradicating to a very great extent this prevalent disease.

3156. But you are quite aware, I apprehend, that the loss does not in any way fall on the farmer?—No, not at the present time.

3157. Then I understand you to mean that something should be done to make the farmer responsible?—Yes.

3158. In order that he might take active measures to get rid of the disease?—Yes, he is really the only responsible party to my mind. We have no cognisance of the fact that anything has been ailing a beast, the farmer is the only person who is able to judge. A farmer naturally, when he is feeding his stock and attending to them daily, would know when

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his beast, as they commonly say in Lancashire, is off its meat, and anyone with any common sense knows very well that there is something wrong in connexion with the beast if it is continually off its food.

3159. Is it not the case that the animal in the early stage of tuberculosis appears to be perfectly healthy?—Yes.

3160. To a farmer's eye?—I cannot speak as a farmer.

3161. To an ordinary eye?—Without it is in a very advanced stage.

3162. I am talking of an animal in the early stage of tuberculosis, when there are no indications to the common observer?—From information I have gathered from farmers themselves, they seem to think that there are symptoms at times such as a slight cold.

3163. Would you suggest that an animal with a slight cold should be looked upon with suspicion and that the farmer should send to the veterinary surgeon to find out what was the matter?—Yes, I think myself it is the farmer's duty when he finds anything in connexion with his herd that is wrong, knowing full well the measures that are now adopted in connexion with the question of tuberculosis, to take the precaution and remove that particular one away from his herd and from the remainder of the flock.

3164. Admitting that there would be a certain amount of rough justice in your suggestion, does it not occur to you that there would be a great difficulty in carrying it into effect; for instance, a farmer sells a beast to one man and that animal goes through a dozen markets, some in Ireland some in England, before it gets to the slaughter-house. Do you think it would be possible to trace that animal back to the original seller?—That is almost a question. It is a question I should not like to answer. I am speaking locally in respect to the cattle that we buy from our local farms and local dairies.

3165. But, still, a regulation of that kind which you suggest would be a radical alteration and could only be done by some authority; I do not think it could be done without fresh legislation; and it would not be possible, I should say, to make a regulation of that kind apply locally instead of to the whole country?—Failing that I do not see anything at all that possibly could be done without compensation being given either to the farmer or to the butcher who may be the affected party. Undoubtedly from our point of view it is radically wrong that we should buy at a fair price and should be continually paying these losses.

3166. You mean that it is wrong that the butcher who buys an animal at a considerable price, indicating that the animal is good for food, should suddenly be mulcted in the whole amount by the seizure and condemnation of the carcase?—Yes.

3167. Now, admitting it to be the case that there is an injustice, what authority do you think should rectify it?—I think the Imperial authority.

3168. Why should the Imperial authority do anything at all in the matter?—Because to my mind it is an Imperial question, not a local question. Tuberculosis to a certain extent is rampant throughout the country, and I hardly think that local authorities could grapple with it, inasmuch as some local authorities would be brought to much more expense than other local authorities, and if there was an equal distribution made I think myself that it would be fairer for the community at large.

3169. In that case, I conclude, your opinion would be that the Imperial authority should undertake to deal with tuberculosis as it does with pleuro-pneumonia and other diseases?—Exactly; I think myself that there is nothing for it but scheduling it.

3170. But without such arrangements on the part of the Imperial authority, or, in other words, in the present condition of affairs, would you still consider that they ought to pay compensation for animals which are condemned by persons over whom they have absolutely no control?—I do not see any remedy myself except putting it under the same heading as the other infectious diseases. I cannot see anything

between it. The only question to my mind is, that if Government will not schedule this disease the butchers will have to take the only alternative they have and refuse to buy cattle from local sales.

3171. In other words, if the Imperial authority decline to deal in the same way with tuberculosis as they do with other contagious diseases, the whole question in your mind drops?—Yes, we should refuse to buy cattle. We have other venues for getting good and sound food.

3172. And your idea of compensation is that it should be paid by the local authority under exactly the same provisions which apply in the Act of 1894 to other contagious animals?—Yes.

3173. (*Chairman.*) You mean that you would buy foreign meat?—Yes; we can get down to Birkenhead and we can get to Deptford and other places, and we can be safe in buying a sound article, good beef, and we shall be certain that we are buying something equal to our money.

3174. (*Mr. Speir.*) Will you tell me what Mr. Fishwick paid for these beasts that were seized to which you referred at the beginning of your evidence?—The price of the first I cannot tell you, but the price of the second was 13*l.* 10*s.*; that was the figure he gave me.

3175. Did you see that animal before it was slaughtered?—No.

3176. Do you know anyone who did see it before it was slaughtered?—I might have seen the animal, mind you, but not knowing it. It was at the local sale, and I saw Mr. Fishwick on that occasion buy one or two beasts, but I really could not tell. I did not see the hide, &c., after it was slaughtered; I only saw the carcase.

3177. I presume you have seen several animals before slaughter that were ultimately seized?—Yes.

3178. Could you as a butcher have detected these animals yourself?—Some of them, yes, not previous to slaughter, but afterwards. I might say here, if you will allow me, that it is one of the unwritten laws in our association that if any butcher or slaughterman sees anything that to his mind is slightly suspicious, he shall report that at once to the inspector. We have done that for protection. We do not encourage deceit. We say to our members "If you have anything that you think is not straight and clear in every shape or form, if you do not report that to the inspector we shall fail to recognise your case if it goes any further."

3179. But you have quite decided that a very large number of animals are seized which you as a butcher could not detect when in life?—A large number.

3180. In view of these losses will you not in future buy that class of animals at a very much less price than formerly, in order to, as it were, compensate yourselves for any loss that might ultimately arise?—No, we would rather pay more for them and have a sound article guaranteed.

3181. I believe you are correct in giving that answer, but it is scarcely a direct one to my question. I say, will you not buy at a less price, seeing that compensation is not given, in order to compensate yourselves?—We might buy at a less price, I presume that is the question you wish answered; we might buy, but we refuse to buy at a less price. We do not hold that inducement out to our members. We do not go and say that because the Act is so much against us "You must try to get this at the lowest possible value and run the risk." We do not entertain the idea of running the risk. Our idea is that we would sooner pay the full market value, or even beyond, and be assured of a sound article when we come to slaughter it, more so than going in for buying an article at less money; inasmuch as if an animal was to turn out affected, although bought cheaply, after purchase the vexatious loss one way and the other would be more detrimental to our interests than it would be by paying more per pound for it.

3182. Am I right in supposing that the Butchers' Association believe that if the Government do not in some way deal with live animals, you, as butchers, will be compelled to leave our home stock alone and go largely in for foreign stock?—That is our opinion in St. Helen's. We have decided that by a large majority of our members, and we have served notices to the local auction sales to that effect, that if they will not guarantee the articles we shall refuse to buy at the local sales.

3183. (*Mr. Cooke-Trench.*) In your opinion if the compensation were to be provided out of the rates, and those who had the levying and the paying of the rates had to pay it, do you think there would ever be compensation given? Would not the effect of say the board of guardians having to pay the compensation almost be prohibitive of any compensation being paid at all?—I would not say that it should be paid out of the local funds.

3184. You said it should be paid out of the Imperial funds I know, but it has been suggested that it might fall upon the local rates; would those who administer the local rates be willing to pay that compensation and tax themselves for the purpose?—I have never asked that question locally, so I cannot possibly answer it.

3185. (*Mr. Clare.*) You say that if a butcher buys a beast which, from an outward inspection looks thoroughly healthy, and it turns out when slaughtered to be tuberculous, and the carcase is condemned by the local authority, then that some compensation should be paid to the butcher?—Yes.

3186. But, supposing a butcher sends to the local authority and says: "I have a carcase in my shop which is tuberculous, and I gave 20*l.* for the beast," and I want compensation because I could not detect "it when the animal was alive," how are the local authority to test the evidence as to whether that is the carcase of a beast that he bought in an apparently healthy condition?—In a case of that kind a butcher would be able to tell directly he began to open the beast whether it was affected with tuberculosis or not, and he need not take away the skin and the hide. Directly a man begins to open the beef he can tell at once by the linings of the breast, and the skirt and the lungs, which becomes evident directly he opens it with his knife, as to whether they are sound or not, and he need not proceed any further; but, in fact, in St. Helen's we advise them, directly they open it and see the intestines, if they see anything that they think is wrong, before they proceed to finish the dressing of that beef, that they must call in the inspector.

3187. But the inspector in that case would not have had the opportunity of seeing the beast alive, and he would not be able to form an opinion as to whether the beast looked fresh or healthy, or whether it looked as if it was sickening?—That is very apparent to anyone who knows anything at all about cattle; the symptoms of a wasting beast are so very different altogether from the symptoms of a healthy beast even when dead.

3188. I am speaking of an animal when alive: an animal without being wasting may still show signs of sickening, and a man who understands beasts would be able to tell at once that in all probability there is something going to go wrong with that beast; there might be a case of that kind where a butcher bought at a lower price and took his chance. He then slaughters the beast and he sends for the inspector and says, "I have got a diseased animal, it was perfectly healthy when I bought it, and I want compensation." Do you think the inspector is able, after the beast is dead, to judge what its appearance would be when it was alive, as the brightness of the eye, and so on?—I can tell you, candidly, speaking as a butcher, and representing a butchers' association, that no man would buy a beast in our market without having the attention of the inspector called to the fact that that man was buying something that we considered was defective in some shape or form.

3189. I want to ask you what protection has the local authority against what I may call practical fraud

on the part of the butchers, in trying to get compensation for beasts which, so far as the local authority is concerned, might have had appearances of tuberculosis when they were purchased?—Generally speaking—speaking locally—the representatives of the corporations visit the sales and see the principal portion of the cattle that are sold, and certainly it is under their supervision during the time it is being sold.

3190. But the inspector, unless he is called in before the beast is slaughtered, cannot examine it?—He has as much opportunity of examination as we have. We do not see the beast above half an hour or an hour in the sale ring.

3191. But we should get over the difficulty if every beast was sold in a place where it is known that the inspectors are generally present, should we not?—Yes, I daresay it would be got over in that way. Of course, as far as St. Helen's is concerned, our inspector makes periodical visits to every place that has slaughtering accommodation; in fact, I might say daily visits.

3192. If all beasts were slaughtered in a public abattoir, there would not be much difficulty then in the local authority satisfying themselves as to whether it is a case for compensation or not?—No, certainly not, if they were slaughtered in the public abattoir. I must confess that as far as we are concerned at St. Helen's, the inspection of our private slaughter-houses is somewhat stricter than it was in the public abattoir.

3193. I mean it will get over the difficulty of obtaining evidence as to the condition of the beast, if the inspectors, when the beasts are brought to the public abattoirs can inspect them before they are slaughtered?—Yes, it would tide over that difficulty.

3194. (*Mr. Murphy.*) Can you tell us the number of beasts that are killed annually in the public slaughter-house?—No, I cannot. Dr. Robertson has those statistics, and with all due deference Dr. Robertson asked me not to interfere with statistics. We are extremely good friends, and I do not wish to interfere with that which really belongs to his portion of the business.

3195. Might I ask whether the butchers of St. Helen's have considered the question of forming an insurance fund in connexion with compensation?—I might say that when this question of compensation first came up locally, the question of insurance did come under our observation, but we did not think it honest, right, and straight to ourselves, we should insure amongst ourselves and pay to a particular fund for the public benefit. We contend that what we buy is a sound article, or we presume it to be a sound article. If it is confiscated for the public benefit, why should we as a body have to pay for it? If the public are so zealous for their health, why should not they protect their health by paying a certain portion of the proceeds. I do not think that it is fair that we should be expected to pay, our trade is not so brisk now; we are not making those fortunes now that many people would imagine. I daresay you gentlemen in London are acquainted with butchers that are making large fortunes; but I can assure you that in the provinces competition is so keen that we cannot afford any further restrictions. Our competition in connexion with frozen meat, American meat, Australian meat, &c., is so keen that it brings us down, and we have to think twice before we speak once to make the 20*s.* get to the £.

3196. (*Dr. Thorne Thorne.*) Am I not right in assuming that apart from your objection to an association of butchers giving compensation, the butchers are themselves the best persons to prevent any fraud in the demands for compensation for a tuberculous animal?—I think myself that the butchers naturally in self-protection would see that no fraud did exist. As a federation of butchers, we presume to be honest citizens, and we wish to abide honestly by the law. We do not wish to transgress the law, but to abide by the law; but we say the law should be so equitable that it should give us an opportunity of dealing honestly by the law, instead of hiding ourselves under these practices that you are speaking about.

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3197. Would not a butchers' association have greater facilities than any local official of preventing such fraud?—I cannot see that they would.

3198. They would not know the tricks of the trade better than the officials, you think?—No; I think the officials have very little to learn now-a-days in connexion with that.

3199. You were speaking of your losses being so very heavy; would you kindly tell me the number of carcasses that passes through your own hands a year, roughly?—I have about a couple of beasts a week myself.

3200. That is a hundred in the year?—That is a hundred, sometimes more.

3201. Are you speaking of the bovine race, or sheep as well?—I am speaking of cattle.

3202. How long has your business been going on at or about the same rate?—I am not a native of St. Helen's, but I have been in St. Helen's seven or eight years.

3203. Then it comes to somewhere about 700 or 800 carcasses of cattle that have passed through your hands there?—Yes.

3204. How many of these have been seized from you for tuberculosis?—None.

3205. Then your grievance is not a large one?—No.

3206. Has the inspection been going on during that period?—Yes, but not always so severe. The inspection has not been so severe until we might say within the period of the last two years; previous to that the inspection was not so severe.

3207. (Chairman.) That is since the report of the previous Commission?—Rather previous to that.

3208. (Dr. Thorne Thorne.) How many cases of seizure in the last two years for tuberculosis have you had brought under your notice as an association?—I really could not give you an idea for the two years; I was not occupying such a prominent position in connexion with the trade as to take those particular facts into consideration at that time.

3209. (Chairman.) Perhaps you might refresh your memory by referring to your own letter to this Commission?—Since last February I estimate that the losses at St. Helen's would come to 139*l.* 10*s.*; that I consider we have lost in St. Helen's since last February.

The witness withdrew.

3210. (Dr. Thorne Thorne.) For seizures?—Yes; that is irrespective of offal or things that have not come under my notice. Those have been brought under my notice, and the prices mentioned to me. I might add that I have a great deal of difficulty to contend with in connexion with members of our trade in getting at these seizures, because they are so afraid it should get to outside notice, and through any remarks of mine that people should get to know that they had anything to do with tuberculous animals, and so they will not give in their statement.

3211. Have you a general knowledge of dairy-fed cattle?—No, I have had no experience in dairy-fed cattle, I was bred and born a butcher.

3212. If the seizure of tuberculous animals made in St. Helen's did not include carcasses in which tuberculosis was directly localised and in which the meat appeared to be sound and healthy, would that remove the grievance of your association?—Certainly, my case is that if the disease was localised, and if they take away that portion which is diseased, and let us have the carcass which we consider sound after examination, that would be to our mind a great relief.

3213. Would it remove your objection altogether as regards the question of compensation?—Yes, provided that was carried out to the letter, and it was localised, I think it would remove a very great deal of objection.

3214. (Mr. Cooke-Trench.) Is there any difficulty in a butcher, or anybody accustomed to the trade, viewing a carcass after it has been slaughtered, forming a very sound opinion as to whether that animal was likely to have shown symptoms of tuberculosis while alive?—Not if it is in a very advanced stage, but it would not be without difficulty in its first stages.

3215. Could a jury of butchers, for instance, say, on viewing a carcass, "That animal was not likely to have shown any system of tuberculosis during life"? Yes, a jury could do that, certainly, they could say at once that that animal would not have shown it.

3216. (Chairman.) Mr. Morgan, of Liverpool, of whom you spoke, is, I think, an inspector under the local authority?—I am sure I could not say. I was given to understand that he was an inspector acting under the Board of Agriculture, but in what capacity I could not say.

Dr. JOHN ROBERTSON called and examined.

Dr.
J. Robertson.

3217. (Chairman.) Are you the Medical Officer of Health for St. Helen's?—I am.

3218. You are probably acquainted with the last witness?—Yes, I know him.

3219. You do not see quite eye to eye with him on certain questions, I suppose?—I believe there is only one point on which the butchers—and he represents the butchers—and I have ever differed, and that is a case that occurred last summer; but in all the other cases—at least several times—the butchers have come to me and said, "Well, it is very hard that we should have this meat confiscated, but we quite recognise you are perfectly right, the thing is bad, and we have got no remedy, and it is very hard we should lose it." They complain of their hardship, but they have never complained of our procedure, except in one instance, and that was an instance I have no doubt he has indicated to you, where some pigs were in question.

3220. Their grievance was the want of compensation?—Yes.

3221. You have a very large population in St. Helen's, have you not?—About 83,000 people.

3222. And chiefly of the labouring classes?—Yes, I think that is a peculiarity of St. Helen's, really, for you get such a large percentage of purely working-class people.

3223. Do they consume much meat?—Yes, there is a pretty considerable consumption of meat there.

3224. Of course, it is their object to get it cheap?—Yes.

3225. From what sources does the meat supply of St. Helen's come?—Chiefly from the cattle beasts killed in St. Helen's, but also largely from the big abattoirs at Liverpool and at Birkenhead.

3226. You have a public slaughter-house in St. Helen's, have you not?—We have a public slaughter-house erected about 18 months ago. We had a public slaughter-house before then, but it was a very small place, and 18 months ago we put up a fairly large-sized public slaughter-house.

3227. And there are a number of small private ones?—There are 19 private ones and the corporation slaughter-house.

3228. Are you taking steps to withdraw the licenses from the private ones?—No; in fact, when the public slaughter-house was talked of, the Chairman of the Health Committee said to a deputation of butchers that waited on the Health Committee that as long as the private slaughter-houses were kept in a sanitary condition, and kept in good condition the Sanitary Authority would not interfere with them.

3229. And you find as a rule that they are kept so?—Yes, the majority of these 19 private slaughter-houses are owned by butchers doing a fairly good class of business, and they are kept very well indeed. Their situation is not good, but the way they are kept is really very good.

3230. Are they regularly inspected?—Yes; two or three times every week.

3231. Can you give us any idea of the number of animals killed and inspected in St. Helen's, say during the last year?—Yes, I have got the figures before me now. The total number of cattle beasts killed in 1896 was 3,397; that varies from year to year. Once it exceeded 4,000, but on an average it would be something under 4,000 a year. Last year (1896), a weekly record was kept for the first time of all the animals that were inspected by the meat inspector. It was found that 85 per cent. of the total were inspected, of the total number of animals killed, in 72 per cent. the carcase and the viscera were inspected, and in 12 per cent. the carcase only was inspected; that is to say, the viscera had been removed before the inspector got there.

3232. What percentage of seizures for tuberculosis took place?—I have not worked it out as a percentage. It works out that the total beasts seized for tuberculosis, and other diseases as well, amounted to one in 573 during the years 1894, 1895, and 1896.

3233. Do you think it would be possible to send us up that percentage?—I can give you the figures, and that can be worked out now. There were 3,397 cattle beasts slaughtered in the town during 1896, and 13 were seized on account of tubercular disease.

3234. That is exactly what I asked or intended to ask?—I should say that last year we had more tubercular disease than we have ever had before; that is, the largest number we have ever had.

3235. Is that owing to the greater stringency of inspection?—No, I think not.

3236. Is the presence of tubercles in the carcasses or the viscera sufficient to condemn the entire animal?—No. I see myself personally every carcase before it is condemned, and we have made it a rule during the five years I have had to do with the condemning of meat in St. Helen's never to condemn unless there is manifestly a general tuberculosis—unless that tubercular matter is everywhere about the animal practically, I mean to say in the meat as well as in the viscera.

3237. And wasting?—And wasting of course. That is a natural consequence.

3238. You have a note in the heads of your evidence referring to the animals examined in the week ending the 16th January. Will you give us the details of that?—Yes. That was, I might say, before I was asked to come before this Commission. I asked the meat inspector very carefully to find out and make a note of every animal in which he could find any tuberculosis and during that week there were 80 cattle beasts carefully examined, and of that 80 no less than 27, or 33 per cent. were found to be tubercular.

3239. Were any of those seized?—No, not one of those were seized.

3240. Now take the case of Mr. Fishwick's cow; are you familiar with that instance?—Yes.*

3241. Are you familiar with any particulars of the carcase? Did you see it yourself?—Yes, I saw it myself.

3242. What was the condition of that carcase?—That was a case of very acute general tuberculosis.

3243. Do you think it possible that that animal could have been in a good state to the eye before being slaughtered?—I think if anybody had been looking after it they could have known. I think a butcher might have bought it as a good animal, but I think the farmer who sold it, or the breeder who sold it, must have known that there was something going wrong with it.

3244. He must have been aware of it?—I imagine that.

3245. (*Dr. Thorne Thorne.*) Mr. Cooper has told the Commission in effect that if in St. Helen's carcasses

in which tuberculosis was strictly limited, and in which the meat appeared healthy and sound, were not seized, the grievance of the Butchers' Association would be largely removed; now your answers seem entirely in conflict with that?—Yes, decidedly.

3246. Because you tell us that you do not, even when you get 27 out of 80 cattle which are tuberculous, seize them; can you reconcile the two statements?—No, I cannot reconcile the two statements.

3247. Are we to understand that, as a matter of fact, you mean what you say when you say you do not seize any tuberculous carcasses unless there is evidence of generalised tuberculosis?—That is so absolutely, and that has always been my principle during the five years I have been at St. Helen's.

3248. May we take it, then, that if you find the tuberculous localised, and if you find the meat looking healthy and sound, you do not seize the carcase?—No, we never do; we get the tubercular portion removed and let it pass.

3249. You were telling us that in 13 instances out of 3,397 in 1896, carcasses were seized on account of tuberculosis?—Yes, that is so.

3250. And that was the largest number for years?—That is so.

3251. Could you give us roughly any idea as to the condition which those 13 carcasses presented?—I am afraid it is rather difficult to generalise upon the condition of those 13. All of them were cases of general tuberculosis, either in one stage or in another, some comparatively in an early stage but still widely spread, and others in a very advanced stage, where you had probably a local tuberculosis to begin with, and then some general infection taking place and spreading all over the animal.

3252. Could you put before the Commission the minimum amount of evidence of tuberculosis that leads you to seize a carcase?—I am afraid that is rather a difficult question also to answer. In the first place we never seize a carcase unless there is evidence of tuberculosis in the organs of the body.

3253. How many?—The lungs, pleura, and abdominal viscera.

3254. Do you mean in multiple organs of the body?—In multiple organs and in other glands of the body as well, for instance, the mammary gland and the glands of the neck, or other lymphatic glands elsewhere in the body.

3255. You do not seize an animal unless it presents conditions of that description?—That is so. Where the tuberculosis is fairly extensive, and yet limited to the abdominal organs or to the parietal pleura we get the butcher to strip the disease off, but by that stripping the butchers have recognised that they have got to tell us about it; they come and tell us about it, and it is done always in the presence of the meat inspector.

3256. And then do you let the meat pass?—And then we let the meat pass. I should think during the past year there must have been 100 animals that have been stripped either by my direction or by the direction of the meat inspector through me.

3257. (*Mr. Murphy.*) I think it would be useful if you could show for each year for the last few years the number of carcasses inspected, and the number condemned on account of tuberculosis; could you do that?—No, I cannot give you the number inspected, because 1896 is the first year in which I have kept a record of the number actually inspected; but I can give you the number that we condemned during each of the previous three or four years. In 1894 there were five, in 1895 there were five, and I have somewhere else the records of the previous years. That is about the number, I think, each year; about five or six during each of the previous three or four years.

3258. For tuberculosis?—For tuberculosis.

3259. So that the number 13 of which you were telling us is exceptional?—Yes, it is exceptional. I was rather interested to find that the meat inspector had noticed that, and on several occasions during the year said to me "We are getting in more tubercular animals in the

* In a letter from Dr. Robertson he states that he thought the question referred to a Mr. Forster's cow, about which there was some hardship felt by the butchers, and his answers have reference to that case and not to that of Mr. Fishwick. He also says that no cow or carcase has been seized at Mr. Fishwick's. The only seizure made at Mr. Fishwick's shop was two or three pieces of meat, weighing 15½ lbs. in all; they were very tubercular.

*Dr.
J. Robertson,
28 Jan. 1897.*

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J. Robertson.
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year than we ever did before." I am perfectly sure he is right. There is an explanation for it, I think, which is perfectly good, and that is, butchers since we have got the big abattoir, have been buying Irish cattle, and we find that there is a larger percentage of tuberculosis among the class of Irish cattle sent to St. Helen's than among the cattle bought round about the district. I think that is the explanation of the larger percentage condemned this year than in previous years.

3260. Can you say whether they were more largely milch cows?—All the animals condemned were milch cows.

3261. Had you a larger proportion of milch cows amongst animals infected in 1896, do you think, when you had 13 condemned?—I cannot answer that question as we have kept no record, but I should say upon an average that we have out of 4,000 cattle killed in the town, about 3,000 milch cows and about 1,000 bulls and bullocks, and during the five years that I have been in St. Helen's, there has only been one bull with any easily appreciable extent of tubercular condition in the carcase. All the tubercular cases that we get are in milch cows.

3262. (*Mr. Clare.*) You said, I think, that in the week ending January 16, you had specially examined some 80 carcasses?—Yes.

3263. And that 33 per cent. of the beasts showed signs of tuberculosis?—Yes.

3264. Do you mean that tuberculosis appeared in the meat or simply in the offal?—In the offal.

3265. Not in the meat?—Not in the meat.

3266. Therefore you do not condemn the carcase?—Just so.

3267. So that out of those beasts that you found with tuberculosis, there really was not any meat sold which had any tuberculous matter in it?—No, I believe not, so far as we can make out.

3268. (*Mr. Cooke-Trench.*) Out of those cattle which you condemned as having generalised tuberculosis, was there wasting in every case?—Yes, I should say so in almost every case. There may have been one case where you get a very acute form of tuberculosis where the wasting has not taken place.

3269. So that, as a rule, it would have been perfectly easy for the butchers to have distinguished those cases during life?—I think not.

3270. Though there had been wasting?—I think you get so many old cows brought into our towns for third or fourth quality beef that it would be very difficult to distinguish among the wasting ones, those which were tubercular.

3271. (*Mr. Speir.*) Does your public slaughter-house pay you as far as you have gone?—No.

3272. Is there much of a loss on it?—We have not had one complete financial year yet with it; the year will not end till the 31st March.

3273. I thought you said you had had it open for 18 months?—We have had it open 18 months; but we have had it in a part of one financial year, and we have not had a complete financial year. It was opened in the beginning of November 1895.

3274. Is it fairly largely taken advantage of?—Yes, I think it is being favourably looked upon by the butchers, and they are coming in gradually and giving up their private slaughter-houses, and taking advantage of it, because there are better facilities there than in a private slaughter-house.

3275. Then you think it is no inconvenience to the butchers to slaughter there, if they have not a private slaughter-house quite close to their own premises?—It is more convenient, of course, for them to slaughter in a private slaughter-house near their own premises.

3276. But if they have no such private slaughter-house?—Then the public slaughter-house is much more convenient.

3277. In 1896 you stated that you had the largest number of seizures for tuberculosis?—Yes.

3278. And you expressed the opinion to the Chairman that that was not owing to more efficient inspection?—I am sure it was not.

3279. Might it not be that you had the largest number then because you had them all brought under your notice through the public slaughter-house, rather than being scattered over the private ones?—I think that was not the case because our inspector goes round and sees practically every slaughter-house twice a week or three times a week; some of the slaughter-houses he goes to three times others twice a week.

3280. In connexion with the 80 animals of which you made a very strict inspection, where 27 were tuberculous, could you tell us how many of these were cows?—There were 34 of them bullocks or old bulls, and in none of those were there any tubercular disease and 46 were cows.

3281. That is about 50 per cent. ?—58 per cent were cows. My opinion is that none of the bullocks or bulls are affected practically.

3282. You passed all those into consumption?—Yes.

3283. What was the worst one like as far as you remember?—There was one of them that I examined myself where both lungs were extensively diseased—very extensively diseased, indeed. One of the pleural linings was affected—the diaphragmatic pleura was affected. The covering of the liver and some portions of the stomach and intestines were also affected, and, perhaps, there were two or three spots of tubercular matter over the sides and lining of the belly.

3284. That is most important. With regard to Irish cattle you express the opinion that there were more cases within the last year, owing to the probability of Irish cattle coming in; are you quite sure that that is correct?—We have no figures to give upon the subject, but the condition of the trade with Irish cattle is such that I think that is so; they are bringing more Irish cattle recently than they did formerly, I think.

3285. We have very often had it as an opinion from the butchers, that if our own Government do not take some control of this disease, they would be compelled to leave off buying home cattle altogether and to take to foreign ones; do you think that the action of your butchers coincides with that opinion?—You mean going to America, or somewhere else?

3286. Yes?—I think not. I think the butchers have always expressed their satisfaction to me over and over again as regards the confiscation of the meat. They are dissatisfied with the fact that they are the losers, and I sympathise with them.

3287. Is it probably not the case that many of those that come in front of the public are animals that should be condemned irrespective of tuberculosis altogether?—No, I think they only ought to be condemned on account of tuberculosis; I think the flesh of them is good enough.

3288. You think the flesh is good food; but why do you condemn them if you think the flesh is good food?—Because the flesh is permeated with tubercular matter in the case of the ones we do condemn.

3289. It is not bad, you mean, from any other cause?—No.

3290. (*Professor Brown.*) I understand that the butchers do not complain of the injustice of your condemnations. They complain that they are not paid, notwithstanding that your condemnation is just?—That is so.

3291. Have you had any conversation yourself with the butchers about the procedure?—Yes, they frequently complain to me about the hardships and as to the necessity for some alteration in the law, so that they might when they buy in good faith—and the majority of those carcasses were bought in good faith—get some compensation.

3292. Still they must have known that the animals were not high-class beef when they bought them?—They knew that.

3293. Do you not think that they would in their own minds know that they were incurring a certain amount of what would be called trade risk?—Undoubtedly.

3294. Do you not think from your experience of those men, with regard to their keenness of judgment, that if they had been sworn in the witness-box and asked if they had not reason to think or to suspect some of those animals were tuberculous, they would have had to answer that they were of that opinion?—I think not; I think they try to exclude ones that are doubtful.

3295. Is it not the case that at the present time it is a pretty safe conclusion that in every 20 cows in poor condition, some of them will have tuberculosis?—It is certain that of the 20 cows, if they are at St. Helen's, some will have tubercle in some stage or another.

3296. You would not mind staking your life on it?—Well—

3297. (Chairman.) Not your life, rather your credit?—Yes.

3298. (Professor Brown.) Do you think a butcher would not be in exactly the same position?—Yes, they must know that they buy, with a probability

of getting some amount of tuberculosis, but I suppose they hope to get that passed.

3299. Altogether, judging from what you have told us, would it not be fair to conclude that your system of inspection is somewhat liberal on the side of the butcher?—I think it is.

3300. And notwithstanding we have before us a distinct complaint that compensation is not paid in those cases in which it ought to be paid?—Yes.

3301. Then under those circumstances it is hardly possible to conceive, is it, any system of inspection, however liberal, which would entirely get rid of that demand on the part of the butchers?—No, I do not think any system of inspection would ever get rid of it; it is very difficult.

3302. The fact being that while they admit the justice of the condemnation they still affirm that they ought to be paid for the loss which they incur?—Yes.

The witness withdrew.

Adjourned until to-morrow at 12 o'clock.

TENTH DAY.

No. 7, Whitehall Gardens, Westminster, S.W.

Friday, 29th January 1897.

PRESENT:

PROFESSOR G. T. BROWN, C.B. (in the Chair).

Dr. R. THORNE THORNE, C.B., F.R.S.
SHIRLEY F. MURPHY, Esq.

T. COOKE-TRENCH, Esq.
JOHN SPEIR, Esq.

T. M. LEGGE, Esq., Secretary.

Mr. PATTEN MACDOUGALL called and examined.

3303. (Professor Brown.) You are the legal member of the Local Government Board for Scotland?—I am, and have been so since the Board was reconstituted in 1894.

3304. Can you give some idea of the extent of the administration of the Local Government Board of Scotland?—In its Public Health Department the Board administers the Public Health Acts, including the Privy Council Dairies Order of 1885, (the duties of the Privy Council under that Order having been transferred to the Board by section 9 of the Contagious Diseases (Animals) Act of 1886,) and the subsequent Order of the Board, dated in 1887, amending the previous Order of 1885.

3305. The Board issued a circular, I believe, in 1886 calling attention to the provisions of the Act of 1886 relating to dairies?—It did.

3306. Can you give us any idea of the nature of that circular?—The circular called attention to the provisions of the Act of 1886 relating to dairies, under which the inspectors under the Animals Act gave notice to the sanitary inspectors of any case of human infectious disease whereby milk might be contaminated. In that circular the Board further stated their opinion that cases of disease in animals found by the sanitary inspector should be reported to the inspector under the Animals Act, in order that there might be a reciprocal duty between the two officers.

3307. You issued a second circular in 1887 to assist local authorities as to the Orders of 1885 and 1887?—That was so.

3308. What was the nature of that circular?—The object of the circular was to assist local authorities, giving explanations under the Orders of 1885 and 1887, and enclosing forms of application for and certi-

ficate of registration, and a form of register of dairies. These explanations dealt, *inter alia*, with the duty of inspection of premises where cattle were kept by persons following the trade of cowkeepers or dairymen, and with the notification of disease.

3309. Was it in that circular that the appointment of an inspector of dairies was urged, and an annual report was asked for?—The Board urged the appointment of inspectors of dairies, and recommended that the sanitary inspector should, where possible, be inspector of dairies. In Rules issued by the Board subsequently they required the sanitary inspectors to return an annual report containing *inter alia* an account of the condition of the dairies, cowsheds, and milkshops in their district; and, further, provided that, where no inspector of dairies was appointed, the sanitary inspector should from time to time, and once at least every three months, visit all dairies, cowsheds, and milkshops, and report any infringement of any order or regulation.

3310. Will you give us the sections of the Public Health Act relating to the subject?—These sections are the 16th section, commonly known as the nuisance section, and particularly sub-section C., which deals with businesses so conducted as to be offensive or injurious to health; and section 26, which is the section dealing with unsound meat; and section 17, which gives the power of entry for the purpose of section 16. I may, perhaps, say that last year a Public Health Bill for Scotland was introduced, and passed the House of Lords, and in that Bill as it left the House of Lords there were provisions altering and enlarging the scope of the nuisance section of the Act of 1867 to this effect *inter alia*: that (1) "any premises or part thereof in such a state as to be injurious or

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"dangerous to health" . . . (4) any animal or "animals kept in such place or manner, or in such numbers as to be a nuisance, or injurious or "dangerous to health"; and, thirdly, "any business "so conducted as to be injurious or dangerous to "health;" should be deemed to be nuisances liable to be dealt with summarily. These are provisions amplifying the former provisions of the Act of 1867.

3311. And under the provisions of the Dairies Order some sets of Regulations have recently been submitted to your Board?—Yes. The local authorities have power under the Dairies Order to make regulations, and it is the duty of the Board, under the 14th section of the Dairies Order, to see whether these regulations framed by the local authorities are too restrictive, or otherwise objectionable, so as to lead to the result that they cannot approve. A very important set of regulations were presented to the Board from the burgh of Partick, two of which were aimed at the sale of milk from tuberculous cows. I had better read the two sections which were afterwards disallowed. Section (25.): "Every person occupying a "dairy or cowshed who, after intimation has been "made to him by the local authority or sanitary "inspector, that any cow kept in his possession for "the supply of milk for human consumption suffers "from tuberculosis, or any disease which might "render the use of such milk for human consumption "dangerous or injurious to health, shall, unless the "contrary be proved, be presumed to have sold the "milk produced by such cow for human consumption." The following section is: "(26.) Every "person occupying a dairy or cowshed who knowingly "sells, or suffers to be sold or used for human consumption, the milk of any cow which is suffering "from tuberculosis, or any disease which might render "the use of such milk dangerous or injurious to health, "shall be liable to a penalty not exceeding 5*l.* for each "offence." These regulations, along with another which I need not trouble the Commission with, were forwarded to the Board of Supervision before the Local Government Board came into existence, in compliance with Article 14 of the Dairies Order, and the Board had to consider whether these regulations were too restrictive or otherwise objectionable. They were satisfied that the two regulations which I have read do not come within Article 13 of the Order, and were *ultra vires*; and accordingly they so intimated to the local authority. The Board then proceeded to consider whether it was possible under the existing law to attain the object aimed at by the local authority of Partick, namely, to prevent milk from tuberculous cows being sold for human consumption. They considered, in the first place, whether Article 15 of the Dairies Order applied to tuberculosis, and they came to the conclusion that it did not, for this reason, that the word "disease" as there used bears reference to the term "disease" as defined in the Contagious Diseases (Animals) Act, and that the definition in that Act does not include tuberculosis. Accordingly the Board were of opinion that that definition could not be extended, and they thereupon applied to the Board of Agriculture—I mean the Board of Supervision applied to the Board of Agriculture—to invite them to exercise their powers under section 32 of the Animals Act of 1878, and include tuberculosis within the definition of the word "disease," but the Board of Agriculture's reply was that they preferred to await the report of the Royal Commission which was then sitting.

3312. Then the Board of Supervision is not really adverse to the step taken, but they merely pointed out that it was *ultra vires*?—That is so, and I think that the action of the Board since the powers previously exercised by the Privy Council were handed over to them has been rather this: they regard matters, perhaps, more from the public health point of view, and I rather think their policy has been to approve—I should not say approve, but to pass—not holding them to be too restrictive or otherwise objectionable, regulations which possibly might in a court of law be held to be *ultra vires*. The Board has not itself

issued orders under the Act, but has had under its observation a great many regulations by local authorities, some of which they thought perhaps open to objection, but they did not think that it was their duty to prevent them from coming into operation.

3313. We have nothing at all comparable to the Board of Supervision in this country. Can you give us any idea of its composition?—I should explain that the Local Government Board for Scotland is the name given under the Parish Councils Act of 1894 to the reconstituted Board of Supervision. The Board of Supervision was the Local Government Board for Scotland prior to 1894, and the Local Government Board for Scotland have taken over all the duties previously performed by the Board of Supervision.

3314. But the Board of Supervision still exists?—No.

3315. Then you are speaking of offences that have occurred?—Yes; of events that have occurred during the time of the Board of Supervision and prior to 1894. I thought it was right to use the term "Board of Supervision" because it distinguishes between the time prior to 1894 and the time after that, when the Local Government Board was substituted for it.

3316. But at the present time the Local Government Board of Scotland is not under any supervision at all, I apprehend?—No; the Local Government Board for Scotland consists of the President, who is the Secretary for Scotland, the Under Secretary for Scotland, and the Solicitor General for Scotland; they are *ex officio* members of the Board. In addition to them there are three appointed members—the vice-president of the Board, and the legal and medical members of the Board; that is the composition of the Board now.

3317. You say that the Board have frequently expressed a desire for the issue of a new Dairies Order?—They have considered whether a new Dairies Order would not be advisable, and I think the matter was the subject of observation in Parliament in 1895 in connexion with a case from Dumfries, where powers were wanted. I think the view taken by the Board at that time was that the Dairies Order was not sufficiently wide to include the powers that were wanted, and that the time had come when possibly a new Dairies Order should be issued.

3318. But have not the Local Government Board of Scotland themselves power to issue that order?—Yes, they have, but the view which they took was that until the term "disease" was extended, it was doubtful whether that power should be exercised.

3319. Then what they really meant was that they required further legislation before a new Dairies Order would be of any value?—Yes.

3320. Do you know what the opinion of the Board is with reference to that? Do they think that they should have the power conferred upon them, or do they think that it should emanate from the Board of Agriculture?—I do not think that any doubt has been expressed that the Local Government Board for Scotland, being the Public Health Board, should be still the authority for the purpose of the Dairies Order.

3321. And under these circumstances would you not consider it more desirable that they should have the power to define disease conveyed direct to them rather than that the Board of Agriculture should pass an order merely for the purpose of giving the Local Government Board the power to add "disease" to the number already existing?—My answer to that is that it must depend upon the legal question whether they have the power to extend the term "disease."

3322. The Board of Agriculture has under the Contagious Diseases (Animals) Act (which is now the Act of 1894) power to call any disease within the meaning of the Act; but my question is this: would it not be rather a clumsy device for the Board of Agriculture to take advantage of that power, and merely say that the disease should be a disease for the purposes of certain provisions of the Act, with no other

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object in view than that of giving the power to the Local Government Board?—Then separate legislation would be required.

3323. That is the point exactly on which I want your opinion, whether it would not be less clumsy and altogether more satisfactory if the Local Government Board had the power conferred upon them by Parliament?—I think so. I quite agree.

3324. In part of this reference you refer to various sections and clauses of Acts of Parliament dealing with unsound food: can you state what those portions are?—The Public Health Act of 1867, section 26 deals with “any carcase, meat, poultry, game, flesh, fish, fruit, or vegetables exposed for sale or which there is probable cause for believing to be intended for human food,” and if they be unfit for such food, they may be seized without any warrant. Then tracing the history of that legislation, the English Act of 1875 includes “corn, bread, flour, or milk, exposed for sale or deposited in any place for the purpose of sale and intended for the food of man.” The Irish Act of 1878 added butter to the English list, and made it legal to seize these articles not only when exposed for sale, but when being “conveyed” for sale. Then followed, I think, chronologically the Glasgow Local Act of 1890, which also designated the various articles as above, and extended the list still further by adding to the list contained in the Irish Act “any unsound or diseased meat, eggs, or other article unfit for human consumption.” The Edinburgh Act of 1891 gives power to proceed against any person who sent or consigned, or from whom the person so charged purchased any unsound meat. In the Public Health (London) Act of 1891 the enactment is more general, and it deals with (a) “any animal intended for the food of man which is exposed for sale or deposited in any place for the purpose of sale or of preparation for sale,” and (b) any article, whether solid or liquid, intended for the food of man, and sold or exposed for sale, or deposited in any place for the purpose of sale or of preparation for sale.” This enactment has been adopted in the Public Health (Scotland) Bill introduced last year, which passed the House of Lords.

3325. You refer to legislation for dealing with the prevention of the sale of milk and diseased cows?—I should like to add this: that in the Public Health Bill of last year as it left the House of Lords there was a clause dealing with infected milk supply based upon a section in the London Act of 1891, and directed towards stopping the supply of milk from any dairy in a district where there is anyone suffering from infectious disease. That was a proposal for legislation going a great deal further than any previous legislation had done, and that clause shows the intentions of the administrative bodies in Scotland upon that subject. That Bill will be re-introduced this year.

3326. But it still leaves untouched the question which you have urged, that is, the necessity of getting the power of extending the meaning of “disease”?—That is so.

3327. Have you any particulars which you could give the Commission as to the existing legislation in regard to slaughter-houses?—The question of slaughter-houses was dealt with in section 30 of the Public Health Act, 1867, which provided that the business of a slaughterer was not to be newly established within any burgh or parish within 500 yards thereof without the consent of the local authority in writing previously had and obtained. An appeal is given to the Local Government Board, and the local authority can make byelaws with respect to any newly established business.

3328. That is the chief legislation which you have in Scotland?—That is in the Public Health Act, which is the general Act applicable to the whole of Scotland. As regards burghs there is other legislation. In the Burgh Police Act of 1892, which applies solely to the burghs of Scotland, there are sections 278 to 287 dealing with that matter, and they provide for the erection in burghs of public slaughter houses, and I

think the result of these sections is, that in every burgh in which there is a public slaughter-house there cannot any longer be any private slaughter-house.

3329. How many burghs are there in which these regulations have been made since 1892?—Since 1892 15 burghs have made byelaws relating to slaughter-houses which require the approval of the Local Government Board.

3330. And has that approval been given?—That approval has been given.

3331. The opinion has been expressed by the Board on sections of the Burgh Police Act of 1892 as to the public slaughter-houses?—That is so; and I have a summary of the provisions of the Act of 1892 relating to slaughter-houses, which is very important, as showing that the tendency of legislation has been with a view to altogether removing private slaughter-houses from within a burgh. With the permission of the Commission, I will read the opinion which the Board gave: The Commissioners of a burgh erected a public slaughter-house outside the burgh, and about a mile distant from the boundaries. For some time it was used by the local butchers, but latterly, owing to the distance, it fell into disuse, and most of the butchers erected private slaughter-houses just outside the burgh. The Commissioners wished to improve their slaughter-house, and to bring under their own supervision all the animals slaughtered for sale within the burgh, but before spending money on improvements they were anxious to be assured that they had powers to enforce the use of the public slaughter-houses by all the butchers. They asked the opinion of the Board of Supervision, and were informed in reply: “Under the Burgh Police Act, 1892—(1.) The Commissioners may improve their slaughter-house, and for that purpose borrow the sums necessary (section 278). (2.) No place within the burgh can be used as a slaughter-house without the license of the Commissioners (section 279). (3.) If the Commissioners have provided a slaughter-house, no other place within the burgh can be used (section 284). (4.) If the Commissioners have erected, or within a year do erect, a slaughter-house, no new slaughter-house shall be erected within two miles without their consent (section 284). (5.) But it appears to the Board that the Act of 1892 gives no direct power to suppress the existing private slaughter-houses outside the burgh. It provides, however, an indirect means of dealing with them. The Commissioners may charge on meat slaughtered within two miles, and not within their slaughter-house, and brought into the burgh for sale or consumption therein, the same dues as they charge at their slaughter-house (section 284). The only exception is in the case of meat killed in slaughter-houses provided or duly licensed in pursuance of any Act of Parliament.” The slaughter-houses outside the burgh were apparently erected without the consent required by section 30 of the Public Health Act, and accordingly do not come within the exception. Looking to these provisions, the Board are of opinion that the Commissioners’ course is clear. Any active proceedings against the private slaughter-houses outside the burgh must, in the view of the Board, be at the instance, not of the Commissioners, but of the Landward Local Authority. The result of those sections, as I have said, is that in all burghs in Scotland where there is a public slaughter-house, and these are increasing, there can no longer be a private slaughter-house.

3332. At any rate the Board have very large powers in the direction of enforcing the use of public slaughter-houses?—The Act provides large powers.

3333. But by virtue of their power to grant or withhold licenses, they have indirectly a very considerable power of suppressing private slaughter-houses?—It is the local authority, though, which grants the license, not the Board. The Board is empowered

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to confirm byelaws for the slaughter-houses in so far as they are sanitary.

3334. You have some particulars which you have received from the sanitary inspectors in Scotland with regard to the seizures of diseased animals and carcasses?—I have. They are for the year 1895.

3335. Will you kindly read them?—I have a table here which deals with the area of every local authority in Scotland which I have had prepared. Summarising that, the result is that in 49 burghs out of a total of 204 burghs the local authorities had found it necessary to take action, while out of 107 district or rural local authorities, only 15 local authorities had taken action during the year. The return is tabulated—in the first place seizures under the Dairies Orders, and in the second place under the Public Health Act, section 26, dealing with unsound meat.

3336. And also under local Acts?—I fear I have not got the local Acts.

3337. Could you furnish them to the Commission where there are seizures under local Acts?—I think that would be easily done. I do not know that there are many of them except the five large cities, in Edinburgh, Glasgow, Aberdeen, Greenock, and Dundee.

3338. If you could obtain them they might be useful to the Commission. Have you anything to add?—It was found from these returns that little had been done under the Dairies Orders. Altogether there were only seven seizures under this heading, and no prosecutions. Glasgow led the way with four of these. There were no prosecutions under the Dairies Orders so far as they referred to diseased cattle, but the Glasgow Sanitary Authorities condemned and caused to be killed for tuberculosis four animals during the year. This action was taken with the consent of the owners. In Bathgate one cow was taken from a dairy and ordered to be killed and buried. It was slightly affected with tuberculosis, and an ordinary safety pin that it had swallowed had stuck in its throat and interfered with its feeding and breathing. Another tuberculous animal was found in a dairy in Dalkeith, and the sanitary inspector in this case threatened action against the dairy-keeper if he continued to sell the milk. The byre was found to be grossly overcrowded, without light or ventilation, water supply, or drainage. The animal was destroyed. The seventh case occurred in the Bathgate district of Linlithgowshire, where a cow suffering from tuberculosis was taken out of a dairy and killed and buried with the owner's consent. I have made an extract from a report of the chief sanitary inspector of the burgh of Paisley, which I think is interesting.

3339. Will you kindly read it?—Paisley has taken a lead in regard to the question of tuberculosis, and the chief sanitary inspector says: "The veterinary inspector for the burgh under the Contagious Diseases (Animals) Act also holds an appointment under the local authority for the inspection of dairy cattle, so that there may be co-operation between the officers under the Animals and Health Acts; and also with the view of detection of tuberculosis in dairy stock. But very little has been done in this way for some years past, owing to a decision given in a case raised by the local authority. The particulars of this case were briefly stated in a memorial addressed by the commissioners of the burgh to the Secretary of Scotland in 1888. They pointed out that on an inspection of the milk cows of the burgh by the veterinary and sanitary inspectors, five cows which were very seriously affected with the disease were discovered; and in the present state of the law the local authority and their officials found themselves powerless to stop the sale of the milk of any of those animals, though in one case the cow died from the malady shortly after it had been discovered, and in another case the bacilli or germs of tuberculosis were found by Principal Williams, of the new Veterinary College, Edinburgh, in the milk of the animal." They then brought an action to have the owner of the

animal bound to order him to discontinue to carry on his trade or business of a cow-feeder and seller of cow's milk so long as he retained in his possession the diseased cow, but the sheriff declined to assent to that view, as the local authority could not specify the persons to whom, and the dates on which, the milk of this particular cow was sold by the dairyman, and the local authority ceased to pursue the matter further. In regard to seizures, if I may proceed, the seizures under section 26 of the Public Health Act—

3340. Those relate to meat, do they not?—Yes, to meat, under the 26th section, while seizures under this heading were made by 47 burgh local authorities and 15 district local authorities, only 10 burgh local authorities and 5 district local authorities found it necessary to institute prosecutions. In the burghs 31 prosecutions in all took place, and in 26 of these convictions were obtained. In the landward districts five prosecutions and five convictions were obtained, four of these being in Midlothian, and the fifth case in Linlithgow. It is very important to know that the few prosecutions, in comparison with the enormous amount of diseased meat seized, is due to the fact that where the carcasses were destroyed with the owner's consent, it was unnecessary to take any further action. The largest number of prosecutions, amounting only to 10, all of which were successful, occurred in the city of Aberdeen; the total seizures had been 149, and with regard to the small number of prosecutions, the sanitary inspector says that it is due to the mass of the seizures now being made with the consent of the owner, owing to his voluntarily submitting suspicious meat to the inspector.

3341. Then the prosecution only takes place, presumably, when the owner objects?—Quite so, and that seems to be in a very small number of cases now.

3342. (Mr. Murphy.) I understand that the power for regulating dairies and cowsheds is given by an Order issued under the Contagious Diseases (Animals) Act?—That is so.

3343. When the Public Health (London) Act of 1891 was passed, there was incorporated in that Act the provisions of section 34 of the Contagious Diseases (Animals) Act, the section under which the Order was made. Was it proposed when the Scotch Bill was introduced into Parliament to follow the same course, to incorporate the provisions of that section in the Scotch Public Health Bill?—Do you mean section 34?

3344. Yes?—No, it was not proposed, so far as I know.

3345. It was suggested here that the course adopted with regard to London enabled a new Order to be issued, which would not have the same limitations that the order issued under section 34 of the Contagious Diseases (Animals) Act had, that is to say, that the word "disease" would be able to have a wider significance than it had when the Order was issued under the Contagious Diseases (Animals) Act?—I should scarcely be prepared to express an opinion upon that without consideration.

3346. So far as you remember, there was no suggestion to follow that course?—I think not.

3347. Would you kindly tell me whether in Scotland there is a power of combining sanitary districts for particular purposes. In England, for instance, there is a power for sanitary districts to be combined for the appointment of medical officers of health, and it has been suggested that that power might be a convenient one in districts of small size where it would be wished to appoint an inspector, say a veterinary inspector, for the purpose of inspection of farms and cowsheds?—As a matter of fact, I think in several cases the medical officer of one county is also a medical officer of another county at the present moment where the counties are small. I think there is provision for that, but I should be afraid to say more without a complete examination of the statutes. Certainly, as regards medical officers, one medical officer is medical officer for more than one county; I recollect several cases where that is so. Then there

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is also this, that the medical officer of a county is also medical officer of the different districts in the county for mere local purposes.

3348. Is the inspection of dairies and milkshops a district administration or a county administration?—It is a county administration only in those counties in which the county is the area of the local authority, that is, where the county is not divided into districts. There are, I think, 33 counties in Scotland, and in eight of these there are no districts. I mean that the county itself is the area of the local authority. In those counties which are divided into districts; the district is the area of the local authority.

3349. And you think there is that power of combination of districts for particular purposes?—I understand the proposal is to make the same officer an officer under the Public Health Act for different districts of a county?

3350. That is so?—The sanitary inspector and the medical officer of counties are also in many cases the medical officer and sanitary officer of the districts of the county now.

3351. But in England we also have provision by which, for district purposes only, there may be a combination of districts, so as to enable authorities to allot a larger salary to the officer, and so get a better service?—I see no reason why that should not be so in Scotland.

3352. (Mr. Cooke-Trench.) Your attention has, no doubt, been drawn to the great diversity of practice in different places as to the amount of tuberculosis which requires the destruction of the carcasses?—That is so; I have heard of that.

3353. Supposing the powers were given by Parliament to the Local Government Board to do so, do you see any difficulty in, or practical objection to, the Local Government Board framing instructions which will bring the practice in different places more nearly into uniformity?—I fear I am not prepared to answer that. I think that the duties of the Local Government Board would be, if there was legislation dealing with the matter, certainly to see that that legislation was administered uniformly over the country, and to give instructions or suggestions as to how that could best be done, but without legislation in the first place I do not see how the Local Government Board is to do more.

3354. I said, supposing the powers be given by Parliament to the Local Government?—Certainly it would be the duty of the Local Government Board to see that those powers were exercised uniformly.

3355. (Mr. Speir.) In the Order of 1878 I think your Board have given an opinion that disease in animals should be reported. Does that only refer to diseases under the Animals Act, or other diseases?—I think it does not cover tuberculosis; they can only deal with disease under that Act, as far as I know.

3356. If you had legislation, as I think the Chairman hinted at, to include that, would not that simplify it in a way that we might get over a difficulty that is very roundabout to take it any other way?—If "disease" in the Dairies Order should be so defined as to include tuberculosis, then the difficulty would be removed.

3357. Or any other disease?—Or any other disease.

3358. We may have a disease which may become publicly known, but which we do not anticipate just now?—I think that in the old Greenock Local Act, the Act of 1877, disease was not restricted to the diseases which are dealt with under the Contagious Diseases (Animals) Act. I think you will find that section quoted an extract from it in the Appendix to the Report of the Commission of 1888. In the evidence of Sir Henry Littlejohn, the medical officer of the Local Government Board, he gives extracts from a Greenock Act of 1877, section 230, giving the power to seize diseased cattle, and that section deals with any infectious or contagious disease, and there is no definition in the Greenock Act of what are infectious or contagious diseases.

3359. (Professor Brown.) That was before the Bill of 1877 was passed?—That was the Greenock Local Act of 1877.

3360. It came into force before the Act of 1878—the Contagious Diseases (Animals) Act?—Quite so.

3361. (Mr. Speir.) Has your Board taken any notice of any cases that have been brought before them in Greenock under that Act, speaking specially with regard to tuberculosis?—No, our Board really have very little knowledge of the action of the local authorities; it does not come before them directly, and it is merely upon asking for reports that the Board secure any information. I can find in this return here what Greenock did in 1895. During that year there were 43 seizures, and 31 were cases of tuberculosis.

3362. Now, referring to the Partick case, where the local authorities there made application to you that a certain clause might be passed; that clause, as far as I have read it, seemed to be less stringent, or at least not more stringent than the general Act of Glasgow; am I right in drawing that conclusion?—I think so; I think it is less stringent.

3363. It seems somewhat strange that the neighbouring city of Glasgow should get a special Act, which you could not pass even for a burgh?—I am afraid I cannot enter into the relations between Glasgow and Partick.

3364. I suppose the way to get over that is for Partick to merge itself inside Glasgow. Have any complaints ever come to your Board regarding the hardship to butchers and others, owing to the introduction of public slaughter-houses in the different burghs?—Not that I am aware of.

3365. Do you think that such would exist?—I am not prepared to say. I have heard of no complaints myself, nor have the Board, so far as I know.

3366. Because here the butchers, without exception, every man who has given evidence, gives as the reason why they object, that the introduction of public slaughter-houses would obstruct their business to a great extent?—I am not aware of that in Scotland. In Scotland, in certainly all the large towns, I think I am right in saying that there are no private slaughter-houses. In Edinburgh there are no private slaughter-houses. In Glasgow I believe that is also the case; in Paisley I know that to be the case. I cannot speak definitely on other places, but from the opinion which I read to the Commission, I think that it is clear that the provisions of the Burgh Police Act of 1892 which apply to all burghs in Scotland, with the exception of the five large cities, lead to the result that where there are public slaughter-houses, and there are a good many of them and they are increasing, there will in future be no private slaughter-houses.

3367. Therefore, taking a common-sense view of the subject, you would suppose that the butchers over England who objected to that were doing it from some other motive than the one which they put forward, namely, one of convenience?—I cannot answer as to that.

3368. (Professor Brown.) Is there no such objection from the butchers in Scotland?—I have heard of none. The Burgh Police Act of 1862, which was, like that of 1892, a general Act, contained similar provisions dealing with slaughter-houses to the Act of 1862. There was one case of considerable hardship, at least I think it was so recognised, under the Act of 1862. It was this case: There are two burghs in Scotland, one named Kirkcaldy and the other Dysart, which are within a short distance of one another. There is a public slaughter-house in the one, and also in the other. A butcher doing business in Kirkcaldy had a beast slaughtered in Dysart, the neighbouring burgh, within two miles of Kirkcaldy, and under the Act of 1862 he was prosecuted for bringing the animal slaughtered in Dysart within the burgh of Kirkcaldy. It seemed rather hard, but the policy of the Act was that no beast should be slaughtered in a burgh where there was a public slaughter-house provided, within two miles of the boundaries of that burgh, so that if possible the butcher should be made to go to the

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public slaughter-house licensed by the local authority within the burgh.

3369. (*Mr. Speir.*) Seeing that burghs have such large powers regarding meat, can you inform me whether or not they have the same powers with regard to milk, that is, in regard to the prevention of milk to which they might object coming within the burgh?—In some of the recent local Acts there is such power.

3370. But it is not general?—It is not general. There was a clause in the Public Health Bill of last year, as I think I mentioned, dealing with the milk supply from an infected area, which goes a great deal further than has yet been the case, and will, I think, probably meet the general opinion upon the subject.

3371. That new clause, I understand, gives all burghs the power to object to milk from without their area coming in; I wish to know if I am reading that clause aright?—I should like to refer to my notes. The clause in the Bill of last year, which I have not here, is based upon the section in the London Act of 1891, and was directed towards stopping the supply of milk from any dairy in a district where there is anyone suffering from infectious disease.

3372. Anyone suffering from infectious disease—but what about the animals suffering from infectious disease, that is the point we have more to deal with?—I may say—it is important that I should refer to it—that in the Edinburgh private Bill which was promoted last year, there were two clauses, one of which provided “that in addition to the other existing powers for the detection and prevention of the spread of infectious disease, the medical officer might apply any test which he thought reasonable and necessary—whether by sub-cutaneous injection or otherwise—for the purpose of ascertaining the existence of tuberculosis or any other disease in cows in any byre, and provided also for notification by outside authorities of the existence of any infectious disease within their jurisdiction—if milk was sent from it to the city for sale or consumption”; and then there was provision for notification which I think meets your views. These two clauses Parliament declined to pass, either because the subject was still under consideration by the Commission, or because in dealing with it in that way they were touching a subject which was of general as well as of local importance, and accordingly it was thought a private Bill was not a fit place for it.

3373. Then have you any information bearing upon this point, that such course has been carried out in your own neighbourhood, or in any other one, of animals being tested in the way that the Edinburgh authorities proposed to do?—There is a very curious case which came before the Local Government Board last spring, where in a certain county in Scotland it was reported that after the application of the tuberculin test to the animals in a farm, two of them, I think, had reacted, and the milk was still being sold, and the animals were being fed for the market. Inquiry was made, and that farmer replied—he was very frank about it—“Yes, it is all quite true; but the veterinary inspector has told me that although those two animals re-acted their udders are not affected, and accordingly the milk may be still used. But I mean to sell those animals in the open market, and if they are condemned in the slaughter-house, then I, of course, must suffer, and I am willing to suffer. My object in the whole matter is to provide myself with a sound herd, and I mean to continue the application of the test of tuberculin until I do so.” Now the tuberculin test has been used very largely in Midlothian on Sir Thomas Gibson Carmichael’s estate, and I know that it has been used in Fife, and I have here a very interesting excerpt from the report of the medical officer of Lanarkshire for 1895: “A large dairy farmer in the Middle Ward informs me that during the past two years he has tested for his own purpose (using tuberculin) about 200 cows, averaging five to six years old, and although he was purchasing only the very best class of cows, the average of re-

acting (that is, tuberculous) animals was fully 30 per cent. He now only purchases tested animals which have not reacted, and finds he can do so quite readily from several dealers, of which there is one in this country. The test here referred to, namely, the injection of tuberculin under the skin of the animal, causes a rise of temperature in those animals suffering from tuberculosis, and is believed by most competent veterinary authorities in this and other countries to be almost absolutely reliable.” That, and those other cases of the use of tuberculin, seem to show that farmers are beginning to realise that it is to their advantage to use the test for the purpose of securing themselves a sound and healthy herd.

3374. (*Professor Brown.*) But he does not seem to be aware of the fact that a repetition at short intervals of the test renders the animal absolutely refractory, and that no rise of temperature takes place afterwards, so that a dealer might so educate an animal with tuberculin that he might say it is perfectly sound, and you may test it with the tuberculin, and the test will not give any reaction at all. In Belgium they have had curious results, and we have had them in this country also. Are you not aware of that?—I am not aware of that.

3375. (*Mr. Speir.*) We have had Professor M’Fadyen’s evidence entirely the reverse of that, namely, that the danger from that source was, comparatively speaking, trifling. In the Glasgow Act of 1891 the Glasgow authorities have power to enter byres, and to prohibit the sale of milk. Would that Act give them power to make the tuberculin test. Can you give us an interpretation of it?—I am afraid I can hardly interpret it.

3376. Do you know the particular clause to which I refer in the Glasgow Act?—I should be afraid to give an opinion. I am not prepared to construe the Act without having it before me.

3377. Then with regard to the notification of disease in connexion with the Glasgow Act or any other one, would it be any advantage to the general public if notification of all diseases of the udders were given?—I should think so, certainly.

3378. You would therefore believe that if that was given, inspection would be very much simpler than without such?—I should so think.

3379. Provided that we were agreed upon that, could something in the way of a log book not be kept on every farm, where an entry might be made recording every disorder that might appear in particular animals, showing the course that was followed?—I have seen in the course of one’s reading in preparing for this evidence that suggestions of that kind have been made, but they are not suggestions on which I am able or authorised to offer an opinion.

3380. Do you think it practicable to carry such out? You as a lawyer ought to know, I should expect, fairly well?—I am afraid that is a practical question. As a private individual, I should say that they would be very useful.

3381. Talking of meat, you said that prosecutions only take place where the owner objects. Am I quite right in that?—That is my opinion. Where the owner consents to the destruction of the animal no prosecution takes place. I do not mean to say that there may not be isolated cases in which local authorities may deem it necessary to prosecute.

3382. Is it not rather that prosecutions are instituted where the owner tries to evade the law, or where he attempts to smuggle a bad carcass into a municipality?—There are, indeed, cases in which local authorities have thought it right to prosecute—I think one has come under notice—where there was a case of supposed evasion of that kind? but I am not prepared to say how many.

3383. (*Dr. Thorne Thorne.*) Would you kindly tell me whether your board has received complaints from butchers with regard to the seizure of carcasses which are found to be tuberculous?—I am not aware that they ever have.

3384. Have you had complaints as a board from dairy owners with regard to any attempt to control the production of milk by cows which are in their dairies on account of tuberculosis?—No, I do not think we have.

3385. I suppose you are generally aware that both the butchers and the dairy owners are demanding compensation for any such action?—I have heard so. I am aware of that in some cases.

3386. Have you, as an administrator, come to any conclusion in your own mind with regard to the question of compensation?—I have not. I can only refer to the opinion given by Sir Henry Littlejohn in the evidence which he gave before a previous Commission.

3387. That would be no use to us unless you agree with it; it is your own opinion we want?—I have no authority to deal with that.

3388. And you would rather not give your own personal opinion?—I think not. I may say that my feeling is, from what I have read on the subject, that whether tuberculosis springs in any way from insanitary dwellings, badly ventilated or badly constructed, or not, it has a tendency largely to be fomented by such conditions; and if you are giving compensation, I should be much afraid that you might remove the incentive to the farmer to improve the dwelling of his cows, and to attend to the sanitary regulations which the Local Government Board desire should be generally recognised as proper and as to which they have issued suggestions, because it is important that I should mention to the Commission that the Local Government Board never loses an opportunity of suggesting that byres should be of certain construction, certain ventilation, and provided with water in every way, so as, so far as possible, to obviate the occurrence of such diseases as tuberculosis.

3389. As you have been good enough to give your opinion thus far, may I ask you whether, in your opinion, you would draw any distinction with regard to compensation between a man who, of his own free will, sells an animal and exposes it for sale as human food, and another man into whose dairy one might go and find out that an animal is tuberculous, and then wish to seize the animal, the owner not having exposed it for sale and not having in any way voluntarily brought it under the notice of the public authority?—I think any difference, which occurs to one's own mind to be right and proper, would be as between the man who has observed these conditions, to which I have previously referred—who has done what he could to keep his byre and cowshed clean and thoroughly sanitary—and such other conditions as a local authority might lay down, and the man who has failed to observe these; but I am scarcely prepared to say anything else beyond that.

3390. My point was rather the distinction between the butcher who exposed dead meat for sale, and the dairyman who has not exposed his cow for sale, but which it is, perhaps, desirable to seize in the interests of public health?—That, I think, might be tested by this, that probably, for the purpose of the sale of meat, the public health objects are attained when the meat is seized in the slaughter-house. It is a trade risk.

3391. You are not prepared to distinguish between the two with regard to compensation?—No, I am not.

3392. (*Mr. Cooke-Trench.*) A butcher buying a beast in the open market, a beast apparently perfectly sound, and that beast afterwards on being slaughtered may suffer from tuberculosis?—Quite so.

3393. But he is a perfectly innocent party, is he not?—Yes.

3394. Can you name any other case in which the property of a perfectly innocent party, where both seller and buyer were perfectly innocent, the property has been confiscated in the public interest and compensation not given?—I answer that by saying that I think these are trade risks just as the others are trade risks.

3395. Can you name any other case in which compensation is withheld?—A man sells a thing—fish, for

instance—in the same way, and other articles are sold for food in the same way, and they are found to be not fit for the purpose for which they were sold.

3396. But a person buying fish can see whether it is good or bad, can he not?—I am afraid I cannot.

3397. (*Dr. Thorne Thorne.*) I wish to put a further question arising out of that, I suppose you know the report of the Committee on Pleuro-pneumonia and Tuberculosis of 1888?—I have read it.

3398. It is there pointed out that amongst the conditions that cause a pre-disposition to contract tuberculosis are "Deficiency of oxygen by bad ventilation, "exhausting secretions, such as prolonged lactation;" and then later on the report goes on to say, "exhausting production of milk can be easily understood "to effect, as seen in the gradual emaciation, &c. of "milch cows by the constant loss of the fat, albumen, "and salts contained in the milk, just those degenerative changes which reduce the vital resistance of the "animal." Do you agree with that?—Yes.

3399. Does not every man of any intelligence know the fact?—I think so.

3400. Then can you say that when a man buys a milch cow which goes through all these processes he can honestly assume that it must be a perfectly healthy animal and not be liable to tuberculosis?—I should think it must appear to him to be not in a thoroughly healthy state.

3401. (*Mr. Cooke-Trench.*) You have not yet answered my question, whether you can produce any exactly parallel case where it was impossible for the buyer or seller to know that the property was deteriorated, and in which compensation was withheld?—I think fish surely is an instance.

3402. Is it impossible for the buyer and seller to see whether the fish is good or bad?—I should think in some cases it was.

3403. (*Professor Brown.*) If the fish is sold in boxes by auction, he has no more chance of looking inside the box than of looking inside an animal?—Quite so. In connexion with that I should like to bring under the notice of the Commission a case which was decided not very long ago in the sheriff court, Kilmarnock, where a butcher had bought from a farmer an Ayrshire cow, intending to slaughter and sell it for food. It was condemned in the slaughter-house. The butcher then declined to pay the farmer the cost, and the farmer brought an action against the butcher. The sheriff said, "I do not think you have "got a case against the butcher, because under the "Sales of Goods Act, which was passed in 1894, this "animal was sold with an implied warranty that it "was to be fit for the purpose for which it was sold, "that is, to be used for human food." That seems to me to be a very important decision, and the only one which I have seen under that Act, and differing certainly from some other decisions.

3404. (*Mr. Speir.*) There was one a fortnight ago. A butcher in Campbelltown bought from a farmer a bull at so much per hundredweight; is not that an identical case?—I might answer that by saying this; I knew that case, and my intention was to have asked the sheriff who decided that case, whether the previous Kilmarnock case to which I have referred was brought under his notice when he decided it. If the Commission please, and thinks that that information would be of benefit, I can easily ascertain it. (The case is now in the Appendix.)

3405. Supposing you get the information, you still have the lower courts giving adverse decisions?—I am afraid you will find that in a great many cases.

3406. The question is not settled until it goes to a higher court?—Quite so.

3406a. (*Chairman.*) Could you give us a summarised statement of the statutory regulations and orders affecting the sale of milk and meat in Scotland?—Yes; shall I put in a statement as an appendix to my evidence?

(*Chairman.*) Yes.

The witness withdrew.

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Mr. ARCHIBALD KERR CHALMERS, M.D., D.P.H. (Cambridge), called and examined.

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3407. (*Professor Brown.*) You are one of the medical officers of health of Glasgow, I believe?—Yes, I have been so for five years.

3408. Can you furnish any statistics as to the diminution of deaths from tuberculous disease or diseases in Glasgow?—I have gone over the figures for some years, and the Glasgow experience quite conforms with the general experience that tuberculous disease has been decreasing. The year of maximum intensity of the death-rate in Glasgow from the whole class of tuberculous diseases, was (according to the Registrar-General's returns—and I should say that, to begin with, I am taking those figures) in 1871, when it was 645 per 100,000 living at all ages; whereas in the year 1894, that is the last year for which the adjusted figures are available, it was 311 per 100,000 living; and this reduction was exceeded in 1892, when the rate was 295 per 100,000 living.

3409. Is it the case that the chief reduction in *tabes mesenterica* occurred between the years 1883 and 1894?—I might explain that it was customary prior to 1883 to have a different classification of tubercular diseases, not phthisis. The subdivision, phthisis, has been in continuous use, however, since registration began in 1855, so that the deaths registered from this cause form a continuous series, and are quite comparable; but the other subdivisions of tuberculous diseases were rearranged in 1883, when certain displacements took place.

3410. I believe that one disease, phthisis, has contributed most to the total of the reduction?—Phthisis has contributed chiefly to the reduction as between 1871 and 1892. In the year of maximum intensity (1871), the phthisis death-rate was 434 per 100,000 living; and formed fully 13 per cent. of the general death-rate, whereas in 1892 it was 218 per 100,000 living, and formed 9·6 per cent. of the general death-rate; while for 1894 it was 227. All tuberculous diseases were reduced 54 per cent., while phthisis alone was reduced 50 per cent.; 62 per cent. of the fall in all tuberculous diseases being due to a reduction in phthisis, while 38 per cent. was due to a reduction in the other forms of tuberculosis *plus* the effect of altered classification, which cannot be easily estimated.

3411. I think you have certain statistics obtained from Glasgow as to the death-rate from phthisis, *tabes mesenterica*, tubercular meningitis, and Other Forms of tuberculosis in regard to the incidence of age?—I should say that my comparison, in regard to age incidence, has reference to the years since 1883, during which time there has been a uniform system of classification, and those figures give, in rates per million living, a reduction over all tuberculous diseases amounting to 18·7 per cent., whereas phthisis alone was reduced 18·6 per cent., *tabes mesenterica* 32·1 per cent., tubercular meningitis 4·5 per cent., and what the Registrar-General calls "Other Forms of Tuberculosis (*scrofula*)" 18·3 per cent.

3412. Is it correct to presume that the records of these several forms of tuberculosis are based on clinical evidence only?—There is considerable difficulty regarding tubercular meningitis in this respect, that a simple and non-tubercular form of inflammation of the brain membranes exists, and clinically it is very difficult to distinguish between it and the tubercular variety. This difficulty, I think, finds expression frequently in the death being certified simply as "meningitis," or as "acute meningitis," one or other term being used. I have made application to the Registrar-General for Scotland as to his custom regarding this point, and he informs me that his custom is to classify as tubercular only those which are so certified, that is, either as tubercular meningitis or as acute hydrocephalus. When the term "meningitis" simply, or "acute meningitis" is used, then the death goes under the class of nervous diseases; but as you will see, for these reasons, a very strong impression prevails that many deaths due to

tubercular meningitis do not appear in the death returns.

3413. Is it not also probable that many that are not due to the tubercular form appear as tuberculosis?—In this respect, that probably four-fifths of all cases of meningitis at least under five years of age are tubercular, I think the probability is the other way, and that certain cases of meningitis are omitted from the tubercular class.

3414. As a matter of course, it would be impracticable to base every case on a bacteriological examination?—Or on a post-mortem examination.

3415. You could not always have it?—Post-mortems are not easily obtainable in private practice.

3416. The question of age incidence you have not touched upon yet; I should like you to bring before the Commission what you have to say upon that?—I might say that I have tables referring to the movement of these death-rates in Glasgow, copies of which I have, and if you wish I will submit them.

3417. Will you put those tables in?—Certainly (*handing in tables; see Appendix*). I should say, in considering the question of age incidence, I have taken the years 1890-95, in which all classes of tuberculous diseases caused 321 deaths per 100,000 living, 230 of which were due to phthisis. The figures for those years were compiled from the statistics of the Health Department in Glasgow, and the rates are those obtaining in old Glasgow, that is, the area of the municipality before the extension of the city in 1891, and they are the rates obtaining over an estimated mean population during that period of 572,681. It was necessary to take the figures applicable to this area, because the intention was to ascertain the age incidence of deaths in the several statistical divisions of the city, and as the Registrar-General's returns were applicable only to the extended municipality for which we had not the age distribution, we had to have recourse to the area of which we knew the age distribution according to the census of 1891. In this table, which I have prepared, I have followed strictly the Registrar-General's classification, that is into phthisis, *tabes mesenterica*, tubercular meningitis, acute hydrocephalus, and other forms of tuberculosis (*scrofula*). This table shows in what proportion these various forms of tuberculous disease contributed to the death-rate from all tuberculous diseases as follows: phthisis contributed 72 per cent.—

3418. (*Dr. Thorne Thorne.*) At all ages?—At all ages. *Tabes mesenterica* contributed 9 per cent., tubercular meningitis, 11 per cent., and other forms of tuberculosis 8 per cent.; that is the forms of tubercular disease, not phthisis, contributed between them 28 per cent., leaving 72 per cent. supplied by phthisis. This table further shows that of the total deaths from phthisis only 12 per cent. occurred before the age of 15 years, and 88 per cent. after that age, while of the other forms not phthisis, that is, meningitis, *tabes mesenterica*, and other forms (*scrofula*), 89 per cent. of the deaths occurred under 15 years of age, while of those deaths under 15, 94 per cent. occurred before the age of 10 years was reached. So that if we confine our attention to the ages under 10 we shall deal with fully four-fifths (nearly 84 per cent.) of all the deaths which occurred from tuberculous disease other than phthisis. With the view of comparing the proportions contributed by zymotics and tuberculous diseases to the deaths from all causes occurring under 10 years of age, I have prepared another table with the deaths thus arranged for the years 1870-4 and 1890-4. In the latter period it shows that nearly 30 per cent. of the deaths from all causes were due to zymotics, and 9 per cent. to tubercular diseases. These, as I have said, are not death-rates, but proportions of the deaths from all causes during 1890-4. Continuing the analysis of the death-rates under 10 years, I have taken first the deaths under one year per 100,000 living according

to the census, and I find in the first case that tuberculous diseases, not phthisis, contributed 714 per 100,000, and that phthisis contributed 100—that is 88 per cent. of the one, and 12 per cent. of the other. In the deaths between 1 and 5 years, tuberculous diseases, not phthisis, contributed 434 per 100,000 living, and phthisis contributed 93 out of a total of 527 deaths from all classes of tuberculous disease, or a per-centage of 82 and 18 respectively. Between the age of 5 and under 10 years, the non-phthisis class supplied 109 per 100,000, and phthisis 63, showing a total from all tuberculous diseases of 172 per 100,000, and the per-centage is 63 for tuberculous disease not phthisis, and 37 for phthisis. This shrinking, therefore, of the volume of deaths from tuberculous diseases which goes on during the first 10 years of life (the table actually shows that the shrinkage goes on up to the fifteenth year) is chiefly due to a lessening of the total deaths attributable to tuberculous diseases which are not phthisis. Excluding phthisis, and comparing the other forms of tuberculous disease with each other, we have death-rates per 100,000 living as follows—the deaths under one year from *tabes mesenterica*, 197; from tubercular meningitis, 379; and from other forms of tuberculosis (*scrofula*) (the Registrar-General's classification), 138; so that of a total number of tubercular deaths, not from phthisis, you have 714 per 100,000 living, 28 per cent. of which are due to *tabes mesenterica*, 53 per cent. to tubercular meningitis, and 19 per cent. to Other Forms. These are deaths under one year. Between one and five years 434 deaths per 100,000 living were due to tubercular disease, not phthisis, 159 of which were due to *tabes mesenterica*, 188 to tubercular meningitis, and 87 to other forms (*scrofula*), the per-centages being 37, 43, and 20 respectively. In the next period, that is, from 5 to 10 years, the death-rate from all tuberculous diseases, not phthisis, is 109 per 100,000 living, the figures for *tabes mesenterica* being 39, for tubercular meningitis 40, and for other forms (*scrofula*) 30, and the per-centages 36, 37, and 27 respectively. In the first 10 years of life all three forms are most fatal during the first year. Tubercular meningitis is responsible for a larger number of deaths than either of the others, at each period, but while contributing more than half the total deaths from those causes in the first year of life, its proportion is reduced to 37 per cent. in the 5 to 10-years period.

3419. (*Professor Brown*.) Can you give us any idea of the preponderance of mesenteric disease over the meningial during childhood and infancy?—The prevailing impression with regard to the mesenteric form of disease is, that it predominates in the earlier years of life, and the meningial form during childhood rather than infancy. That is probably between the third and eighth year; but, as the cause of death, these figures show that the opposite is the case. Tubercular meningitis, however, very seldom occurs as an independent malady. It is usually associated with tuberculous disease elsewhere (in the abdominal or bronchial glandular system, or in the bones, for example), but the predominance of a certain class of symptoms preceding death determines its name. In this sense it may be regarded as accidental whether the final stage of the disease becomes Tubercular Meningitis, Tubercular Peritonitis, or acute Miliary Tuberculosis. In either case it means that the infecting agent has reached the membranes of the brain, the peritoneum or the lungs, either by the blood current or by simple extension to adjacent structures by the lymphatics from some pre-existing focus. Indeed Tubercular Meningitis frequently forms part of an Acute Miliary Tuberculosis.

3420. (*Dr. Thorne Thorne*.) I take it that you have had a very considerable reduction in the amount of death from tuberculosis in all its forms in Glasgow during the last 25 years?—Yes, we have.

3421. And that there has, as a matter of fact, been a reduction both as regards phthisis and as regards the forms of tubercular disease that affect infancy and childhood?—That is so.

3422. Am I right in assuming that the fall has been greater from tubercular disease of one or other sort after the age of 15 than before it?—It is almost impossible to compare anything earlier than 1883 except as to phthisis, in which case one can compare the years before that with the years afterwards, but at 1883 this revision of the classification took place.

3423. Would you give me your experience as to whether the fall over any period sufficiently long to justify a conclusion has been mainly during the period of life when tubercle asserts itself mostly in the form of phthisis, or during the period of life when it is more likely to assume forms affecting infancy and childhood?—Taking the six years 1889–1894 as compared with the six years 1883–1888, contrasting the second with the first six years, the reduction in phthisis was almost 19 per cent., whereas the reduction in *tabes mesenterica* was 32 per cent.

3424. Could you give me the forms other than phthisis grouped together?—I should say I obtained the per-centage contributed by each class to this total reduction, and I found that it worked out that phthisis had contributed 72 per cent. of the total reduction; that *Tabes Mesenterica* had contributed 20 per cent. of the total reduction; that Tubercular Meningitis had contributed 2 per cent. and that Other Forms had contributed 6 per cent.

3425. Is there any evidence at all in your statistics which would give us any indication as to the influence of the use of tuberculous meat in the case of adults, or the use of tuberculous milk in the case of infancy and childhood, upon the amount of tuberculous disease that you have at one or other age-period in Glasgow?—I endeavoured to put the explanation very much on what one knows occurs pathologically, namely, that the cause of death as certified simply means the final stage in the disease, and that you may have ranking as meningitis simply the terminal stage of an illness which has begun either as abdominal or it may be in some other form.

3426. Do you believe that the consumption of tuberculous milk is a cause, or even a substantial cause, of the amount of tuberculosis you get under five years of age in Glasgow?—I do.

3427. You have, of course, had a reduction in the amount of tuberculosis at that age?—We have had a reduction.

3428. May I assume that the reduction, in your opinion, has been very largely brought about by circumstances such as the great improvement in the housing of the people?—I think one might almost say chiefly, those conditions helping to increase the resistance.

3429. Then in reference to that which remains, may I say that it is your opinion that it is largely brought about by the consumption of tuberculous milk?—I think it is impossible to escape from that conclusion.

3430. Now would you give me the corresponding reply with regard to the use of tuberculous meat. Are you of opinion that the forms of tuberculosis which you get after the age of five are substantially or in any way due to the consumption of tuberculous meat?—Raw meat juice is very largely used.

3431. Amongst what class?—Entirely among sick people.

3432. What is your inference with regard to the raw meat juice?—That I think, of itself, must at least occasionally be a way of infection.

3433. I will now speak of meat as it is ordinarily consumed with the ordinary amount of cooking. Do you think that any substantial amount of tuberculous disease or of phthisis is induced or caused by the consumption of meat in Glasgow from tuberculous animals?—I think, to some extent, it must be, but it is quite impossible to estimate how much.

3434. Could you compare the two, the milk and the meat, as regards their danger to the public?—I do not think they are comparable. You cook meat and you never cook milk. Domestic customs put the

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predominance, I think, with the milk, just because of the almost universal practice of taking it uncooked.

3435. Are you merely drawing an inference by reason of the difference between cooking and non-cooking, or have you an opinion apart from that, that milk is a much more serious cause of tubercular disease than meat?—In so far as it forms pretty well exclusively the food of infants.

3436. That is one point?—That and the absence of cooking.

3437. Would you go so far as to say that the danger from meat as it is ordinarily cooked, and after a reasonable inspection to exclude animals that are obviously unfit for human consumption, is a trivial danger?—I think at least it is not quite of the gravity that the danger from milk is.

3438. You will not go so far then as to say it is trivial?—I think not; I am not disposed to regard the risk of meat infection as trivial.

3439. Do you consider that your statistics would help us, further than I have suggested, to any elucidation of this difficulty?—I think not.

3440. There might be a convenience, if you felt able to do so, in defining for the purposes of the Commission, what is meant by the term "Scrofula" in these statistics?—It is customary to classify these deaths very largely according to the anatomical distribution of the organs chiefly affected: thus tuberculosis of the lungs becomes pulmonary tuberculosis, or phthisis—that is, consumption; tuberculosis associated with the intestinal tract is *tabes mesenterica*; tuberculosis of the membranes of the brain is tubercular meningitis; and any form of tuberculosis not included in any of these becomes Other Forms of Tuberculosis.

3441. You have not mentioned Scrofula yet—the only form I ask you about?—Scrofula is the bracketed name included in these Other Forms of Tuberculosis by the Registrar-General.

3442. (*Professor Brown.*) I got Dr. Thorne-Thorne to ask the question, because in the lower animals we never speak of scrofula excepting in regard to the joints?—That is so. The term has fallen very much into disuse.

3443. (*Mr. Speir.*) In the general tables which you have submitted, you show that under 10 years, roughly speaking, about 32 per cent. of the deaths other than phthisis of a tubercular nature are caused by *tabes mesenterica*; do you in any way connect that with the food supply?—*Tabes mesenterica*, from the situation of the organs affected, is directly related to the ingestion of infection.

3444. Has any attempt been made with you to try and limit that in connexion with the control of the milk supply in Glasgow?—There are certain powers existing under a local Act in Glasgow, and we have special powers dealing with tuberculosis in stalled cattle.

3445. Have any of the public bodies or institutions, or anyone else made any attempt to get milk which might be supposed to be reasonably free from that risk?—The Royal Hospital for Sick Children in Glasgow, I believe, has a special stipulation—I do not know that it is insisted on universally, but they arrange, I believe, to have a tuberculin tested supply if they can, and I think they are prepared to pay more per gallon than they give for ordinary milk.

3446. If the animals have been submitted to the tuberculin or other test?—Yes.

3447. Or such examination as the governors of that institution demand?—That is possibly the alternate wording, but I think the practical outcome is that it is tuberculin meanwhile.

3448. Is it the fact that a great many of the diseases of the glands, bones, joints, &c. in children are of a tuberculous nature?—That is so. Tubercle may develop in almost any of the tissues of the body, and short of causing death may produce serious injury to health and permanent disablement. Excision of joints, amputation, &c., become necessary from this cause, and, indeed, the major part of the diseases of glands, bones, and joints arises from tuberculous infection.

3449. Have you any statistics exactly bearing on that point, showing how it affects the general population, or how it affects children?—I have gone over the records of the Royal Hospital for Sick Children in Glasgow, for the last seven years—that is for the years 1890-96—and I find that about 24 per cent. of its admissions (there being 4,164 admissions during that time), and 35 per cent. of its 486 deaths during the same period, were due to diseases of this class. I think that might have been increased had one been able to scrutinise more carefully the various kinds of cases that were treated. I should say that these figures cannot be applied to the general population, because the hospital population does not correspond in its age distribution with the age distribution of the population, but still it indicates very fairly the proportion tubercular diseases form in the cases which seek hospital relief.

3450. (*Mr. Murphy.*) Would you kindly indicate which of the forms of tuberculosis you are thinking of, as possibly having relation to food?—*Tabes mesenterica* primarily, but meningitis usually, is associated with some other focus of disease, so that, as I have endeavoured to explain, although a death may actually be regarded as a meningitis death, that is not the primary infection; it is simply the cause of death happening secondarily to some focus of infection elsewhere—abdominal or thoracic.

3451. As to the Other Forms of Tuberculosis and Scrofula, have you anything to say in regard to its relation to possible food infection?—It stands, I think, quite in a similar position. Infection from a focus being distributed either by the blood current in the body, or by extension through lymph channels.

3452. To get satisfactory figures, would you be disposed to add the figures of those three forms together, and compare them with the figures of phthisis?—That is so; I think they must be considered together.

3453. Then is it not the case that you find the reduction in those two periods, is practically the same for phthisis on the one hand, and for the three other forms of tuberculosis on the other?—That is so. Taken thus, the reduction for each has been nearly 19 per cent.

3454. With that before you, would you be disposed to draw any positive conclusion from the statistics alone, as to the possible relation of this reduction to altered conditions of food supply?—Not as referring to food supply at all; the question of housing, I think, and general attention to sanitary conditions has probably more bearing on it than any influence derived from the food meanwhile.

3455. (*Dr. Thorne-Thorne.*) May I take it that the general improvements, which have been effected in Glasgow, overwhelm and mask any statistical conclusions that could be drawn from the question the food supplies?—My own opinion is that that is so.

3456. (*Mr. Speir.*) In reference to meningitis, speaking as a medical practitioner, is it a fact that disease in the bowels of a tubercular nature might remain for years without causing death—whereas if it developed in the brain it would cause death very quickly?—That is the case.

3457. Then would you draw the inference from that, that presuming that disease had been set up in the bowels first, you might have a later infection in the brain and the later one might be the cause of death in preference to the first one?—That is so; it, I think, is the case, notably in the meningitis deaths, that the origin of the disease has been somewhere else than in the brain.

3458. You think that the origin has generally been somewhere else?—My impression is that that is the case in the majority of them, and that they are secondary infections.

3459. (*Professor Brown.*) Can you tell us something about the sources of meat traffic in Glasgow?—First of all there are home-fed animals that are killed in Glasgow in the various slaughter-houses; there are

foreign animals imported alive and killed in the slaughter-house appointed for the purpose under the local authority; then there is the dead meat of animals killed outside the city but sent into it; and there is also frozen meat imported from abroad.

3460. The foreign animals come chiefly, I believe, from America?—I have a list of the yearly arrivals of foreign animals, since 1880, classified. In that list Canada is put separately; then those from the United States, Spain, France and Argentina are put together. During the year 1893 there arrived of foreign animals 63,326; during 1894, 54,015; during 1895, 45,819; and during 1896, 61,139.

3461. Were those animals all slaughtered in the town?—Since 1893 they are all slaughtered at the wharves on landing.

3462. What kind of supervision is exercised in Glasgow over the meat trade?—I might explain that three separate authorities in Glasgow have been intrusted by various Acts of Parliament with powers for preventing the sale of meat unfit for human consumption. In the first place there is the Markets Commissioners, which is a department of the Corporation having certain powers under the Glasgow Markets and Slaughterhouses Act, 1865; secondly there is the police, under the Glasgow Police Act of 1866, sections 268, 270-72, and the Glasgow Police (Amendment) Act of 1890; and the third authority is the Health Committee under the Public Health (Scotland) Act, 1867, section 26, and the Glasgow Police (Amendment) Act, 1890, sections 19-22. Under clause 270 of the Glasgow Police Act, 1866, the Inspector of Nuisances has similar power given to him with constables over unwholesome food exposed for sale. With respect to the scope within which these several authorities may exercise the powers conferred upon them there is this distinction to be drawn: that, whereas the Markets Commissioners can exercise their powers only within the slaughter-houses and dead meat markets of the Corporation, the police are, under the 1866 Act, operative within the whole extent of the Municipality, while by section 23 of the Glasgow Police (Amendment) Act of 1890 they may proceed against the "original seller" of a diseased animal, irrespective of residence; and this latter power is also conferred on any officer of the Police Commissioners, so that it can be exercised by the sanitary officers. A second important distinction which should be kept in mind is that the provisions of the Police and Public Health Acts, I have just referred to, have reference to dead meat only. The Markets Commissioners, on the other hand, by clause 20 of the Markets and Fairs Clauses Act, 1847, which is incorporated with the Commissioners' own Act of 1865, may seize "Any cattle or the carcase, or part of the carcase of any such animal," unfit for food if found within any building set apart for the slaughter of cattle, and Byelaw 9, made in virtue of the powers conferred by the principal Act, reads "When any animal so admitted" (to the slaughter-house that is) "it appears to the gate keeper to be diseased he shall report the matter to the superintendent who may order the animal or the carcase to be kept apart until it has been inspected by competent judges." This byelaw, however, was introduced at a time when police inspectors were not constantly on the ground, but since their appointment it has fallen into desuetude.

3463. You have a certain staff of inspectors of course?—The police appoint inspectors for the slaughter-houses and dead meat markets, under the Markets Commissioners and there are certain meat inspectors appointed under the Health Department.

3464. But for the purpose of the inspection of meat, what class of men are appointed?—Chiefly men who have been butchers by trade, or who have otherwise had experience in handling animals.

3465. By whom are they appointed?—The police inspectors, I should say, are appointed by the police. My answer applies exclusively to the officers appointed by the Health Department.

3466. But the police inspectors do not appoint the men who inspect the meat?—The meat inspectors in the market are police inspectors.

3467. Police inspectors?—Yes.

3468. I understood you to say just now that butchers were appointed?—That is true of the meat inspectors of the Health Department, who have no duties in the slaughter-houses or meat market.

3469. Where is the Cattle Market situated?—The Cattle Market is quite adjacent to the dead meat market and to one of the slaughter-houses.

3470. And that is in Moore Street?—Yes.

3471. Is it the case that animals exposed in that market must be slaughtered in the adjoining slaughter-house?—No.

3472. They may go anywhere?—Dead meat sold in the dead meat market may come from anywhere.

3473. But are the animals which are exposed in the cattle market allowed to be taken elsewhere for slaughter?—Yes, it is an ordinary market. Animals are not necessarily sold for slaughtering purposes.

3474. Have you a public slaughter-house and abattoir?—The slaughtering of animals elsewhere in Glasgow, than in the premises provided by the Markets Trust, became illegal by the Act of 1865, clause 53.

3475. Then all the animals that are slaughtered in Glasgow must be killed in that particular slaughter-house?—It, or one of two others under the Corporation; and, of course, the slaughter-house of the local authority under the Board of Agriculture is a fourth.

3476. That applies, of course, to foreign animals only?—Yes.

3477. And they do not allow the use of that slaughter-house for home-fed animals?—No.

3478. Where does the inspection take place of the dead meat—is it in the dead meat market?—Yes. Might I explain the custom? A sub-committee was appointed by the Markets Trust in 1882 to report on this matter, and I find the following paragraph appears in their report:—"The sub-committee believes that it is in consequence of the powers possessed by the police authorities, and the belief that the inspection of meat throughout the whole city should be conducted under one authority, and that, even so far as the Glasgow markets and slaughter-houses are concerned, it is better that the inspection should be in the hands of some other body than the Markets Commissioners; that the Markets Commissioners have left the inspection of meat in the hands of the police authorities, leaving their own powers in abeyance;" that is, whilst the Markets Commissioners might have inspected the meat themselves, they chose to leave the police to exercise their power, seeing that they had also power.

3479. The inspection is not then in the hands of the sanitary authority?—Not in the markets or slaughter-houses.

3480. That applies to the markets only, then?—To the markets and slaughter-houses.

3481. But, elsewhere, the sanitary authority appoint inspectors?—They do for purposes of general detective inspection throughout the city. But by a departmental arrangement the meat inspection in the markets and slaughter-houses is entirely in the hands of the police. At Moore Street there are three police inspectors appointed, and there is one at each of the other two slaughter-houses under the Corporation, that is, one at Scott Street, and another at Victoria Street. At Moore Street two of the three are always on duty, two are exclusively meat inspectors, but the third is a police inspector with police duties outside. He is the senior inspector and to him are referred doubtful cases seen by the other two. In cases of extreme difficulty he may ask the opinion of the police surgeon of the district in which the slaughter-house is situated.

3482. But the actual meat inspectors in the market are butchers, not policemen?—No, they are policemen appointed after long experience and practical knowledge gained on duty in Moore Street slaughter-house as constables. So Capt. Boyd informs me.

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3483. Can you tell us what is done in reference to the inspection of tuberculous meat, or the inspection with a view to detecting tuberculosis in carcasses, and what proceedings are taken in consequence in the event of any carcasses in that condition being detected?—The standard in the slaughter-houses and markets I could only convey to you by referring to the answers which the chief of police made to a series of queries I submitted to him, as the market inspection is entirely under the police control.

3484. It is not under your control at all?—It is not under the control of the Health Department.

3485. So far, as I understand, the inspection of meat is not in any way under your control, and you are not in a position to give any personal evidence on the subject?—That is to say, in so far as it is conducted in the meat markets or in the slaughter-houses. What we do in the Health Department regarding meat inspection is just what has been done by way of intercepting carcasses consigned from the country, that is carcasses which are caught in transit, diseased or otherwise unsound. That has, by a departmental arrangement, been left entirely in the hands of the Health Department, and when these inspectors were appointed, one condition of their selection was that they should either be practical butchers or men who had been engaged in farming and knew about cattle.

3486. Those men are your officers?—They are our officers.

3487. What steps do they take with reference to tuberculous carcasses?—They keep watching the points of arrival of all consignments from the country, they keep watching the stations and wharves and other places, carriers' quarters and streets, and if anything suspicious attracts their attention in connexion with any carcass or any part of a carcass it is then examined.

3488. But the carcasses would be brought in, packed, probably in carts?—Yes, they are packed.

3489. Would they stop the carts and make them pull the carcasses out?—If necessary; but the work is chiefly carried on at the stations, just during the arrival.

3490. Are the carcasses unpacked at a particular station?—No, they are detained chiefly there.

3491. Do you mean that they look at them in the train—in the carriages in which they are?—Yes, or during transference to the lorries.

3492. Then the inspection is of a very perfunctory character, of course?—I have a list of the seizures which these men have made during the past. In 1892 the total seizures of meat by the inspectors of suspicious carcasses was 42, and in four following years, 24, 16, 12, and 15 respectively.

3493. Can you say how many of these were in consequence of tuberculosis?—It is open to the general objections which apply to all merely detective systems; but we believe it has lessened the number of diseased carcasses which are sent into the city for sale. I can give it you for the whole term of years but not for each year.

3494. We had better have it for the whole term?—From 1892 to 1896 the total seizures in those five years were 109, 92 being whole carcasses and 17 portions of carcasses. Of 78 seizures made by one inspector, 27 were for tuberculosis, fully 34 per cent. I have no record of what proportion the other inspectors had.

3495. That applies to several counties?—Yes, practically dead meat of this description comes from all parts of Scotland.

3496. It is a tolerably extensive traffic, presumably?—It is. I have a table of the consignments to the Corporation, and private dead meat markets and to butchers, sausage works, ham curers, &c., because all dead meat consigned to Glasgow does not of necessity go to the markets. During 1895 and 1896 the whole carcasses consigned to the Corporation market and private dead meat markets—I mean the two dead meat markets adjoining the Corporation market at Moore Street—and examined in transit were 1846 and there were also 220 parts of carcasses.

3497. (*Dr. Thorne Thorne*). What we should really want to know is what proportion the total seizures for tuberculosis bears to the total carcasses received in Glasgow?—I am afraid it is impossible to say, because we only know what number of examinations are made; we have no record of the total consignments.

3498. Could you give us any idea as to the relation of tuberculous carcasses to the total carcasses that are received in Glasgow?—I am afraid it is impossible.

3499. Does the fact of one inspector having seized on account of tuberculosis 27 carcasses out of a total of 78 give any idea as to the amount of tuberculosis in relation to the total carcasses seized in Glasgow?—I think it might be taken as a fair average. It represents a very large proportion of the total seizures.

3500. But you cannot tell us what relation it bears to the total carcasses brought into Glasgow?—No, we have no record of the total carcasses.

3501. Would you kindly tell me what instructions your inspectors are under, as to what are the physical conditions influencing them in seizing a carcass on account of tuberculosis?—Chiefly the presence of tubercle. With these dead carcasses that they have to deal with there are no viscera. A carcass is pretty well a conundrum, and you have no information to what extent tuberculosis may have affected the organs.

3502. I know that; I am only asking you what instructions do you give to the inspectors as to what is to govern them in the seizure of a carcass?—I do not know that their instructions have ever been reduced to a written form, but they pretty well know what to regard as an extent of disease which should be regarded as suspicious. It practically comes to this that any evidence of tuberculosis in a carcass is a sufficient reason for seizing it, when you have only the carcass.

3503. Then if your inspector saw a particle of tuberculosis on a pleura and the carcass was otherwise apparently healthy, the meat of good colour and sound, would he seize that carcass?—He would, because there are no viscera; it is entirely on the parietal pleura.

3504. Do you consider that absolutely necessary in the interests of public health?—I do when you are dealing with dead carcasses that you have not seen at the time of slaughter, and when you have no ground for forming an opinion as to the extent of visceral affection present. If you find it on the parietal pleura you are almost warranted in believing that it has been pretty extensive in the viscera.

3505. But the people are not going to eat the viscera; I am now speaking of a carcass, the meat of which presents no evidence whatever of tuberculosis; it is sound, firm, ripe in colour, and presents no drawbacks at all, but there happens to be some evidence of tubercle on the pleura. On what ground would you seize that in the interests of the public health?—Tubercle on the parietal pleura?

3506. Yes?—It is difficult to know to what extent the glandular system of the animal has been involved when you have evidence on the parietal pleura, and you have not been able to see what is in the viscera.

3507. The danger to the people will not arise from the viscera, it will arise from the meat, will it not?—That is so.

3508. I want to get at the ground on which you condemn the meat, not at the ground on which you would have condemned the viscera?—I believe that the glandular system is affected—that you get the deeper seated glands affected when you have parietal pleurisy.

3509. And you are referring now, I suppose, to the glandular system throughout the whole carcass of the animal, including its muscular tissues?—That is so.

3510. That is the ground on which you go?—Yes; that is the ground.

3511. (*Mr. Speir*). Talking of your slaughter-houses, have they paid the Corporation as a money speculation for their erection?—I should say that I asked the City Chamberlain certain questions on

this before coming, and I also obtained from him an abstract financial statement for the years 1895 and 1896.

3512. (*Dr. Thorne Thorne.*) As a matter of fact, has it paid?—It has paid as a fact.

3513. (*Mr. Speir.*) Is it a fact that, on this financial statement that you have, which gives the revenue for the three years 1894, 1895, and 1896, the average revenue is 8,342*l.* per year, while the corresponding average expenditure for those three years is 4,594*l.*?—Yes.

3514. Taking the general summary of expenses, where the interest on the buildings and the remuneration to the officials is taken into account, do you not find that in 1895 the general revenue was 22,573*l.*, while the general expenditure, including up-keep of buildings and extraordinary expenditure, is 19,318*l.*, which gives an excess of 3,255*l.* of revenue over expenditure, or profit?—Yes.

3515. Then, in 1896, were not the general revenues 24,266*l.*; the expenditure 20,520*l.*, leaving 3,746*l.* of excess over expenditure?—Yes.

3516. You have, therefore, over an average of several years, a clear profit of 3,000*l.* some odds, on these slaughter-houses?—Yes, that would appear to be the result; but I should not like to make the statement on my own authority.

3517. What is done with the excess? What powers have you to make a profit of it?—*Mr. Nicol's* letter explains that. I asked him to reply so that I might submit his letter, and he has written with that view. "My dear sir,—I have your letter of this date. I presume it will serve your purpose if I inform you generally that our slaughter-houses, as a whole, pay their way. As you know, the Corporation has three slaughter houses situated in different districts of the city—two of them which do but a small business, cannot be said to be self-supporting, but the third which does the greater volume of slaughtering, does something more than pay, and the surplus upon it meets the deficiencies on the other two. It is the practice of the Corporation to revise the scale of charges from time to time, and to reduce the rates"—for slaughtering—"when the revenue warrants it. The Corporation does not appropriate any surpluses arising on the markets and slaughter-houses' account, but these are applied partly (1) in reduction of debt, (2) in improving the markets, and (3) where warranted, in reducing, as I have said, the scale of charges to the trades."

3518. What are the rates charged in Glasgow in the Corporation slaughter-houses compared with those in any other place; can you give us any information on that? As general information I might tell you that butchers as a rule have been here complaining very much against the excessive cost that might be entailed through public slaughter-houses?—I can give you the rates charged for slaughtering in Glasgow. They are, for an ox, 9*d.*; a sheep or a calf, 1½*d.*; a lamb, ¾*d.*; and a pig, 1*s.*

3519. Have you any means of comparing those figures with the figures for any other towns?—I have no means of comparing them.

3520. I understand that a great many carcasses coming into Glasgow cause considerable trouble through being what you consider unfit for food?—That is so.

3521. Where do those carcasses generally come from—any particular district?—I think pretty well all over Scotland. I have in a table a list of the counties from which those cases have come, and they come from all Scotland, practically—they come from 24 counties.

3522. Is it the best class of butchers who get those, or is it one particular class?—I should say that the majority of the consignments would appear to have gone either to the Corporation Market or to one of the two private dead meat markets.

3523. And that means, I suppose, that it has been one or two salesmen who have received the bulk of

these?—I would like to limit my answer to the fact that it is to one or two salesmen in the markets.

3524. They have all gone, at least, to pretty nearly the same?—The figures accurately for 1895 are, whole carcasses 1,846 to dead meat markets, whereas to the butchers &c., there went 31,718, but of that number 29,903 were dead calves, which go to the hide market.

3525. What proportion of those calves did you find tuberculous?—None. I have the list of the calves inspected since 1892 down to 1896; the number inspected was 142,889, and the number destroyed 3,293.

3526. (*Professor Brown.*) On what ground were they destroyed?—The causes of destruction were, first, decomposition; second, white scouring or diarrhoea; third, badly nourished; fourth, premature birth. No tuberculous calves have been seen during these years.

3527. (*Mr. Speir.*) Apparently your inspectors have instructions to seize all carcasses with even a very small amount of tuberculous material on them; do you expect you would have other symptoms of disease if you had power to so cut into the carcass, or something of that kind, and to make what might be called a minute inspection?—Yes. Our impression is that when you get at the deeper seated glands—those which correspond to the axillary glands in the human being; I do not know the corresponding veterinary term—pre-scapular, are they? Evidence of the disease is to be found in them.

3528. Do your inspectors find it in that way?—No.

3529. So that simply you have based your action entirely upon what little you might see on the outside?—I should say that one's opinion of a dead carcass is largely influenced by the fact that everything on which you might base an opinion, and that would have helped you most in forming an opinion, has been removed.

3530. (*Mr. Murphy.*) Did I understand you to say that you had a power to examine meat in the street?—Yes, we have.

3531. Is it a power special to Glasgow?—I am not prepared to say that. It is quite a recently acquired power—in 1890. It practically extended the previous power to seize meat exposed for sale to the seizure of meat which was being transferred for purposes of sale.

3532. What is the name of the Act?—"The Glasgow Police (Amendment) Act, 1890."

3533. (*Mr. Speir.*) It is a special Act for Glasgow?—Yes.

3534. (*Mr. Murphy.*) Are you aware of the power that exists in Ireland which enables a meat inspector to give a man in charge who is believed to have given a wrong name and address when these questions are asked of him?—There is a similar power in Glasgow. Might I read the clause? I have the Act here. "Any person giving a false name or address to any officer authorised to demand the same under this section shall be liable to a penalty not exceeding 5*l.*" That is the termination of clause XIX. in the 1890 Act.

3535. You have no power to require dead meat coming into Glasgow to be taken to any central station for examination, have you?—No, there is no power of that sort.

3536. Do you think it would be desirable that such a power should exist?—Our experience in Glasgow has been decidedly adverse to the establishment of clearing houses.

3537. Would you tell me a little about that?—Directly this duty of inspection was undertaken by the Health Department in 1891 it was found that consignments frequently were of parts of animals only. The first case raised under the Acts afforded an illustration of the power obtained over the original seller. One side of a tuberculous cow was seized in a butcher's shop in Glasgow, and both the butcher and the dealer outside the city who sold it to him were fined 10*l.* For some time the proposal to erect a

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clearing house for dead meat had been under discussion, the suggestion being that all dead meat coming to the city should pass through one portal, and its fitness or unfitness for food be there decided. An illustration of the problems which might be set in that clearing house was afforded by the seizure of three quarters of emaciated meat in a butcher's shop, the fourth quarter, with the missing viscera, being afterwards found in a flesher's dung-hill in the country. The three quarters exposed for sale might not, it is true, have passed a clearing house inspection, but it revealed to the Glasgow authorities the opportunities which might be taken of a clearing house to send in parts of a diseased animal and endeavouring to pass them as sound. A further illustration of this use to which a clearing house might be put, was afforded during a trial which followed the seizure of a part of a carcase from a northern county in Scotland. The part seized bore evidence of stripping, and a visit to the consignee's premises discovered a fore-quarter of beef hidden under some straw in a piggery, and another portion similarly disposed of by a friend. None of these parts were stripped, and they bore evidence of tuberculosis. The penalty of 20*l.*, with the alternative of 60 days imprisonment, was imposed by the magistrate, and in passing sentence, the presiding stipendiary remarked that: "A clearing house was not intended to protect meat which was dressed up to pass it off as sound when it was not sound." This case was appealed to the High Court of Justiciary, and the appeal dismissed.

3538. Would you wish to submit to examination all meat coming into Glasgow?—In the first place it would be impossible to recognise in a butcher's shop the meat which had passed, but secondly—the foregoing are illustrations of the pathological problems which are submitted to you—no account of the carcase comes; it may only be even a bit of it, and yet you are asked to spell out the whole word from the first letter of it. That we have practically found to be the difficulty.

3539. What I understand you to imply is that for the proper examination of meat you must have a great deal more brought to you than a part of a carcase?—That is so—that you should see the animal at the time it is being killed.

3540. Are you at all familiar with the arrangements which exist in Berlin?—From reading I am somewhat.

3541. Do you know of any disadvantages attending that system—a system in which it is required that dead meat coming into the city should all be examined and passed before it is allowed to be taken to the butchers' shops for sale?—What occurred in discussing the question in Glasgow two or three years ago was that you would not be able to recognise in the shops afterwards the meat which had passed, or distinguish it from meat which had not passed.

3542. You know that in Berlin they have a system of stamping the meat?—I understand so.

3543. Would that meet any objection you felt on that score?—National taste is against it. We have not been educated to stamping the meat yet.

3544. We were told the other day that this probably would not be regarded by the inhabitants of an Irish city as contrary to their sentiment; do you think it would be contrary to the sentiment of the people of Glasgow if you were to institute a system of stamping meat which had passed under your inspection?—I should think a population might get accustomed to it in time, but the difficulty one sees is how you are to mark every little part so that when it is cut up into chops or steaks or ribs, and sold separately, you can recognise it as being part of a big piece originally marked.

3545. The practice in Germany is not to mark every little part, but certain parts?—I understand, some four or six.

3546. So that the inspectors can see on entering a shop what is stamped; and I have not heard of any difficulty occurring in connexion with insufficiency of

the stamping. Perhaps you have not considered that in connexion with this question?—No, I have had no opportunity of considering it beyond this general way of regarding it.

3547. You have no power, I believe, to cut into a carcase for the purpose of examination?—No, I am afraid not. I expect that affects the market value to some extent.

3548. Have you ever met with any difficulty through not having the right, if you suspect a carcase to be infected with tubercle, to cut into the tissue with a view to examining a gland that is deep-seated?—Practically, never any difficulty has arisen, the carcasses which we have had always pretty well bearing out the first impression that they were unsound for food.

3549. No difficulty has ever occurred through the refusal of a butcher to allow you to cut into a carcase that is his property before you seize it?—No. It is usually seized, by this detective method in the hands of the carrier.

3550. So that it really does not come to you before it has been seized?—It comes to us before the butcher or the salesman has had it usually. It is consigned to a shop or to a market, and the inspectors catch it up at the railway station, or in transit from the railway station to a shop, or the market. That is usually the case; but, of course, other illustrations do happen.

3551. (Mr. Speir.) You said that the cost of slaughtering in Glasgow was 9*d.* for an ox; that I presume is for the use of the building alone. Am I correct in assuming that?—For those dues a man may put up animals, if necessary, for five days, and have them watered and the lairs cleaned without costs, the owners themselves, however, supplying the feeding.

3552. After that he can either employ a municipal butcher to do the slaughtering, or send his own man?—Yes. A number of men are licensed as killers. They are not employed, except by the butcher, who wishes them to kill, but they are under certain conditions as to license. He may have one of those men, or if he sends a private killer of his own, his killer must conform to the conditions under which the other men are licensed.

3553. What is the cost of slaughtering a bullock by one of these licensed killers?—For killing an ox he pays 2*s.*; a sheep or a lamb, 4*d.* There is no payment in money made for a pig, but certain customs come in by which the killer is entitled to the offal, which I understand he usually disposes of.

3554. So that the total slaughtering of an ox costs 2*s.* 9*d.*?—That is the case.

3555. (Professor Brown.) Have you anything to do with the inspection of dairies and cowsheds?—Both under the local Police Acts, and Cattle-sheds in Burghs (Scotland) Act, regulations have been made by the magistrates; and regulations have also been made by the Health Committee as local authority under the Dairies, Cowsheds, and Milkshops Order.

3556. Who appoints the inspectors of dairies?—They are appointed by the Health Committee.

3557. What class of men do you have?—Men who to some extent have a knowledge of animals.

3558. You do not employ veterinary surgeons?—No. I should say that just at the present moment a veterinary surgeon is being appointed to carry out those special powers which we have in the 1890 Act in Glasgow.

3559. Do you expect him to devote his whole time to the work?—He will devote his whole time; that is one of the conditions of the appointment.

3560. Is the salary a considerable one?—It is 250*l.*

3561. What is the average payment to the other dairy inspectors?—They are graded; I do not think any man begins under 35*s.* a week, and he may rise, I think, to two guineas. I mean the rise would be in that proportion, and I think those are the absolute figures, but I probably might have an opportunity of altering them if I find they are not perfectly correct. The lowest wage paid at present is 1*l.* 17*s.* and the highest is 2*l.* 14*s.* per week.

3562. Has each inspector a certain number of dairies in a certain district?—The city is divided into four districts, and there is one to each.

3563. And at present is the veterinary surgeon appointed to one of the districts?—He will have supervision of them all.

3564. Will he act as a kind of chief inspector?—That is so. The intention is that he should visit those dairies regularly, and use tuberculin as a test when the circumstances seem to demand it.

3565. Has he the power to use tuberculin?—The 24th section of the Glasgow Police Amendment Act reads: "The medical officer or sanitary inspector or any person acting under their orders, provided with and, if required, exhibiting the authority in writing of such medical officer or sanitary inspector, may from time to time, within reasonable hours, enter any byre or cowshed within the city, or wherever situated if the milk produced therein is being sent for sale within the city, and may inspect and examine any cow kept therein for the supply of milk, in order to determine whether such cow suffers from any disease which might render the use of the said milk dangerous or injurious to health."

3566. That does not include specifically the use of tuberculin?—Not specifically, but it covers it, we believe, by this phrase—"examining and determining."

3567. Do you know whether there has been any legal opinion given on that point?—Not yet.

3568. In the event of finding out that an animal reacts from tuberculin what procedure would follow?—Then a subsequent clause (26) in the Act would be followed—"Every dairyman or keeper of a byre or cowshed whose milk is sold within the city who, after intimation has been made to him by the Police Commissioners that any cow in his possession, kept for the supply of milk for human consumption, suffers from tuberculosis or any disease which might render the use of such milk for human consumption dangerous or injurious to health, shall retain such cow in his possession, shall, unless the contrary be proved, be presumed to have sold the milk produced by such cow for human consumption, and shall be liable in a penalty not exceeding 5*l.*, and such penalty may be sued for and recovered before the sheriff of the county in which such person is domiciled, at the instance of the Procurator Fiscal."

3569. That seems to give you all the power which you want with regard to tuberculosis in a cowshed?—Yes.

3570. (*Mr. Speir.*) I do not suppose you have put any of these provisions in force as yet?—They have been, but not so strictly as is warranted, I am afraid, there. Under the system of inspection at present, evidence which is obvious to the eye of one familiar with cattle, such as falling off in condition or appetite, with alteration in the milking capacity, must be present, before any apprehension as to the state of the animal is felt; but in 1892, when the beginning with this Act was made, 23 of the cattle stalled, on being sent to slaughter because there obviously was a falling off in condition, were found to be tuberculous. That, practically, has been the working standard up to the present, namely, if an animal has been obviously getting out of condition.

3571. You have powers over all the cowhouses within your own municipality, have you not?—And outside, if the milk is being sold within our borders.

3572. What cubic space do you demand inside?—600 feet in old byres, and 800 in new.

3573. Do you demand anything with regard to ventilation and lighting?—Yes, in measuring this space no height above 16 feet from the floor is to be taken; ventilation is aimed at by having windows or openings in the walls or roofs of not less than three square feet for each animal stalled therein, and such openings shall be formed so that free access of fresh air may be had.

3574. Have you any control over byres outside your own boundary that are likely to supply milk in Glasgow?—Just so far as they do supply us with milk. If milk is coming into the city from any byre, then those two clauses which I read from the Act of 1890 apply.

3575. You can stop it, but you cannot say that they are to give more or to give less?—That is so; we can only stop the milk from coming in; our regulations do not affect the structure of these byres.

3576. Have you carried out all these regulations with regard to cubic space, light, and that sort of thing; have you insisted to the letter on their being fulfilled?—Just one new byre has been built since 1894, when the regulations came into force, and in it the air space required has been provided for, and so far as possible by extending the other byres—by extending a gable or heightening a wall-head—the regulations are complied with. The actual byre space is in excess of the requirement at present. I have a table here giving in separate lines the number of cows under each officer's inspection, and the details of the cubic space provided in the byres:—

Total Cubic Space.	Number of Cows licensed.	Number of Cows found.	Average Cubic Space per head licensed.
471,373	779	731	605.1
89,586	153	144	585.5
137,699	224	211	614.7
348,109	574	511	608.2

SPECIAL NEW BYRE.

24,072	—	30	800.72
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Average for 1,730 cows, 605.
Total measurement, 1,046,767.

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3577. With regard to the ventilation and lighting, I asked you if you insist upon those, and I want a direct answer with regard to that. What do you insist upon having, and what do you get?—I understand that in the new byre—and, of course, here I am talking entirely from information supplied by an inspector, because one does not see the place—that the regulations have not been complied with as to window space.

3578. The window space is what?—It is said to be 3 square feet for each animal stalled.

3579. And what about the ventilation space?—The regulation says, "An opening shall be required in the roof." I could not tell you what relation the ventilation openings bear to the cubic space, and I could not make any definite answer that the actual amount absolutely prescribed is supplied.

3580. Then again you said that these regulations applied entirely to the new buildings; I do not presume that you have very many new buildings of that class put up?—There has just been one new building.

3581. What about the old byres, which are the main ones as far as you are presently concerned?—The air space in them is less, namely, 600 cubic feet. Alterations have been carried out, I understand, by raising roofs, and by carrying out gables, which have brought them into line, as I understand, with the requirements.

3582. Do you think according to your present Act you have plenty of powers to deal with, not only the milk but the live animal?—Yes, we think so, meanwhile, in the byre.

3583. (*Dr. Thorne Thorne.*) Am I right in assuming that under section 24 of the Glasgow Police (Amendment) Act, 1890, you have power through your staff to determine whether a cow is suffering from tuberculosis or not?—We believe so.

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3584. And that under section 26 of the Act, if a dairyman or keeper of a cowshed is told that an animal is suffering from tuberculosis, he is liable to a penalty of 5*l.* if he retains it in the cowshed?—That is so.

3585. And if he then knowingly sells the milk of such cow he is liable to a penalty of 10*l.* under section 27?—Yes.

3586. Now I want to ask you whether, during the five years since that Act was passed, you have formed any conclusion as to whether those three provisions are sufficient for the prevention of the distribution of tuberculous milk in Glasgow?—My answer naturally is limited by this fact, that until now no veterinary surgeon has been appointed, that is, we have not been able to put strictly into force the powers here.

3587. Then I will put it in another way to you; if the corporation had those powers, and did appoint officers who were competent to carry them out, would those powers be substantially sufficient to prevent tuberculous milk being distributed to the population?—I am afraid not, unless you added to that the power to prohibit the sending of tuberculous animals into byres.

3588. Do you mean that constant inspection of the animals to detect the tuberculosis, and the elimination of those animals and their milk from the cowsheds, would not operate alone?—Just in so far as you do not have daily inspection; you might probably have a bi-weekly, weekly, or a fortnightly inspection, or an inspection at longer intervals.

3589. Would you want a daily inspection to detect tuberculosis in a cow?—No, I should say at least once in a fortnight.

3590. I should have assumed that my question covered a fortnightly inspection when I talked of efficient officers for the inspection; but with a fortnightly inspection, would you then have practically the powers that are necessary to prevent tuberculosis being spread through the agency of the milk?—Yes, practically we would.

3591. Have you in many cases taken the step of excluding cows from byres under those clauses?—Yes.

3592. Do you grant any compensation to the owner of the cow when you exclude the cow from the byre?—None.

3593. Do you recommend him to slaughter that cow, or to sell it for slaughter?—It is usually slaughtered, and it is, I think, invariably condemned.

3594. "Invariably condemned" you say; do you mean that if the cow had no other evidence of tuberculosis than a nodule in the udder, it would be dangerous for the purposes of the milk supply, and that you would not allow that cow to be sold for meat?—That is so. I was not thinking of the principle of excluding tuberculosis, but of the actual experience. I think our experience is that all the animals which have been killed have been condemned. I think I am right in putting it so.

3595. I suppose there are not very many as yet?—There have not been many.

3596. Could you give me any idea, very roughly, as to the number of cows that you exclude per annum from byres on account of tuberculosis?—There were 23 in the first year of the operations of this extended clause, and six in the last year.

3597. Twenty-three in 1892?—It was 1892 before the Act was brought into operation.

3598. Then we may assume, for the sake of argument, that about 12 animals per annum have been so excluded?—The number will be a decreasing one.

3599. Just for the purposes of argument we will take it at 12. Has the meat of all those 12 animals been condemned as unfit for human consumption?—I have no record. My impression is that the majority, at least, if not all of them, have.

3600. Then you have no definite practice that you adopt with regard to that—no settled practice?—No settled practice. The slaughtering takes place in the

slaughter-house and then they pass out of our control altogether; they are passed or rejected by the inspector who is operative in the slaughter-house.

3601. Then you do not give notice in advance that such a cow is going to be slaughtered to the authorities responsible at the slaughter-house, do you?—They are usually told informally, but there is no official notice sent.

3602. (*Mr. Murphy.*) Would you kindly tell me where the farms outside Glasgow, which supply Glasgow with milk, are situated, whether near to Glasgow or at a great distance from it?—Milk comes, I think, from pretty well all over the south parts of Scotland. I think the majority of farms near Glasgow send it to Glasgow exclusively.

3603. How would you propose to know definitely, for the purposes of the administration of these sections from what farms the milk is being received—I do not see any reference to a power to require notice to be sent to the sanitary authority?—No. While that clause confers the power on Glasgow, I am not quite sure that, simply as a question of administration, we are very anxious to apply it beyond our own boundaries. It is good to have the power.

3604. It is impossible not to think that there might be a great inconvenience in the officers of an urban authority going long distances into the country, and into the district of another authority, and attempting to exercise powers of this sort?—That is so.

3605. But you have not yet had sufficient experience of its working to express an opinion?—Not in regard to tuberculosis; we have had one or two examples in other cases, such as scarlet fever associated with teat eruptions, but there never has occurred practically the slightest difficulty; I mean it has always been a question of co-operation with the local authorities of the place.

3606. In dealing with tuberculosis generally over the country, would you think it would be better that the authority of the district in which the byre is situated should exercise such control as was necessary over the cows that were found to be tuberculous, and over their inspection?—Yes, I do not think it is possible to get to know the diseased animal from the milk. We had during last summer an illustration where bacilli were recovered from milk in one of the schools during the bacteriological class. We got to know the various farms from which the milk had been obtained. Principal McColl was asked to examine the cattle there, and he discovered certain animals which were tuberculous, and which were slaughtered, but none of them had tuberculosis of the udder. So that although we had the tubercle in the milk, and got the tubercle in the animal the two things were not brought quite into apposition.

3607. It clearly must be a matter of inspection?—Yes.

3608. And the inspection ought really to devolve upon the authority of the district in which the cowshed is situated?—That is so.

3609. (*Mr. Speir.*) Do you not think that your interfering with the stock in a neighbouring county might make that authority lax in carrying out their own regulations?—Yes, as a general principle, I think it would.

3610. Then would it not be better to have powers to compel that authority to carry out their own regulations, rather than for you to step in?—That would be a power obviously that could only be held by a central authority—not by a local authority.

3611. (*Mr. Cooke-Trench.*) Turning to those 23 and six cows eliminated from dairies and taken to the public slaughter-house, I suppose they were taken there with the idea of being slaughtered for food if they were not afterwards found unfit?—No; certainly the first number of 23 were taken with the view of being destroyed because they were tuberculous.

3612. The condemnation, then, did not depend upon a post-mortem examination of the meat?—No, but the post-mortem examination established the impression.

3613. As I understood you, the majority of those were condemned, but not all?—I cannot accurately tell you; I should say most of them, if not all.

3614. You cannot say they were all condemned?—I cannot say that they were all condemned.

3615. Therefore some of them may have been passed for food afterwards?—Yes.

3616. (*Professor Brown.*) I think you have some views upon compensation; would you kindly state shortly on what principle you would compensate?—I am disposed to approach the question of compensation from a consideration of the conditions which favour the spread of tuberculosis among animals.

3617. Could you state first under what circumstances you think a man ought to be compensated?—If you will allow me to put it the other way, I cannot meanwhile see any reason for compensating a man who brings to the market for trade purposes the carcase of an animal which has been found tuberculous, or a man from whose dairy there has been excluded a cow because tuberculosis is present. My difficulty is to get compensation allied with repressive measures. No effort at prevention of the spread of tuberculosis among animals can be made from the standpoint of compensating the salesman in the market or in the slaughter-house or the cowkeeper in his byre.

3618. You mean by repressive measures, action taken for the purpose of checking the progress of the disease amongst cattle?—That is so.

3619. Does that not imply some kind of action on the part of the authority which deals with other contagious diseases of animals?—It implies action taken by some authority outside a local authority, and that probably naturally would be a Government Department.

3620. If you contemplate the extinction of the disease among the lower animals, you would presumably call upon the same authority that deals with other diseases with that view to do the work?—Yes; as a question of administration, I imagine, entirely with regard to the animal affected.

3621. At any rate, whatever authority is engaged in the work would be expected to seize and slaughter the animals to the necessary extent, and pay compensation; is that what you mean?—Provided, along with compensation for slaughter, there went certain conditions under which animals were to be kept. I look at it on the lines, more or less, of the Contagious Diseases (Animals) Acts, where you have certain conditions insisted on, such as notification and regulations as to movement.

3622. I see that you would expect them to proceed as they do in the case of any other contagious disease of animals if they meant to stamp it out?—Yes, that is so.

3623. Would you limit your compensation to the results of that procedure?—I am disposed to think so. I am disposed to think that compensation and repression are two things which are correlated.

3624. That is to say, that compensation should be awarded under the same conditions as it is awarded now in cases of pleuro-pneumonia or swine fever?—I am not quite familiar with the conditions under which it is awarded there, but unless compensation were accompanied by the need for notifying, and accompanied by power on the part of the authority to insist rigidly on certain conditions being observed in byres and among cattle, then compensation would not attain the aim of extinguishing the disease among animals.

3625. But a system which has stamped out cattle plague on three occasions, and sheep-pox on five or six, and foot-and-mouth disease, and pleuro-pneumonia, would presumably be sufficient to meet your views. That system has been associated with compensation whenever an animal has been seized by a local authority or by the central authority, and slaughtered by that authority?—I am afraid that the parallel implies that you will extinguish tuberculous animals just as the herds were extinguished for pleuro. I am not quite clear that that is a practicable step.

3626. The extinction of tuberculosis?—The extinction of tuberculous animals by the same rapid manner that you extinguished pleuro.

3627. You do not think that is practicable?—It would require to be much more gradual, one would expect.

3628. But at any rate the same principle would apply on your view; I understand that you would only compensate in cases where the property is actually seized by an authority and disposed of as they think fit?—That is so.

3629. In those cases you would expect the man should be paid a certain proportion of the whole of the value, according to circumstances?—That is carrying the principle beyond the parallel I had looked at it in. I had ended simply in thinking there should be a voluntary intimation made by the owner of animals, and not let it reach the point of preventing the thing being taken as a marketable commodity to be used as food either in the form of the flesh of the animal or of the milk it yielded.

3630. You would call upon the owner to give notice as he is called upon to do it in the case of the diseases named in the Act?—Yes, I think compensation should be generally associated in some way with intimation of that sort.

3631. I take that to mean that you would not compensate a butcher who bought an animal in the market, paid for it, afterwards had it slaughtered, and suffered the loss of the seizure and condemnation of that carcase, on the ground of the protection of the public health?—That is my view at present.

3632. And the same would apply, I presume, in the case of a dairy; if you eliminate the cow from the cowshed altogether, and it is killed or otherwise disposed of, you would not compensate the man then?—No, I take it as being quite parallel to the case of the butcher.

3633. (*Dr. Thorne Thorne.*) Do I understand you that your main reason is that you regard compensation as only applicable to cases where the action taken by the local authority would tend to stamp out the disease, and not to cases where it deals with the single individual animal?—That is so.

3634. Do you draw any distinction between seizing a carcase which a man has bought at his own risk, and which he then exposes for sale, and the seizing of a cow which he has not exposed for sale; at all, but which happens to be found to have some tuberculosis?—I am not disposed to draw a distinction, because each man devotes the animal to his own trade purposes. The butcher sends his animal to be slaughtered for food, and the cowkeeper sends out the product of his animal as milk.

3635. (*Mr. Cooke-Trench.*) In cases where the butcher buys in the open market animals apparently perfectly healthy, and after they are slaughtered tuberculosis is found in them, and they are taken possession of in the public interest, do you think that the public ought to pay, or the butcher?—I regard the matter as exclusively and entirely a trade risk on the part of the salesman—the butcher.

3636. In that case neither the seller nor the buyer could tell until after the animal was killed that there was anything wrong with the meat; is that not so?—No. Just as in many parts of the country you have an owner only adding to his stock an animal after it has been tested by tuberculin, so a butcher might protect himself.

3637. How could the butcher protect himself?—One suggestion I have seen—and I have not seen the unpracticability of it yet—is that there might be either some conveyed or implied warranty.

3638. That is only throwing the loss from the butcher on to the farmer, is it not?—Yes; but you should couple that with the principle of notification.

3639. If there is no appearance of disease on the part of the animal, there can be no notification, can there?—I judge largely from human pathology. It is an extremely rare thing to get a phthisical subject

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who does not display some departure from the normal type of health.

3640. Then you would only refuse compensation on the ground that there must have been some previous indication in life of the existence of this?—Provided every effort had been made to discover the existence of disease.

3641. I understood from you that you gathered from your experience of human subjects that an animal that was suffering from tuberculosis would have given some sign of it during life?—That is so; that is, were the animal closely watched.

3642. That is a ground on which you would base the refusal of compensation to a farmer?—No; but I would like to know quite the value of closer observation of animals. One hears the statement so frequently made that animals perfectly healthy looking have been found to be tuberculous. What one would like to know is, if from watching that animal for, say, a week beforehand you would notice that its condition varied, that its feeding ways were different; would you notice that there was any difference in its coat, that its appetite was falling off, and conditions of that sort.

3643. Then I gather from you your opinion is that there is no such thing as a perfectly innocent seller and buyer; is that it?—Oh! dear no.

3644. You imply that if an animal is tuberculous he will have given some indication of it during life?—That it will be observable very likely to a close continued observer who had it in his view.

3645. But there may be cases in which he has given no indication during life, is not that so?—Yes; I suppose one must admit it, but I do not know.

3646. Suppose such a case; are not both the buyer and the seller perfectly innocent parties?—Possibly both are innocent, but I would not be disposed to base on the innocence of either of them an argument for compensating for a diseased animal.

3647. I ask you whether they are not both innocent parties, and now I must ask you the same question that I asked the last witness: Can you name any perfectly analogous case in which property is taken possession of in the public interest and compensation not paid?—I speak from a general impression at present; but I think one might have examples in the fruit traffic.

3648. Can you name any analogous case in the fruit traffic?—Strawberries and various forms of soft fruit.

3649. Have you ever known a case in which strawberries were confiscated as unfit for human food?—I have known where they have been condemned in this way: you may have them sold in bulk, and after they are purchased the discovery is made that they are not marketable.

3650. Have you ever known a case in which strawberries were condemned as unfit for human food?—No case, legally, but I submit there must be, during the course of the summer, quite a number of

tons which go wrong after purchase, and the discovery is made after purchase.

3651. (*Dr. Thorne Thorne.*) May I assume that your point is not one of the question of innocence or guilt on the part either of the purchaser or of the vendor, but one of a well-known trade risk?—That is so.

3652. (*Mr. Speir.*) Referring to this matter of innocence, upon which our friend Mr. Cooke-Trench has been trading a little, I might almost say, do you know anything with regard to horse dealing?—No, nothing whatever.

3653. Assume the sale of a horse, both buyer and seller having little experience; one man says: "I sell you the horse, it is sound as far as I know." If the buyer finds on taking the horse home, and getting the opinion of those who do know, that it is not sound, do you know what the law is in that respect?—Where he has a warranty?

3654. Yes?—I am not quite sure of the legal position in the matter, but I think the sale is not completed; I think the seller is bound to relieve the buyer.

3655. Is it not almost an identical case where a farmer who takes little precautions as to the health of his stock, sells an animal and says, "I did not know it was unhealthy"?—Yes, that is so.

3656. But had he taken the precaution of getting the animal examined by a thoroughly qualified veterinary surgeon, either clinically or by tuberculin, he would have been able to have guaranteed his animal without doubt?—Yes; I think very largely the difficulty with the butcher arises from the fact that we have had a market for tuberculous flesh, and that if you get part of an animal passed into the market, it practically brings the same price as perfectly healthy flesh. The retail purchaser cannot distinguish between the part of an animal that has been otherwise condemned for tuberculosis and the flesh of a perfectly healthy animal, but directly the butcher knew that the flesh of a tuberculous animal would be sold at a reduced price, he would take very good care that he would not pay the price of a first-class animal for it; that is to say, he would automatically, more or less, become the detective himself.

3657. Presuming that compensation was given for those animals, to what extent do you think that would lessen the disease?—That is just my difficulty. The proposal to compensate either the butcher or cow-feeder is not coupled at all with any method of lessening the disease.

3658. You would still have the very same string coming into the market, I presume?—Quite so. The prevalence of tuberculosis among animals would not be reduced by compensating the owner at the time being, of a tuberculous cow when killed.

3659. Do I understand by that, that you mean you are beginning at the wrong end, and going backwards?—I think most decidedly that is the case if you compensate the owner at slaughter.

The witness withdrew.

Adjourned until Wednesday next, at 12 o'clock.

ELEVENTH DAY.

No. 7, Whitehall Gardens, Westminster, S.W.

Wednesday, 3rd February 1897.

PRESENT:

SIR HERBERT E. MAXWELL, BART., M.P. (CHAIRMAN).

Dr. R. THORNE THORNE, C.B., F.R.S.
 Professor G. T. BROWN, C.B.
 SHIRLEY F. MURPHY, Esq.

T. COOKE-TRENCH, Esq.
 JOHN SPEIR, Esq.

T. M. LEGGE, Esq., *Secretary*.

Mr. JAMES NIVEN, M.A., M.B., called and examined.

3660. (*Chairman*.) Will you tell us in what official capacity you are at Manchester?—I am medical officer of health.

3661. You have had considerable experience in the inspection of meat?—I have had some experience in the inspection of meat, but I should scarcely call it very considerable.

3662. It would be satisfactory if you could give us a brief outline of the offices which you have discharged?—I was formerly medical officer of health for Oldham, and there I was consulted about any suspicious specimens of meat of any importance which the meat inspector came across, so that there I had some considerable experience of the condition of meat. But in Manchester matters are differently managed. The veterinary inspector there does the whole of the inspection of the meat and condemns the meat, and the medical officer of health is not called in to advise. As a matter of fact, however, I have been a number of times at the abattoir and gone over the meat; but not in an official capacity.

3663. Do you consider that the present system is sufficient to secure reasonable immunity from contagion?—I should not say so. So far as the meat slaughtered at the abattoir is concerned, no doubt that would be so.

3664. The inspection is very effective?—The inspection is very efficient, I think, as far as I can judge.

3665. Of carcasses only?—Of animals slaughtered at the abattoirs, and I believe also of carcasses.

3666. Both of the carcasses of these animals and the offal?—Both the carcasses and the offal. Of course at the abattoir in the markets to which the slaughter-houses are attached, you have a large number of carcasses which are not slaughtered in Manchester—imported meat—and those, I believe, also are efficiently inspected.

3667. That is to say, imported foreign meat, and also animals slaughtered in the provinces and brought into the city?—Yes, that would be so; but the animals slaughtered in the provinces and brought in would not be a very large number. Under the term "imported foreign meat" I include foreign animals, slaughtered, for example, at Birkenhead, and which have already undergone inspection.

3668. What is your opinion about the condition of the meat inspection; on the whole, you think the inspection is satisfactory?—So far as I can judge, I believe it to be absolutely satisfactory, so far as the animals slaughtered in the abattoir are concerned. Naturally, the examination is not quite so stringent, I should think, of carcasses imported; it is a more difficult matter to examine imported carcasses, as there is a very large number of them, but so far as the inspection of the carcasses can be efficient I believe it is efficient.

3669. Have you any observation to make in respect of the milk supply?—Of course it is manifest that a considerable amount of the milk supplies in a large city like Manchester must contain the infection of tuberculosis.

3670. We may assume that?—Yes. I think that may be assumed.

3671. Have you conducted any observations with a view to showing whether the consumption of such milk by human beings is followed by tubercular disease? I would put it in this way: Is it likely, in your opinion, that tubercular disease is communicated to human beings largely from the source of milk?—Yes, I should think it is extremely probable. I think if one considers the vast amount of abdominal tuberculosis or *tabes mesenterica* which exists, and which we may fairly assume from records to exist, and of other tuberculous abdominal conditions, it is difficult to say from what other source it can possibly be derived, except from the milk. As a matter of personal observation, I am prepared to say that cases of consumption of the bowels, which is another name for the same condition, do not occur in any intimate relation with phthisis in the same household: that is to say that you often get cases of consumption of the bowels in a household in which there have been no cases of consumption in other forms.

3672. Pointing to a different source?—Pointing to a different source altogether. If one takes the statistics of the deaths, registered in the different districts of the City, from consumption of the bowels and from other forms of consumption, there is no relation observable between them. I should rely, however, more upon my personal investigations than upon the general statistics, for this reason that no doubt it is difficult to diagnose this disease, and the statistics may not be absolutely correct. Still, so far as they go, they point in the same direction, namely that you may get a considerable amount of consumption of the bowels without any observable relation to other forms of consumption in the household. The conclusion that one would be inclined to draw from this is that such infection when it occurs is not due to the ingestion of material, of dust, and so on, which you get in a consumptive household, and is not due to kissing; but that where you do find it it is probably due to the ingestion of tuberculous milk, which we know from other sources to be highly infective, especially when it comes from a tuberculous udder.

3673. The bacillus from the tubercle is precisely the same in both cases, is it not?—Yes, precisely. That of course is proved in various ways. One chief means of knowing that is by direct accidental inoculations. There have been a sufficient number of accidental inoculations of tubercle from beasts recorded to show that the disease may be communicated directly from disease in the animal.

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3674. Allowing for some uncertainty in the classification is it your opinion that this particular form of consumption has been on the increase among young people of late years?—I have not, as a matter of fact looked up the statistics in that matter, but I should not say that that is so.

3675. On the other hand, have you any knowledge whether the consumption of milk per head of the population has increased in Manchester during that time?—No, I cannot speak definitely upon that point. That of course is a somewhat difficult matter to determine.

3676. I suppose that is a matter of common knowledge, is it not, that the milk supply is much more abundant of late years than it was say 25 or 30 years ago?—I should say that more milk is being consumed in Manchester; that would be my impression but one could not be precise.

3677. (*Mr. Cooke-Trench.*) In proportion to the population, do you mean?—In proportion to the population, and amongst the poorer classes. I think people generally are rather better off, and milk is regarded as a somewhat expensive article of diet. I have, however, had a very large number of direct enquiries made into the feeding of children, and I find that young children are almost invariably fed on milk when they are taken away from the mother's breast. It is rare for them, on ceasing to be suckled, to be put on food other than milk, entirely that is.

3678. (*Chairman.*) I do not want to commit you to any statement, but assuming that the milk supply is more abundant, and the consumption greater among the population, especially among children, would you expect an increase in tubercular disease arising from the milk supply, or would the liability to that disease be counteracted by the general improvement in the scale of living, by better diet, and by better conditions of life generally?—That would be a very difficult question to answer, and I do not know that one could form any definite opinion upon that.

3679. What I want to know is whether the liability to this particular form of tubercular disease, *tuberculosis mesenterica*, or whatever it may be known as, may not be modified by general improvement in the conditions of life?—That would be so; that is how I was about to answer the question. If one compares two different parts of the same district, you find the children of well-to-do people do not suffer to anything like the same extent from *tuberculosis mesenterica* as do the children of the poor. Allowing for more care in the preparation of the milk food, and allowing perhaps for better sources of milk, still the discrepancy is too great to be explained on any other ground than that the children of the poor are more receptive to the infection than are the children of well-to-do people. In proportion as they are badly nourished and suffer from other digestive troubles, are they liable to be infected by a small amount of tuberculous infection. That, of course, passes through the whole history of the infection of the disease, whether through the bowels or whether by the lungs. Precisely the same thing holds with regard to the lungs. People whose lungs are more liable to injury, suffer more injury from phthisical infection than do people whose lungs are better cared for. It is precisely the same difference between well-to-do people and poor people as regards lung disease and as regards abdominal disease. Then again, I may also point out that in proportion as people are in poorer circumstances, they are more apt to crowd together. That is a very notable tendency. When their circumstances get depressed, when trade is bad, when in fact from any depression in the community their circumstances get worse, they tend to crowd together. Now whether in man or in animals, there is, I think, no doubt that that is attended with an extension of the infection of tuberculosis, were it for nothing else but bringing the human beings, the infector and the infectee, in closer relationship, and exposing the persons more intimately to the infection of the disease.

3680. I understand you to say that you were rather inclined to trace the presence of tuberculosis in the bowels directly to the milk supply, and not to contagion from other human beings?—Yes, as regards phthisis, but in reference to abdominal tuberculosis, I was thinking of overcrowding, mainly, as leading to a general depression of the system which would expose the system to the infection.

3681. Are you satisfied with the present milk supply of Manchester, or have you any suggestions to offer for its improvement?—I should think it is in a very bad condition; that would be my general impression.

3682. On what grounds do you form that opinion?—Even at present the condition of the cowsheds in Manchester is bad. The cows are crowded together, and in many instances the cowsheds are dark and the general conditions are defective. It is a general experience that under such circumstances the proportion of tuberculosis amongst milch cows is extremely high.

3683. I suppose much the greatest portion of the supply comes from outside?—Yes, but I may say that the cowsheds outside are, so far as I have observed them, many of them also in a bad condition.

3684. What district are you referring to?—Derbyshire.

3685. Is Derbyshire the principal source of your milk supply?—No, a very large quantity of the milk in Manchester comes from Cheshire also; but I was thinking immediately of some farm-steadings which I have seen in Derbyshire. I was previously acquainted with the cowsheds in the neighbourhood round Oldham. Those also, I may say are, many of them, very bad, small, dark, and badly ventilated. In Cheshire that also is the case; they are very bad indeed. Then I may further say that we have taken a number of samples of the milk in Manchester for other purposes to examine its general condition, and that it very often has been very dirty—but I do not think it is so bad now in that respect.

3686. What suggestions would you offer for remedying that state of matters?—So far as Manchester is concerned, we are about to enforce strict regulations which will have the effect, I believe, in not a few instances, of closing the cowsheds. I hope also to get those that are not closed reconstructed; whether that is an expectation that will be fulfilled I cannot say; but I think it is possible that we may succeed in doing so. The greater part of the milk—no doubt by far the greater part—comes from outside; and I certainly think that a great City, which is supplied by milk from cows in cowsheds outside, ought to have the means of ascertaining their condition. I would not suggest that, in the first instance, supposing attention was directed to the condition of those cowsheds, the City medical officer of health or his representative should go to the cowshed. I should suggest that in the first instance he should communicate with the medical officer of health for the district, and request from him an exact report upon certain specified lines of the condition of the cows, and of the cowsheds; but, in the ultimate resort, if not satisfied with the condition of the cowshed, that he should have the power to go and inspect it personally, or to get a veterinary surgeon to go and inspect it.

3687. Would you submit the cows within the shed to any test, or would you be satisfied upon the general insanitary condition of the cowshed to close it?—I think in the present state of knowledge that all cows used for the sale of milk should be subjected to the tuberculin test, but I quite recognise the very great difficulties connected with this matter, such as the large number of milch cows that would be found tuberculous, and I can perfectly well understand that either to remove them from the milk supply, or to remove them altogether by slaughtering them all at once would be impossible.

3688. Would you be satisfied at first by prohibiting the use of cows with tuberculous udders?—No, I

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think not; I do not think that would be sufficient. It is true that experiments have shown that the tuberculous infection comes in a vastly preponderating degree from tuberculous udders; but I think in the light of the observations which have been made by Bang and Nocard, that one would scarcely be satisfied with that. If it were possible, I should have the cows divided into three sections namely, cows which ought to be slaughtered, cows which might be isolated, and sound cows. The cows to be removed altogether I should not say would be merely cows with tuberculous udders; I should say that the cows in a very advanced stage of the disease—where the disease was distinct to a veterinary diagnosis—ought to be slaughtered, because, as has been pointed out by Dr. Sims Woodhead it is impossible to say at what moment the udder may become infectious. Moreover, there is reason for believing that it does not require a gross lesion in the udder for the udder to be infectious. I think that some attempt would have to be made to determine what cows were most liable to such lesion of the udder. Then Bang's observations have also shown that in a certain proportion of the cows in which the udder is not perceptibly tuberculous, the milk is still charged with the tuberculous infection.

3689. To what extent is protection in the hands of the householder himself by boiling or sterilising the milk used?—If the milk is well boiled, of course, that is absolute protection so far as tuberculosis is concerned.

3690. Boiled milk is a very different substance to fresh milk, I suppose?—It is preferable to fresh milk so far as tuberculosis is concerned, but then there are other matters besides tuberculosis to be considered.

3691. What I mean is this, that boiled milk does not suit all stomachs?—Many people have a great aversion to it; they will not drink it, and you cannot get them to drink it. Although educated people understand perfectly well about tuberculosis, so strongly is that aversion shared by them that in a great many instances it is impossible to get them to use boiled milk.

3692. Is boiled milk as nutritious and digestible in all cases as raw milk?—There has been some small degree of conflicting evidence upon that subject, but I think one may assume that it is.

3693. Supposing you had a thoroughly satisfactory and systematic regulation of cowsheds, dairies, &c., and had got the milk supply of Manchester tolerably well under supervision so far as the British supplies are concerned, you would be still exposed to some risk from the supplies of foreign countries, would you not?—Do I understand you to mean from condensed milks?

3694. Condensed milks, or cheese, or butter—milk in various forms?—That is so, of course; you cannot avoid that. It has been stated that there is very little danger from butter and cheese, and possibly that is so. Of course, in the case of butter and cheese, if butter is made in a large dairy, it is made after the admixture of a very large number of samples of milk, so that the bad condition of one cow is at all events counteracted by that of a great many others. Naturally that is not so in regard to milk. You may, for instance, have the milk supply of one cowshed utterly tuberculous, and the milk supply of the next cowshed would be comparatively free from it, that is to say, in a town or in a city or in the precincts of a city; and you may have a great deal of mischief done by the one cowshed in which nearly all the animals are tuberculous, whereas that danger does not come in to the same extent in regard to the butter made in co-operative dairies, because the milk from a very large number, say 100 small farms, is all mixed together, and the infection is to that extent diluted.

3695. It is diluted, but on the other hand you are more apt to get the milk of a tuberculous cow if you take 100 cows than if you take only ten?—That is true, of course; but my point is that you have a local focus in one case which works the mischief, whereas the same local focus when distributed in a large

quantity of milk may not produce that mischief. That is a matter of experiment. It has been experimentally shown that when tuberculous milk is diluted to a certain point the infective power of that milk is destroyed. That is a matter of experimental observation. That one may fairly assume would to a very large extent be effected in these co-operative dairies; whereas the other highly tuberculous isolated farm is able to do the mischief. Then, again, of course, people do not use so much butter and cheese as they do milk; they only use small quantities. There again the quantity of infection is much less; at all events there is no doubt that there is less infection from the butter and the cheese than there is from milk, I think.

3696. I suppose part of the supply to Manchester, both of milk and dairy produce in other forms comes from large creameries?—I think the milk mostly comes from isolated farms in the country. It is true it is brought to dairies, but I really do not know to what extent it is mixed; I should not think there is very much mixing. Of course, the milk supply of a city is of two characters. Partly it comes from surrounding farmers, who bring their own milk. All within a certain radius of Manchester, as far as they can conveniently come into the city, of course do come in and sell their own milk. Then there is the milk that comes from a distance, and that is brought to a distributing centre; but how far that milk is mixed after it comes to the distributing centre, I am not in a position to say; I should think, however, that it is not mixed.

3697. It is a common practice, is it not, to set apart the milk of a single cow for a baby?—Yes, I believe that is so.

3698. It is supposed to be good management?—Yes, that is so.

3699. But it is rather the reverse, is it not; it is better to give the baby part of the milk of 100 cows than of one cow, because then the risk would be less?—I should say, if it was conducted under veterinary supervision, it is an excellent custom, but it requires to be done under careful supervision.

3700. Have you examined much of the milk in Manchester bacteriologically?—No, I have not. The examinations have been made by Professor Delépine, who does all our bacteriological work.

3701. Do you know the results?—We have only had a few samples taken. The first two or three samples were taken from highly tuberculous cows and the last two or three from tuberculous udders; in all, seven samples have been taken and one of these has proved tuberculous. May I mention in regard to this particular cow that Mr. King, the veterinary surgeon, called upon me yesterday and informed me that he had asked the cowkeeper to slaughter this cow, and that he had refused and spoken of disposing of it. On looking up what one can do in the matter, I found that so far as any legal enactment is concerned, one is powerless. I wrote to the cowkeeper, it is true, advising him to slaughter the cow and not to dispose of it without informing me what he had done with it; but that is merely moral coercion, and there is no legal coercion. It seems advisable that the veterinary inspector in consultation with the medical officer of health should have the power of ordering the slaughter of a cow in that condition.

3702. That cow would be taken to a private slaughter-house probably?—It might be.

3703. If it were taken to the abattoir there would be no chance of its being passed, would there?—I think it would be passed. As I understand the cow was otherwise in a fairly healthy condition; it was only the udder which was in that condition; the cow, generally, was in a healthy condition.

3704. Is there any reason why the flesh of that cow should not have been wholesome beef?—Not at all. The difficulty is to get the cow slaughtered. Clearly that cow is not fit to remain in a cowshed, and, perhaps, to have its milk mixed with the milk of other cows.

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3705. I understood you said that the owner declined to have it slaughtered?—Yes.

3706. But intended to dispose of it?—Yes, he intended to dispose of it, but how, I am not in a position to say, of course.

3707. Not as a milch cow?—That I do not know, I really cannot say at all how he intended to dispose of it.

3708. It is not likely that any cowkeeper would buy a cow with a tuberculous udder?—If he knew, he would not, and I do not infer that the present owner would sell it for the production of milk. I do not make any inference at all; I cannot say how he would dispose of it.

3709. You must forgive me if I turn from one subject to another. Would you be in favour of the suppression of all private slaughter-houses?—Yes.

3710. Under similar powers which have caused them to disappear in Glasgow and in Edinburgh?—I do not know the powers under which they have disappeared there.

3711. They were powers under an optional Act, an Act which it was optional with the Municipality to adopt or not; would that be sufficient, or should it be a general compulsory Act?—I think it would be more desirable that it should be a compulsory Act. It would probably be less difficult for the authority to carry out the Act, and would give rise to much less feeling, if it was a compulsory Act. No one could then feel that he was being unjustly dealt with, as would otherwise be the case, probably. They would be gradually suppressed, and those that were first closed would feel that it was unjust to suppress them. I think it would be better as a matter of feeling, and much better as a matter of efficiency, probably, if it was a compulsory Act.

3712. You mean that the odium of such legislation ought to fall on the member of Parliament rather than on the member of the municipality?—Yes, I think it would be easier to carry through such legislation as a general matter.

3713. Have you heard the question discussed of compensation in the case of animals or carcasses condemned?—Yes, I have heard some slight discussion upon the matter. I have heard expressions of opinion that there should be compensation in all cases of tuberculous carcasses that were seized.

3714. From what source should the compensation be derived?—From the Imperial funds.

3715. Not local?—Not local. Personally, I think that in compensating, distinctions would have to be made—and very careful distinctions—because I think universal compensation would tend to some extent to defeat the object of compensation, which is to get rid of the tuberculous animal. I think if compensation were given for a cow which, say, had been for a considerable time in a tuberculous condition, and the condition of which could have been perfectly well ascertained, that the giving of such compensation would be simply an encouragement to the keeping of the animal too long. I should give compensation only in cases where it could be reasonably assumed that the condition of the cow could not have been ascertained for any length of time.

3716. Suppose that cow beef were excluded from compensation altogether, and only bullock or heifer beef made subject to compensation, would that roughly meet your views?—No, I think not. One has to remember the tendency in all big cities with reference to the disposal of milch cows. For instance, in Paris, I am informed that it is a custom to buy young cows which have just produced a calf and to keep them for a year and then to slaughter them. So rapid has been found to be the infection in that city that it is not considered advisable to keep the animal longer; but the degree of tuberculosis which it develops in that time is not sufficient to cause its meat to be dangerous, and so the cow is then killed off. The same thing is to a certain extent done by the wiser of the cow-keepers in our own large cities. I think that it would be undesirable to interfere with that practice

under existing conditions, until some other means were taken to exclude tuberculosis from cowsheds.

3717. (Dr. Thorne Thorne.) You have sent up to the Commission a memorandum from which I gather that during a certain period, which is undefined, out of 398 animals of the bovine race in the City of Manchester there were 120 in which tuberculosis was found?—Yes, that is so.

3718. Were these 398 animals taken quite haphazard?—Yes; this was an investigation carried out by Mr. King, partly with the view to determine this point of abdominal infection.

3719. Abdominal infection of children, do you mean?—Of young animals. The object of the figures here is to show the amount of abdominal infection in the animals killed, the inference being that this abdominal infection is due to the ingestion of milk.

3720. True, but I am rather staggered at the enormous proportion of tuberculous animals that are found—120 out of 398, taken haphazard?—That is what I understand the proportion is.

3721. Would you rather that I asked Mr. King on these points than yourself?—Certainly; but these particular figures I have some interest in. The lesions in many cases were, of course, not extensive, and any lesion, however small, was jotted down. But that is the correct proportion of animals found tuberculous by Mr. King, and the animals were taken I understand at random. The date, which is not put immediately above the Table, should be, Commencing November 3rd, 1896, and extending down to nearly the present time.

3722. It might be convenient if you would append the table to your evidence?—Yes.

The table shows that young animals are in a highly preponderant degree affected by ingestion, and there can be no reasonable doubt that it is by the ingestion of tuberculous milk. Mr. King was good enough to add to his investigation the exact ages of the animals. Nocard points out that pigs are chiefly infected abdominally, due, no doubt, to their consumption of tuberculous milk. Tuberculosis in the horse also is chiefly abdominal, and Professor Delépine has ascertained by inquiry amongst veterinary surgeons that foals are largely fed on cows' milk. These facts may be taken as practically conclusive as to the effects of the ordinary milk of commerce on children.

[The witness handed in the following table:—]

—	No.	Number Tuberculous.	Condemned as unfit for Food.	Number in which the Abdominal Organs only were affected.	Number in which both Abdominal and Thoracic Organs were affected.	Tuberculous Udders.
Cows	168	69 or 41%	11	19	23	2
Heifers	124	27 or 22%	3	19	4	—
Bullocks	75	12 or 16%	0	8	2	—
Bulls	8	2 or 25%	0	0	2	—
Calves	23	(17) or 4%	—	—	—	—
	398	120				

3723. I notice that of the 120 animals found to be tuberculous, no less than 96 were either cows or heifers?—Yes, that is so.

3724. Does your use of the term "heifer" exclude or include cows that have had one calf?—The statistics are not mine, but I think it excludes cows that have had a calf.

3725. I will ask Mr. King on that. Anyhow it seems quite obvious, does it not, that by far the greater amount of tuberculosis is in the female animal of the bovine race?—Yes, that is so.

3726. Am I right in my inference, that, although 120 of these animals were found tuberculous, only 14 were regarded as unfit for food by reason of the tuberculosis?—That also is so.

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3727. And that all the 14 were cows or heifers?—Yes.

3728. Could you give me any idea as to whether, as regards these 14 animals, there was, apart from tuberculosis, evidence that the cows were otherwise unfit for human food?—I cannot tell you; but I may say that I saw several of these animals, and that the carcasses in those cases, apart from tuberculosis, were not otherwise unfit; in fact they were very fine carcasses.

3729. Were the majority such or the minority, do you think?—I believe the majority of the young animals; but Mr. King could tell you.

3730. I find in the same memorandum that a systematic inspection is now being made of milch cows in Manchester, and that last year—1896, I assume that means?—Yes.

3731. Seventeen cows have been condemned; out of what total would that be?—I regret to say that I have not the figures, but it would be over 1,000 cows.

3732. What does your term "condemnation" there mean; were they condemned simply as milk producers, or were they condemned *in toto*?—They were condemned as milk producers, because we have no power to condemn them otherwise.

3733. Were you asked to give compensation in any of those cases of condemnation?—I believe not.

3734. Could you say at all what proportion of those 17 cows were, in your opinion, fit for meat purposes?—No, I cannot speak upon that point. I am told by Mr. King that they were found to be highly tuberculous; but he himself will give that in his evidence. We believe Mr. King says in his memorandum that 15 of these cows were found to be the subjects of generalised tuberculosis, and that the remaining two were only affected locally.

3735. Do you follow these cows up in order to see what becomes of them after your condemnation of them as milch cows?—No, I believe not; and I think that none of them would be condemned as milch cows without being slaughtered. As I understand Mr. King, when he has taken the extreme step of saying that such and such a cow is unfit for use as a milk producer, the cow has been slaughtered.

3736. Although he has not the actual power of compelling the slaughter?—Although he has not the actual power to do that.

3737. Still it is done?—It is done.

3738. With regard to the carcasses seized, in another part of your memorandum you say that it is possible that this potential loss tends to keep meat at an unduly high price, may I ask what your opinion is as to this; do you or do you not think that the cost of the seizure of carcasses for tuberculosis ultimately comes upon the consumer of the meat, by reason of the enhanced price of the meat?—I should certainly say so.

3739. Then the consumer already pays the cost of seizure in an indirect way?—Yes. My point is that he probably pays an increased price plus a certain amount for insurance.

3740. Then who is the loser?—The consumer.

3741. Do you propose to pay the consumer out of Imperial taxation?—The consumer would pay the additional Imperial taxation, and would get cheaper meat.

3742. Do I understand your desire for compensation out of the Imperial funds to be with a view of helping the consumer, because he now pays too much for meat on account of its enhanced price?—The incidence of the protection of the community would then fall equally, and it would no longer fall unequally upon particular people. Now, for instance, you may have a poor butcher, I imagine, to whom the loss of an animal in that way, quite unexpectedly, and for which he has given a good price, may be a very serious and even disabling loss; but if the loss were equally distributed throughout the community it would not be felt in that manner. That would be the argument, I presume, for compensation.

3743. But you have hardly any actual condemnation of carcasses on account of tuberculosis in Manchester, and would not such a butcher easily make it up again in the whole of his year's or five years' transactions, if the loss really falls upon the consumer?—I understand, as a matter of fact, that this loss is very severely felt. Besides, the injustice of it is felt. It is not merely a loss, but a felt injustice. There are two things to be considered—the matter of the very unequal loss, and the matter of injustice—the resentment which is felt and which perhaps may have a tendency—I do not know whether it has—to prevent the condemnation of really highly tuberculous animals. A resentment of that kind, a sense of injustice, the power of anger, has a considerable effect in retarding perhaps the proper dealing with the cattle.

3744. Accepting for the moment, and just for the purpose of argument, the desirability of giving compensation, would there not be a very much greater danger of fraud if the taxation came out of the Imperial funds than if it came out of local funds? For example, take these milch cows, which seem to be almost the only ones in question in Manchester; would it not be very easy for butchers to arrange with persons who would give a decent price for a milch cow which is tuberculous, simply in order to secure compensation on slaughter, because the local people would have no direct interest in saving the Imperial taxes?—As I understand, the cow would be inspected by the veterinary surgeon for the district, and by the medical officer of health in many instances; of course in such a city as Manchester the duties are divided, but elsewhere the carcasses would be inspected before compensation would be allowed both by the medical officer of health, and by the veterinary surgeon. I have already said that I would not give compensation with regard to an animal in which it was clear that the disease had existed for some considerable time, or in which it had made progress. I should only grant it in those cases in which the disease was of comparatively recent origin, and where it could be reasonably inferred that it could not have been diagnosed during life.

3745. Then may I take it that you do not differ from those who have urged to us that the compensation should be given, not on account of the stage of disease, but because of their alleged inability to find it out, they buying the animal in open market, and having no chance to find the disease out?—I should not grant compensation in a case of that kind, if the disease could have been previously diagnosed.

3746. We have had this case before us, for example, we have heard of a magnificent bull which was found to be very highly tuberculous when it was killed. You would not in a case of that sort as I gather give compensation?—Yes, if the bull could not have been properly diagnosed during life.

3747. By what methods?—I see your point. Of course there is now open the examination with tuberculin, that is true.

3748. The butchers tell us that they are obliged to buy from the auctioneer in open market, and that the whole transaction is done in two or three minutes; according to your decision, you would not grant it, except the animal were so far advanced with tuberculous disease that it could have been detected?—I would grant compensation only where the disease could not have been detected during life.

3749. Then I ask again, by what methods?—I have been contemplating simply the ordinary veterinary examination. I quite recognise that now tuberculin is getting introduced, that will very much alter the relation of butcher and farmer, because the butcher can now protect himself.

3750. (Chairman.) Not in open market, market overt, as they call it?—No. Still I think after a moment's reflection, if I may go back to my old position, that in the case of an animal which could have been diagnosed by a veterinary surgeon during life as suffering from tuberculosis, no compensation

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should be granted to the butcher or to the farmer, but that where owing to the internal condition, it is clear that it is a reasonable assumption that the disease could not have been diagnosed during life by the ordinary methods of the ordinary veterinary examination, there compensation should be given. As regards the use of tuberculin, it is manifestly of no use at all for this purpose, because the lesions which are diagnosed by means of tuberculin may be extremely slight, and I do not think that any information for this purpose would be given by the use of tuberculin. I should go back to my previous position, that no compensation should be given for what is roughly known as a waster.

3751. (*Dr. Thorne Thorne.*) You said that you would advocate the abolition of all private slaughter-houses; may I assume that you were rather thinking of your urban experience than of rural districts?—Yes, I was thinking of urban communities.

3752. Coming now to the question of milk, what is the cubic area that you require in cowsheds in Manchester?—600 cubic feet under our new regulations is the cubic space.

3753. Are you aware of the fact that the Local Government Board, when any authority proposes to insert in their regulations anything short of 800 feet, are so convinced of its inadequacy that they say they decline all responsibility for it?—Yes.

3754. Are you aware of the fact that towns like Manchester are a source of very great hindrance to the State in getting decent accommodation for cows?—I may say that I believe this smaller limit will effect such a clearance in the Manchester cowsheds that it will be felt as a very great hardship, even as it is. So prevalently is the cubic space very much smaller than the limit which has been fixed that I believe it will suffice to shut up a great proportion of the cowsheds.

3755. May I assume that this accounts for the astounding proportion of tuberculosis amongst cows and heifers in Manchester that we have just been referring to?—Those are not Manchester cows and heifers, except in an insignificant proportion; those are animals brought from outside.

3756. My reason for asking is that it is a proportion such as we have not met with before?—They are not Manchester cows and heifers, and the conditions outside are no better than they are in Manchester, if as good.

3757. Could you differentiate at all in your experience as a health officer, especially in a town like Manchester, where you have a large number of Irish, between the amount of abdominal tuberculosis among children who are breast fed and among children who are fed with cows' milk from the time of birth?—Yes, that would be possible; I have not prepared such a return, but I can do so within a very short time. If you accept the statistics of the diagnosis of tubercular mesenterica, which of course is liable to considerable deduction, I can procure that.

3758. The Chairman agrees with me that that would be very interesting. May I ask you the extent to which the poor in Manchester (where your present experience comes from) use preserved milk in tins?—The poorer people very rarely.

3759. May I assume that your view as to the diminution of the nutritive quality in cooked milk as opposed to fresh milk is that it is trivial compared with the risk of tuberculosis which we are considering?—Quite trivial.

3760. Now, would the elimination from dairies, first of cows that have any udder disease, however trivial, and secondly of cows that are obviously tuberculous animals apart from the udder, in your opinion, at once effect a vast improvement without going further in point of stringency?—Yes, no doubt it would effect a vast improvement so far as the immediate milk supply is concerned, but it is a well-known fact, I believe, that tuberculosis, once introduced into a cowshed, and especially into such cowsheds as we have very generally through the country, I believe

—because I know it is just as bad about the Lake district as it is with us and in Wales also—spreads very rapidly when once introduced into the herd. I think the experiences of Bang in Denmark have very clearly shown both that one may reasonably anticipate that a great many herds throughout the country are entirely free from tuberculosis and may be used for the production of fresh stock, and also that by simple means of isolation a vast proportion of our cowsheds can be gradually cleared from the presence of tuberculous animals altogether. Of course it has not been applied to this country so far, but I should say that it is probable that a good many herds would be found entirely free in this country also, and might be used as starting points for fresh stock. There would be a great many nearly free, and they could be made quite free by disinfection and the importation of fresh animals. Then again, Bang has clearly shown that by very simple means of isolation—merely by a barrier introduced into the cowshed—you can delimit the infection on one side from the other.

3761. (*Mr. Murphy.*) Has it occurred to you whether there would be any advantage in facilities being given to stockowners to test their cows with tuberculin so as to enable them to classify them in the way Bang recommends and in the way that is adopted very largely in Denmark?—Yes, I think it would be decidedly an advantage. I think at present we are somewhat at a loss, owing to the ignorance, I believe, of many veterinary surgeons in regard to the use of tuberculin. It would, I think, be necessary before such a proceeding was taken that a certain number of veterinary surgeons should be educated in the methods to be adopted; but I think that if the knowledge of the use of the test were once spread, then it would be a very great advantage to give assistance. Of course, as you are aware, the system in Denmark is to give not only the use of tuberculin, but the use of veterinary surgeons also, which of course makes a very great difference. If you leave the veterinary surgeon to charge a high price to the farmer for the application of the test—to a farmer who very often does not want it and who is afraid of it—I think probably you would very rarely get the test applied. I think it would be necessary to go farther than merely supplying the tuberculin; you would also have to supply the veterinary surgeon and to give such skilled assistance in the application of the test that the farmer could put confidence in the application of it.

3762. In your memorandum you have made a suggestion as to the machinery for inspecting farms and as to the division of counties into suitable areas for inspection—"veterinary districts" I think you call them?—Yes.

3763. Would it not be possible for a veterinary surgeon appointed to each such district to undertake this duty?—Yes. I have also thought in that connection of employing the veterinary surgeon of the existing sanitary districts. There would in that case be the great advantage that he would be, in some particulars, the subordinate of the medical officer of health. I think that it is absolutely essential in the interests of public health not to disavow the veterinary surgeon from the medical officer of health, generally speaking; and that would be a great advantage attaching to the employment of the local veterinary surgeons. I think it is perhaps manifest why one would rather put forward the other proposal, viz., this. It is a great difficulty at present, undoubtedly, that no action is taken in rural districts, or very little action is generally taken in rural districts, in the matter of the improvement of cowsheds, or the inspection of the cows; and the reasons for it, of course, lie on the face of things. My suggestion of a veterinary surgeon in the Government employ was rather intended to deal with that, so that there should be a man who should make his reports to a central authority. You suggest that the local veterinary surgeon might be employed instead? I think it would be well, if the local veterinary surgeon were employed in that capacity, that he should be directly responsible to some central authority and be paid a sufficient sum

for his services. I think, in order to get what you want from such an appointment, that would be necessary.

3764. I have not thought of employing a veterinary surgeon who is in practice, but I referred to what I thought was in your own mind, namely, that counties should be divided into suitable areas, each area being sufficient to wholly employ the services of a veterinary inspector?—Yes, that was my suggestion.

3765. That would put the inspector in a position of greater independence?—Yes, that was the idea.

3766. One suggestion, I think, you had in your mind was that he might be an officer of the county council?—The difficulty in that course is, that many county councils have not established any sanitary administration, that in fact there is no county council administration to which he could refer. My suggestion is that where there is an established sanitary administration he might usefully refer to the medical officer for the county and receive instructions from him.

3767. Would your object be equally well attained by the combination of sanitary districts for the purpose of appointing a veterinary inspector, just as districts may now combine for other purposes?—I had put that originally, but there again the same difficulty occurs that you tend in that way to dis sever the veterinary service from the medical officer of health. I think it is essential for the public welfare that the medical officer of health should be in close relationship to these matters. If you group your districts into a veterinary district and have a veterinary head, you go a long way, I think, to dis sever the veterinary service from the public health service. That, I am informed, has to some extent happened in France.

3768. There would, I take it, in your opinion, be considerable advantage in the veterinary inspector who might ascertain the condition of cows and cowsheds, being the officer of the authority that enforces the regulations as to cowsheds?—Yes, I think that would be a distinct advantage.

3769. So as to ensure the proper cubic space and cleanliness?—Yes, I think he would do all that. He would, of course, be specially educated in those matters, and he should instruct the farmers in the measures of isolation necessary to be taken to carry out these ideas. If the Government were inclined to take up this new policy, which is being pursued in Denmark, or any policy on this subject whatever, he would be the executive officer for that policy.

3770. Now, turning to one of your earlier statements as to *tabes mesenterica*, you said you would regard *tabes mesenterica* as a disease that is very probably caused by food?—Yes, by milk.

3771. What is your view as to tubercular meningitis?—That also, I should think, is caused by milk. I believe that in a number of post-mortems, tubercular meningitis has been found to relation to abdominal tuberculosis, and I accept the view that tubercular meningitis would probably, in the majority of cases, be due to abdominal tuberculosis, and therefore to the ingestion of milk. Is it worth while mentioning one particular experience of my own on that matter? I took a very slight case of smallpox on one occasion into the hospital, and this child developed symptoms of meningitis and died. I obtained a post-mortem examination, and found that the death was due to early tubercular meningitis; and the only other lesion found in the body was a caseous gland attached to the mesentery. I made a very careful examination. Clearly this child had contracted abdominal tuberculosis, which had then set up tubercular meningitis.

3772. As to other forms of tuberculosis and scrofula, what is your view?—That, of course, also is very largely due, no doubt, to buccal infection, infection in the mouth; and probably that also would be to a large extent due to milk infection. It might be questionable whether that would be altogether so clearly traceable to milk infection as to the tuberculosis in the abdominal organs themselves, but no doubt in a considerable number of cases it would be so. It would

be due to the passage of tuberculous milk over the pharynx.

3773. You were saying that you thought you would be able to supply some statistics showing what had been the food of infants who had died of tuberculous disease in Manchester. Would it be possible at the same time to give some indication of the proportions of the population which are fed in the one way or the other?—I am afraid not. I have carried out an inquiry into feeding, but it is in particular districts; still I can give some particulars.

3774. Of course the mere figures as to how many of those who died had been breast-fed or fed on the milk of cows would not enable any special incidence of disease upon persons fed in the one or the other way to be shown, unless you know in what proportions your population may be divided, in fact, how many children are breast-fed, and how many are fed on milk from the cow?—I have a paper published on that subject. It is in relation to diarrhoea, not to tuberculosis, but I think it would to a certain extent meet what you wish. I can send that up at once.

3775. I understand that you would wish the dead meat brought into Manchester to be taken to some central depot where it would be inspected before being taken to the butcher's shops?—Yes, that is at present not done.

3776. Would you suggest that the inspection of meat should be accompanied by any system of stamping such as exists in Germany?—Yes, I think it is distinctly desirable to guarantee the meat by marking it, especially the meat which has been brought to the abattoir and all the organs of which have been subjected to proper examination. I think that that ought to have a specific stamp, and that, in fact some system of stamping such as exists in Copenhagen and in Berlin—and I have seen both abattoirs—should hold.

3777. And do you think that would not be contrary to the sentiment of the Manchester people?—That I do not know. No doubt at first people would rather dislike the appearance of the meat stamped in that way. I believe there was some feeling of that kind in Copenhagen; but after they had got accustomed to it and understood what it meant and that it was a guarantee of good meat, they would get used to it as they get used to other things.

3778. At any rate you would not regard that as an insuperable difficulty?—Not at all.

3779. Then you perhaps wish to have the power to require that when a carcass is brought to your station to be examined the viscera should be brought too?—Of course a very large proportion of the carcasses comes from America.

3780. So that would be impracticable?—Yes.

3781. It has been suggested that difficulties from time to time arise in the examination of carcasses for tuberculosis because the examining officer has no right to make an incision to expose a gland?—Of course that is so. There is a great objection to his incising the meat and spoiling its appearance.

3782. Have you in Manchester had any experience of difficulties arising from that?—I do not think it is done; at any rate it is not done upon suspicion unless the meat is regarded as bad to begin with. Then I may say in regard to tuberculosis that it is really necessary, I think, that the meat inspector should be allowed to make small incisions. As a rule he is able to tell, I believe, from the condition of the internal organs what are the lymphatic glands in the flesh that are likely to be diseased, and he has easy access in the case of the thoracic organs where the glands are almost on the surface and the cutting into which is no disfigurement. With regard to the abdominal glands also he can without disfigurement generally make incision. I think it would be desirable that it should be generally allowed, under proper training. He should be trained to know what glands to look for, but he should be allowed, I think, to make such incision in carcasses for the purposes of examinations. Very little is necessary. Then, of course, if

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tuberculosis were found in those easily accessible glands, the cutting into which would produce no disfigurement, he might proceed to cut into the deeper glands. I think it would be desirable that such permission should be granted to meat inspectors both for carcases and for meat.

3783. (Mr. Cooke-Trench.) You spoke of dividing the cows in dairies on inspection into three classes, namely, those which did not react under the tuberculin test, which might be assumed to be all right and could go on; those which were obviously tuberculous or showed tuberculosis in the udder which ought to be slaughtered; and those which reacted to the tuberculin test but showed no sign of wasting or of tuberculosis in the udder, which you would place under observation. Am I correct in that?—That is so.

3784. With regard to the intermediate class, those who have re-acted, but showed no sign of wasting, would you prohibit the use of their milk altogether during the time they were under inspection?—No, I should not, although, as far as possible, I think it would be desirable that they should not be used for the production of milk. They might be used for the purposes of breeding, and then fattened and killed, as has been done, I believe, in Denmark. Of course that is upon the supposition that, after thorough disinfection of the cowshed, some effectual barrier is put up between the animals which have been found to be sound, and those animals which have not been found to be, but which are not yet in that condition that they require to be slaughtered.

3785. Would you under any circumstances re-admit those cows to the dairy?—I think not. Theoretically it might be possible, when they have ceased to re-act for several years to tuberculin, safely to admit them to the dairy, but, practically, I should not admit them having once excluded them. But permit me to say that I do not propose all at once to exclude such animals from the production of milk, necessarily. I should say where it is possible to breed from them it would be good policy to use them for the purposes of breeding, and then to fatten them up and have them slaughtered, but that might not be possible; and in such a case providing that strict supervision was kept up over the cows, I think they might be used for the production of milk, at all events for a time.

3786. The main object of breeding from them I take to be the production of milk?—The object of breeding from them is to get the value of the calves—to utilise them. It is found as a matter of practice that such calves, with very rare exceptions, are not tuberculous. Of course the condition of the calves is tested by the use of the tuberculin, and it is found that the calves are very rarely tuberculous from such cows, and that when placed under proper conditions and properly isolated they do not develop tuberculosis.

3787. Then would you allow the milk of those cows to be used for rearing calves?—Providing it was boiled; it should be boiled of course.

3788. If the use of those cows is to be so very much restricted, would it not be better to fatten them at once and sell them for beef?—That is a matter for the farmer to determine; I, of course, cannot pretend to judge how far his interests might lie in one direction or the other. What is certain apparently is, that calves produced under those conditions are not tuberculous with extremely rare exceptions, and will not develop tuberculosis if properly isolated.

3789. Not even if fed with the mother's milk?—No, I should think not, because the milk can be boiled.

3790. Do you suppose that an ordinary farmer would be capable of applying the tuberculin test?—No, I should not think so.

3791. Can you tell me whether any experiments have been made with tuberculous milk to ascertain whether the bacilli chiefly frequent the cream or the skim milk, I ask the question as bearing on the question of butter?—I regret to say that I cannot speak on that subject. I have seen the statement

made that the bacilli are found in considerable abundance in the cream.

3792. More than in the skim milk, do you know?—I have also seen that stated, but I should think that extremely doubtful and that everything would point to the reverse, because the bacilli are heavy and would be certain to sink; indeed that is the way in which milk is examined—the bacilli are allowed to sink to the bottom, and the bottom portion is examined for the tubercle bacilli.

3793. Then they would be in the skim milk?—There is no doubt about them being in the skim milk, and apparently there is no doubt about them being in the cream in considerable abundance; probably there would be more in the skim milk than in the cream; but I have not made any experiments upon the subject and I should not like to speak positively upon that matter.

3794. Your evidence hitherto has been mainly confined to cities; can you give us any suggestions as to how rural slaughter-houses and dairies should be dealt with as regards inspection?—Rural slaughter-houses, I presume, should be dealt with exactly in the same way that urban slaughter houses are dealt with.

3795. My question refers more to dairies?—As regards rural cowsheds, I think it would be very difficult, and would be regarded as a great injustice in towns, if the enforcement of model regulations, even in a limited form, were strictly carried out, and if the farmers from the surrounding districts, or from distant districts with similar or worse cowsheds were allowed to send their milk into the city. I think that some uniform course of action would be necessary, both for the protection of the public and in order to carry out, without a great sense of injustice, the local measures required. I have put forward, but with no degree of confidence in the details, a proposal. In the first instance, supposing such power were granted to urban authorities as I have suggested, and they should have a right to require a statement in detail as to the conditions of the cows and the cowsheds from which the district was supplied, and if necessary, to examine such cows and cowsheds and to take the measures necessary to bring them into line with their own requirements; that would go a considerable distance, I think, towards improving the rural districts.

3796. That is as regards the milk that comes into the towns from the rural districts?—Yes.

3797. But that would not touch the question of the rural supply?—It would not. Then I have also suggested that the counties should be divided into veterinary districts. The size of the districts would be settled by a practical determination of the amount of work which one veterinary surgeon could get through, the lines of his work being carefully laid down beforehand of course. To each district would be appointed a veterinary surgeon specially trained for the duties which he would have to perform. If such districts were at first confined to those parts of the country in which milk is produced for sale in towns, his duty would be to make a systematic examination of milk cows, to inspect cowsheds, and to advise and assist the farmer in carrying out measures of isolation; to inspect the dairies attached to the farm, and to examine into the water supply of the farm, as well as into any conditions which might be supposed to affect the quality of the milk. The suggestion is further made that he would be appointed and paid by Government. In this connection I may say that I think any arrangement should keep him in close relation to the medical officer of health. On finding a cow tuberculous he would give directions for slaughter, or isolation, where the necessary means for isolation were to hand. I have not raised the question what he would do if the necessary means of isolation were not to hand; strictly speaking, of course, in such a case, he would order the slaughter of the cow. But that is a difficult question. He would be specially trained to apply the tuberculin test, and would instruct the local veterinary surgeons in its application.

3798. What do you mean by "the local veterinary surgeons"?—The veterinary surgeons of the local authorities or the practising veterinary surgeons, who might wish to be instructed in the matter. He would carry out the instructions of Government as regards the application of this test to herds of cows, supposing, of course, that the Government give assistance to farmers in the matter. It would much simplify the machinery if such officers were appointed by county councils and were strictly responsible to them.

3799. I thought you suggested that they should be appointed by Government and paid by them?—Yes. It would simplify the machinery if they were appointed by county councils, but in the first place the necessary sanitary government does not exist for the great majority of county councils; and in the second place there would be this disadvantage, that the county boroughs would then, of course, cease to pay part of the salary if they were not paid by Government, and would not have that right to protection at the hands of the veterinary officer, which they would from a government official. Perhaps, having put this idea forward, very tentatively, I might say that the first difficulty at present is the absence of a sufficient amount of public opinion to carry such a scheme. The second difficulty is the expense which it would entail. I quite see that the travelling expenses of this officer would be considerable; that, of course, is a great difficulty. If such a scheme was to be carried I would suggest that this veterinary officer should make a report to the medical officer of health, in whose district the farm lay, of every action that he took in condemning cows for slaughter and in regard to the isolation of cows. In regard to all matters other than the condemnation or isolation of cattle, he would report his observations to the medical officer of health for the sanitary district, with any recommendations he might see fit to make. With the medical officer of health would then lie any procedure necessary for keeping the cowsheds in proper condition, and so forth. The medical officer of health would, however, be required to report on his action, consequent on the report of the veterinary surgeon, either to the Local Government Board or to the medical officer of health of the county council. The object of proposing these centralising measures is to increase the efficiency of the inspection and the activity of the measures taken upon that inspection.

3800. Is there anything else you wish to add in reference to that?—The requirements of these cowsheds is obvious as well as the need to do something. Recognising the difficulties of this proposal, an alternative might be mentioned, that instead of veterinary districts, fixed in the manner suggested, local veterinary surgeons might be appointed to the sanitary districts now existing, subordinate to the medical officer of health, who should carry out the duties I have sketched out, and who would require, before appointment, to show acquaintance with the practical details and competence to carry out the duties.

3801. Now I want to ask you a question as to the incidence of loss in the case of cattle condemned; have you heard anything of butchers requiring a guarantee from the farmers of the absence of tuberculosis?—I have heard it mentioned, but I do not know of the thing actually being done.

3802. Suppose a guarantee is given, would that not throw the whole loss upon the farmer?—It would have that effect no doubt.

3803. If butchers find that cattle coming from a particular district are particularly liable to tuberculosis, and no guarantee is given to them, would they not avoid buying from that district?—My impression is that they do not avoid buying.

3804. That they do not avoid buying from districts particularly affected with tuberculosis?—I think not. There are the figures which I have already given of the prevalence of tuberculosis, and I am not aware that they demand such guarantees.

3805. (*Mr. Speir.*) What facts have you for thinking that *tabes mesenterica* comes in the most cases, say from the food and not from the air, or from kissing, as you mentioned?—On personal inquiry into cases of tuberculosis, I found that *tabes mesenterica* did not occur in a very large number of instances in households in which otherwise there was tuberculous infection, and that the children in those households very often escaped. Conversely, cases of *tabes mesenterica* often occur in households not otherwise subject to tuberculosis. Now, if *tabes mesenterica* were caused by kissing, obviously it would be in tuberculous households particularly that such *tabes mesenterica* would occur, because there they would be kissed by tuberculous persons, and naturally if that was the means by which abdominal tuberculosis was often communicated it would be under those circumstances that you would be specially liable to *tabes mesenterica*. Such, however, does not appear to be the case. Nor is there any relation from statistics observable between the proportion of abdominal tuberculosis in a district and the proportion of phthisis in a district.

3806. Do you infer that bowels weakened from any cause are more liable to infection than if they were in a normal condition?—Yes, I think that is quite certain. I think in the pathology of tuberculosis nothing is more certain than that the introduction of the infection, the lodgment of the infection of tuberculosis is conditioned by previous enfeeblement of the tissues.

3807. Then children that had the bowels in a weakened condition, through injudicious feeding would in many cases be more liable to infection, if brought within the range of it through milk?—Yes, I think that is quite certain.

3808. In much the same way, I suppose, as stone-masons, and others, whose lungs are slightly hurt by the breathing of material containing grit of any kind, run very great risk of phthisis?—Yes, precisely so, and even more so. I should imagine that the infection of abdominal tuberculosis would pass through the bowels of an enfeebled child apart from any specific injury to the interior of the bowel; as a matter of fact the phenomena of abdominal infection seem to show that that may be so.

3809. It appears to me that infection in such a manner as that comes pretty near inoculation; you bring the infective material to, say, a raw surface, which is much the same as vaccination?—That is as regards the lung, and as regards certain classes of bowel affection, but I believe that it may happen that the infection passes through the bowel and produces its effect in the system without any lesion in the interior of the bowel itself.

3810. Then that would be a clear case of absorption?—Yes.

3811. In answer to another question, you admitted that the bacilli of tuberculosis, when in milk, were much heavier than the specific gravity of the milk itself, and sank to the bottom?—Yes, that is evident from the method of experimentation.

3812. I presume you are also aware that in the separation of cream, as usually carried on, on the continent and in large establishments here, that is done through force of gravity by very rapid whirling?—Yes, that is so.

3813. In that case the heavier portion of the milk is outside, and the lighter portion of the milk comes to the inside, is that not so?—Yes, the cream rises in the centre.

3814. Therefore, a considerable portion of the bacilli or a larger portion of the bacilli would naturally go to the skim milk?—One would imagine so.

3815. Therefore, reasoning from that, do you come to the conclusion that there is likely not to be much danger in butter manufactured in that way?—I do not say so, because I believe that direct experiment has shown that butter does contain the bacilli, but what I say is that there are probably fewer bacilli in the butter, and the amount of butter consumed at one time is less.

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3816. I want to direct your attention to an experiment carried out by Dr. Woodhead, and to a question put by Sir George Buchanan. The number of the question is 379. "(Q.) Have you any evidence to give us in respect of milk and butter as to the duration of the life of the tubercle bacilli? For instance, is salted butter, after it has been kept for some time, likely to be more free from active bacilli?" His answer was "Butter made from tuberculous milk may be kept for a considerable period; in one case it was kept for three months and the bacillus in it was virulent during the whole of that time."—Yes, that in no way conflicts with what I say.

3817. Then he is again asked: "The bacilli were virulent and not dead?" and he answers: "yes." Would it not be a little superfluous to put extraordinary restrictions, say, on our own dairies with regard to the exclusion of cows likely to be dangerous to health, and to allow milk from outside sources to come in without at least some supervision?—May I ask, you will excuse me, where this salted butter came from?

3818. I am not in a position to answer that?—Because I do not even know that the salted butter was not of internal manufacture. I should say that butter which contained bacilli in that quantity (although of course he would use the extremely delicate test with a guinea pig) would undoubtedly come from a cow with a highly tuberculous udder, that is what I have previously insisted upon, namely, that in the existing condition of our dairies there is that danger from isolated dairies supplying the public, that there you have a great concentration of such infection. Possibly this butter may have come from some individual dairy of that description, unless it is stated where it came from.

3819. In the case I took previously, we have no evidence as to the source from which the milk was drawn, but there is one special case where we have. On January 31, 1893, a rabbit was fed for five days with 1,000 cubic centimetres of skim-milk. At the end of 78 days it was killed and the lungs were found to be extensively affected with miliary tubercle, also the small intestines and several other portions. Then again, at the same date a rabbit was fed with 113 grammes of butter, which is, comparatively speaking, a small portion, during six days; that animal died in 21 days, and the lungs showed extensive pneumonia, there was no tubercle or other evident disease in any other organs or in any of the lymph glands or intestines. So I presume you will admit there is some risk?—Did you say where the butter came from in that case?

3820. This was from the milk of a cow with a tuberculous udder?—Quite so, and that rather emphasises the necessity for strict regulations. But may I also say that in Denmark, which is the country with which comparison would be chiefly made, there is, as you are very well aware, a strong movement in the direction of strict regulation of dairies supplying milk to the community. Of course there are very few towns of any size in Denmark, but the capital has been served for a considerable time now by a voluntary association which exacts the most rigorous inspection of the cowsheds, and which has recently exacted also that all the young animals should be tested with tuberculin.

3821. (Chairman.) You mention Denmark as being one of the principal sources of our butter supply I presume?—Yes.

3822. But not the exclusive source?—No. May I also say that this need is also evidently felt very much in the country, because I believe a company is started in Liverpool, called the Tilstone Dairy Company on this basis, that the milk is to be supplied from animals free from tuberculosis, and the reason why I know is that they are contemplating the introduction of the same company into Manchester.

3823. (Mr. Speir.) You said your own cowsheds were very defective and bad, in what way were they defective?—The ventilation is very bad and there is

over-crowding of the cows for one thing. A number of the cowsheds are also badly lighted.

3824. Is it entirely the want of cubic space that makes them defective or are there other defects?—It is principally want of cubic space.

3825. Do you think if you had sufficient cubic space you would have all that was necessary in that respect?—No, I think it would be necessary to provide means of interchange of air as well as one could.

3826. Do you think you can get an interchange of air without any special regulations?—Do you mean to get the farmers to carry out proper changes of air, or changes which you may think are proper changes?

3827. Yes?—No I think they are very reluctant to move. I think that the farmers in this country are so conservative that they will do but little. I know some of them and that is my impression, that they are very difficult to move. They will move if they have to move; even when they recognise that the thing is necessary they do not always move readily. I think a great many of them are very conservative, and I do not think they like to change their habits. I do not mean to say there is not a considerable amount of enterprise among them, but I feel sure that the milk farmers in this country at present are, as a body, very conservative from what I have seen; the reasons I do not pretend to appraise.

3828. Supposing they were compelled to have 800 feet or even more than that, if necessary, of cubic space, do you think that would meet those requirements?—I think that would go a very long way, provided always a proper interchange of air was carried out; that is to say, that the air entering the cowshed was equably distributed and carried out in a similar equable manner so as not to produce draughts. I am not at all clear that it is not worse to have cows housed inside—that it is not better to have them outside altogether the whole winter, than to have them inside cowsheds where you do not take such precautions; but if the air is equably and properly distributed, then I am quite clear that that would go a long way.

3829. Another witness, not very far from your own neighbourhood, said that they had very good regulations with regard to both floor space cubic space and ventilating space; but he said every time the visiting officer or inspector put in an appearance he found the openings stuffed with straw and he was attempting to devise some sort of regulator that could not be interfered with. What has been your experience in that matter?—I have no recent experience, but I can quite corroborate what he says from my investigation of the cowsheds of Oldham; there is a very great tendency in that direction. Still I have very often found them quite free from that. I do not think that is necessarily a characteristic of the farmer. It is just like some ignorant people who do the same thing. They stuff up their grates when there is no need to, and so some farmers will stuff up their cowsheds when there is no need, but the better class of farmer I think will not do that.

3830. Does it not strike you that the farmers when they do this as a body must have some strong reason for doing so?—Yes, but it is not my personal experience that they do it as a body. I can remember that they do it, but they do not do it, I think, as a body.

3831. What are their reasons for doing it, or the reasons which are usually given?—I have no doubt that they have the idea that the cows get cooled down excessively, and do not produce the same quantity of milk, and that by keeping them warm they can get more milk out of them.

3832. And you agree with them I expect?—To some extent; but I was very much surprised the other day to hear from a Lincolnshire farmer whose cows produce excellent milk—it is true he has only a few for his own use—that he never turns the cows into the cowshed at all, and that even in the coldest weather in the winter they are allowed to lie outside in the crewyard. I was told that it is not at all uncommon. If that is so, then it can scarcely be

necessary to keep the cows in that very warm condition, although no doubt they do produce more milk when they are kept very warm.

3833. Have you any authoritative evidence for saying that a cow left out in a cold yard in wintry weather, such as we have been having for the last two or three weeks, would give even a normal quantity of milk?—Yes, I may safely say that has been the case—that a normal quantity of milk has been produced by cows in the open air. I think I would venture to say that, but I will give you the farmer's name and address if you like.

3834. (*Chairman.*) What breed are the cows?—I do not know the breed of the cows.

3835. They were a hardy breed, I should think?—Possibly. That was a positive statement made to me, and I am in no position to contradict it. He is a gentleman who would be very unlikely to make such a statement to me unless it were true.

3836. (*Mr. Speir.*) In answer to a question put by Dr. Thorne Thorne, you said, or allowed me to believe at any rate, that you condemned certain milk which you had reason to believe was deleterious to health; what powers have you for doing so?—There are no powers.

3837. How did you manage to get that carried out?—That is a matter which Mr. King has managed. I suppose he pointed out to the cow-keeper that this was not a fit animal from which to send milk to the market, and the cow-keeper felt obliged to slaughter the animal.

3838. He thought discretion was the better part of valour under the circumstances?—Possibly. I think it is very desirable that such powers should exist. In this matter of cowsheds, suggestions drawn up by me have been sent out to all the farmers in Manchester and to the dairy-keepers as to the manner in which the regulations may be carried out, and I will hand in copies. (*Handing in copies.*)

3839. You gave a decided opinion in favour of compensation for animals that did not show any signs of wasting, I would like to know where you draw the line—where the wasting begins and where the animal that shows no signs of it ends?—I admit that there is a great difficulty; but even I, with my comparatively small veterinary experience, was able to pick out some tuberculous animals in the Oldham cowsheds, and I have very little doubt that it would not be at all difficult for an expert veterinary surgeon to determine on the condition of animals. What I would suggest is that such animals as were manifestly wasted, and which, upon the tuberculin test gave the reaction, should not be compensated for.

3840. But I presume you are aware that the tuberculin test is practically speaking no test at all for an animal which is in a wasted condition?—Yes, I have already said that. But what I say now is that you base your judgment upon the wasted condition of the animal, and as regards the tuberculin test you confirm it by the tuberculin test—that is, to be used simply to confirm the diagnosis of tuberculosis, not for any other purpose.

3841. Or in other words if an animal can be detected by sight, you would give nothing, but if it could not be detected by sight, you would pay compensation?—If the animal was obviously in such a condition that it must have been wasting under the eyes of the farmer for some time and he had gone on milking it, I would not compensate. That is how I should put it. I think it might be determined with sufficient exactness.

3842. In the draft scheme which you have submitted to us with regard to how you are going to control tuberculosis, am I right in presuming that the veterinary surgeons, whom you suggested should be appointed by the Government, were to take no private practice?—That was my idea under that scheme.

3843. You would say so. I suppose for the reason that if these gentlemen were engaged in private practice, it to some extent might interfere with their duties; or had you some other reason for it?—I think

that is a very good way of putting it, that the two duties are not easily made to harmonise.

3844. Have you in any way compared the number of veterinary surgeons with the number of cattle that are in the country, as to whether or not there was sufficient to accomplish all the work you have sketched out for them?—No, I have not. I have suggested that this should in the first place be applied to milk-producing districts. I quite recognise the great difficulties. I suggest that it should first be tried what district a veterinary surgeon could get over in this way and if upon trial it was found that the milk districts could be so apportioned out, then this scheme might come into operation—I think they might, however.

3845. That scheme, so far as I understood you, was to be optional upon farmers as to the use of the tuberculin test or not?—Yes, but then the veterinary surgeon would make his diagnosis, and if he stated that in his opinion the animal was probably tuberculous, the farmer would then be compelled either to give up the animal or to apply the tuberculin test. He could not complain of a false diagnosis if he had refused to apply the tuberculin test.

3846. I presume you are aware that an enormously large number of animals show signs of tuberculosis after being subjected to the tuberculin test, greater than can be seen from any ordinary clinical examination?—Yes, that is so; but I say that a veterinary surgeon would first make his diagnosis upon other characters than the use of tuberculin, so that the difficulty of tuberculin would not come in. The farmer would then have it in his option to use the tuberculin either to negative or to confirm the diagnosis of the veterinary surgeon made upon other grounds.

3847. In that way you would only use the tuberculin on the animals which were practically speaking condemned on a clinical examination?—For the purposes of slaughter; but I have no doubt that milk farmers will, very largely, at no distant time, be obliged generally to fall in with the tuberculin examination.

3848. And to use it for their whole herd?—Yes.

3849. Do you think farmers would use this test or any other one for the protection of their herds when not so very long ago, when small-pox vaccination was introduced, the records do not show that the public used it extensively before they were compelled to do so?—But then there is a great public outcry about the importation of tuberculous milk, and that very manifestly affects the question. So great would be the advantage on the side of the farmer who has applied the tuberculin test, that, I believe, the others will be obliged to fall into line. Of course, it will take time before that happens, but I believe that will probably happen.

3850. My opinion is that it would be rather slow?—Yes.

3851. Because if a man will not use a test which in many respects is very similar for the protection of his own family and himself it is unlikely that he will do it for the protection of his cattle. Do you sympathise with that opinion or not?—It is not intended that it should be for the protection of his cattle; it is intended that it should be upon the public demand for the protection of the public.

3852. If he does not do a similar thing for the protection of himself, will he do it for the protection of somebody else?—If he thinks he cannot sell his milk, he will. I do not propose that it should be made compulsory at present that he should use tuberculin; I think that would be premature.

3853. In answer to Mr. Murphy you made some remarks with regard to meningitis, am I right in inferring that as far as your experience is concerned you have a large number of cases which seem to indicate that that disease was secondary to some previous infection?—I am not able from personal experience except from a very limited experience indeed, to give an opinion on that subject, but that is the opinion of pathologists.

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3854. As a medical practitioner, is it your opinion that the disease may exist in the bowels or the lungs to a considerable extent and then invade the brain, and that the latest infection, although the smallest, may be the cause of death?—Certainly, it very frequently is so no doubt.

3855. (Professor Brown.) I think you said that you considered compensation should be paid out of Imperial funds?—Yes, I expressed that opinion, but that is a subject on which I do not wish to appear very strong.

3856. You have no strong feeling on that matter?—Except that some form of compensation should be paid, I have no strong feeling on that.

3857. You put it in that way, that you consider that under certain conditions compensation should be paid, but you do not express any opinion as to the source from which the compensation should be derived?—No, I do not see that it is necessary to express a strong opinion upon that subject. I may say upon reflection, however, that although I do not wish to express a strong opinion, I think Imperial compensation is preferable to local compensation.

3858. Is that not equivalent to saying that the Government, which has nothing whatever to do with the slaughter of the animal, does not order the slaughter of the animal, and has no control whatever over it, and no means of checking the condemnation of the carcass—in fact, is in no way concerned in the matter—should be called upon to pay for acts which are done by people practically outside the jurisdiction of the Government?—The medical officer of health is responsible to the Local Government Board and the veterinary surgeon I believe to the Board of Agriculture, and so far as the Government can exercise supervision it does, of course, if this animal has been seen by the medical officer of health and the local veterinary surgeon.

3859. But the local veterinary surgeon surely is in no way responsible to the Board of Agriculture?—No, perhaps he is not responsible to the Board of Agriculture.

3860. He is not appointed by the Board of Agriculture, is he?—Perhaps not. My impression was that in some cases he is.

3861. Do you know a single instance of a veterinary surgeon who is engaged in meat inspection under the appointment of the Board of Agriculture, I mean with regard to English meat, I do not deal with foreign meat?—I may be making some curious mistake, but I was under the impression that the Manchester veterinary surgeon was appointed under the Board of Agriculture.

3862. You have nothing more than an impression?—I have nothing more than an impression; that is my impression however.

3863. Will you take it from me that it is really not the case and that there is no veterinary surgeon in Manchester appointed by the Board of Agriculture?—Yes.

3864. Then it comes to what I first stated, does it not, that you suggest that compensation should be paid by the Treasury when the meat is condemned by officers who are not appointed by them, and under circumstances of which they absolutely know nothing and which are not under their control?—I presume that so far as that is concerned, the medical officer of health and the veterinary surgeon, so far as they are not under control could in that matter be made responsible to the central authority. I should prefer that some such arrangement should be made, and that the compensation should be done in that way.

3865. The medical officer of health would of course be more or less under the direction of the Local Government Board?—Yes, that is so.

3866. But not to any large extent would he?—No, not to any large extent.

3867. The Local Government Board could not say "you shall not condemn animals unless they have generalised tuberculosis," for example?—No.

3868. If they did so, the medical officers could not be found to obey?—I quite see that the machinery is not sufficient at present, but supposing the machinery were made sufficient I should prefer that mode.

3869. That is so, supposing that the Government took any hand in the extirpation of tuberculosis as they have done with other diseases, would you then say that they should pay compensation?—Yes.

3870. It would follow naturally would it not?—Yes, that is so.

3871. You spoke of cases in which diagnosis is not possible; would you not say as a medical authority that those cases are really very few supposing that a thoroughly competent man were to examine them?—In regard to cattle.

3872. Yes?—The diagnosis of cattle affected with tuberculosis, I believe, is an extremely difficult matter, and I should not like to say that it was easy.

3873. You say in your memorandum that a butcher may lose a fine carcass, because it was infected with generalised tuberculosis which was not detectable during life. Have you any experience of such conditions in the human subject which you could not detect during life?—No, in the human subject the advent of generalised tuberculosis is attended with the onset of a fever similar to typhoid fever.

3874. Of course probably the question is not one which you could very easily answer, but would you consider it is likely at any rate that a very similar condition would attend it in the lower animals?—I am assured it is not so, but I have really no personal experience. I have to take the assurance of other people in this matter. I must say it seems to me curious that it should be so, but I am assured it is so, and that you may find cattle in an apparently excellent condition brought to the slaughterhouse and on examining the carcasses they are found to be affected in this manner. It is, however, not quite the same thing. An animal is said to have generalised tuberculosis when the lymphatic glands are widely affected, especially those imbedded in the meat. Generalised tuberculosis in the human being implies an eruption of miliary tubercles in important organs.

3875. It does seem to you as an experienced medical practitioner to be extremely curious that an expert in cattle disease should examine the glands in the neck and in other parts where they can be reached, should take the animal's temperature, should auscultate the chest, should make the animal cough which he can do as often as he pleases, should drive it about if he thinks fit, and should after all fail to discover any indication of tuberculosis, although the animal at the same time is suffering from that disease in the generalised form,—I say it seems curious to you that that should be the case?—I have to accept what veterinary surgeons say. A beast is a much more difficult creature to examine than is a human being. In the first place there is the thick hide to get through before you can get at the condition of the chest, and I believe it is much more difficult to arrive at an exact knowledge in regard to the interior of the chest of an animal than it is of a human being. I have examined animals I may say, in fact, a great many times I have made an examination of an animal with assistance, but I should not like to commit myself to a diagnosis of an animal personally. So far as I can judge, however, the difficulties often are much greater in the case of an animal than they are in the case of a human being.

3876. Then you are probably not aware that there were men some 20 or 30 years ago, and that there are men now, who can select tuberculous animals without having recourse to anything more than a clinical examination?—These cows which were condemned and which were subsequently found to be tuberculous, were selected by Mr. King simply upon an ordinary clinical examination. But then, of course, there would be a vast multitude escape, which had tuberculosis and which gave no clinical signs. Would that not be so?

3877. That is your conviction that in those cases there are animals that would not give any clinical

signs of disease at all even to the most expert observer?—Yes.

3878. But you have no practical experience upon which to base that opinion, have you?—Yes; I may say that I have seen carcasses with isolated masses of tubercle in them which I do not think would have given signs in the absence of tuberculin.

3879. You mean you cannot in those cases make any statement of actual personal experience of the absence of signs during life?—No, I cannot.

3880. That is what I wanted to know—that you could not do so from your own experience?—May I further say that in human beings, which are much more easy to examine than cattle, tuberculosis may attain a considerable degree of extension before it receives any attention, that is to say, before the symptoms are sufficiently severe to call attention to the disease; and those people who have not yet received attention would be much in the same position as cattle are which have those isolated lesions.

3881. You said in answer to one of the questions that if cows do not react, it proves they are sound and it proves they are not tuberculous; do you know any circumstances under which tuberculous animals fail to react from tuberculin?—I have not personally applied the tuberculin test. You say I said so; however, I do not think I have said that. I know that there may be instances in which tuberculous cows have failed to react to the test and healthy cows have reacted.

3882. Is it not generally the case, if not invariably, that cows or cattle in a very advanced state of tuberculosis are quite refractory to the test?—Extremely rarely. It does happen, I believe, from the accounts of experiments, in very rare cases that cows in an advanced state of tuberculosis have failed to react.

3883. Is it not further the case that by frequent repetition at certain intervals of the injection of tuberculin, you may render an animal absolutely refractory to it?—That, I believe, is a very irregular phenomenon; it does happen, but it is not a reliable phenomenon.

3884. You are not aware of any experiments which go very far to show that it can be absolutely secured?—I am aware of Bang's experiments in which he found that 20 per cent. of the cattle which had been tested with tuberculin and reacted the first

year, failed to react the second year, and that a considerable proportion of the same animals failed to react the third year, and that he slaughtered one or two and found that tuberculosis was present in an active condition though slight.

3885. You are not aware of any cases where the refractory state can be caused to exist in the course of a few days or a few weeks?—No, that has been suggested, but I am not aware that that has been actually done.

3886. You do not know of any cases where it has actually happened?—No, I do not.

3887. (*Mr. Speir.*) Would you draw any distinction between a case where you would grant compensation for an animal seized in an apparently healthy condition and a cow in an apparently healthy condition with a bad udder?—For the purposes of meat condemnation?

3888. Yes.—Should I reject from consumption, a cow with a bad udder, but otherwise in a healthy condition?—No, I should not. I do not see in the present state of opinion upon the subject, how it is possible to do so.

3889. That is with regard to the rejection, but with regard to compensation, you expressed an opinion that you would give compensation for the carcass of an apparently healthy animal; now what would you do with a healthy cow with a bad udder?—That is difficult. If the farmer at once comes forward and says, this cow is in that condition and what must he do, I should certainly give compensation; if on the other hand you ascertain that this manifestly tuberculous udder is being used for the production of milk, I should not give compensation, and I should have him prosecuted.

3890. In that case you give compensation where the owner voluntarily draws the attention of the authorities to it?—In a case of that description.

3891. If the authorities detected the animal themselves, you would give nothing?—That would depend. If the authorities detected the animal and there was great reason for believing, reason amounting to proof, that this animal had been used for some time in that condition, then I would not give compensation.

3892. (*Mr. Cooke-Trench.*) That is if there was reason to suppose there was a guilty knowledge?—Yes.

The witness withdrew.

Mr. WILLIAM HENRY GREEN called and examined.

3893. (*Chairman.*) Are you a cattle dealer, farmer, and dairyman?—Yes.

3894. Where do you live?—I live about 3 miles from Manchester, at Higher Broughton.

3895. Can you speak to the effect on the public mind of the recent scare, as I may call it, of tuberculosis?—Yes, I think I can.

3896. Do you think consumers have become alarmed about it?—I do not think I know very much about that; I have not heard any great deal about it from the public.

3897. Has it affected the butchers' trade at all?—It has, very much.

3898. To what extent, and in what manner?—A butcher now goes into a market and he buys a beast, and for anything he knows it is all right and healthy; it is passed by the inspector in the market, and he gets it to the slaughter-house and he kills it; then perhaps it is seen to be just touched with that tubercular disease and it is taken from him. Naturally he does not want any more taken from him. He buys his meat ready killed, or goes to the nearest port of landing, and will not have any more taken from him. Our cows, they seem to think, are more affected than the bullocks and heifers, and naturally the trade in our cows is almost knocked on the head altogether.

3899. Recently the trade in cows for killing has not been so good as formerly?—All our best men that

used to buy our cows now have given up buying cows altogether; they will not run the risk of them.

3900. They would rather buy foreign beef?—They go to Birkenhead and buy the middling foreign meat there instead of buying our cows.

3901. Can you tell us the effect on the average price of cows for killing?—I should think that our cows are making quite three farthings a pound now less than they did do, or would do, if they were certain about their passing.

3902. You talk of your cows, how many calves have your cows; how long do you keep the cows before they are sent for killing?—The average life of my cattle that I milk myself is about seven months. I never keep one any longer; when I say I never keep one any longer, some will milk 12 months and some will not milk more than five months.

3903. You kill them after the first calf?—I never keep one the second time.

3904. But I suppose there are a lot of worn-out cows put on the market, too?—There are some old cows that are kept, but not in the town's dairies, they are not kept so long there.

3905. Is your business entirely in the town?—No, I supply a good many of the gentlemen.

3906. Is your cowshed in the town?—No, I have a farm myself; but still I keep a lot of cows up. I never let out.

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3907. Have any of your cows been condemned?—Yes, I have had them taken.

3908. Often?—I have heard tell of a good many being taken after I have sold them, and I have given a few of my own accord, too. Since this scare came in I did not want to get myself in any trouble about it.

3909. Young cows?—Yes.

3910. In that case the loss fell on the butcher?—Any that I had sold and had gone away from me would fall on the butcher. Of course, when I had one that I did not think it would be wise for me to put on the market, I did not do it.

3911. Have you any suggestions to make for an improvement of that state of matters?—I think if people have compensation for their beasts they would give them up, and they would naturally give them up where otherwise they would not do if they thought they were going to be paid for them, and they would never let them get into that bad stage if there is any such thing as doing any harm to the public with the milk from them. I suppose that is one thing that they consider is detrimental to the health of man. They would never let them get so far if they knew that they were going to be paid for them. I certainly think that the people who are in charge of a herd of cows know quite as much, or I think I might say a little more than bringing any stranger into them, I think they could tell more about them than bringing any person to go through them and to inspect them.

3912. Even if he were a competent veterinary surgeon?—Yes, even if he were a competent veterinary surgeon.

3913. How so; from the animals being off their feed?—They always show signs before, there are signs that you can tell by on watching them.

3914. You might see that an animal was amiss, but could you be sure of specifying the disease?—No, I am not going to say you might be sure in the early part of its stages, but you can be sure when it gets into the latter part of its stages that it is. In the very early part I am not going to say that you could tell, but you would have a very good idea; you would know there was something the matter with it. A man naturally, if he detects that, and the animal is in pretty good flesh, or good flesh, as I have seen many a one, you naturally do not fetch the inspector to look at it; you get shut of it; you get rid of it to the best advantage.

3915. Have you considered what source the compensation should be drawn from? Should it come from the State or from the locality?—I have not considered anything at all about that, because I do not know where it would have to come from.

3916. It is rather an important question, is it not?—Yes, I should think it is. It is a question I have not considered about, I should like to show you how I think it would be the best way to get at these infected animals if this meat and milk from these cows are detrimental to the health of man. If you were to think by employing the cleverest men you could find, I believe compensation would be the cheapest in the end and the most effectual, as a clever man will not give his services for nothing.

3917. He would not be a clever man if he did, would he?—No, I do not think he would; I think myself that they would not get them all then, nor nearly so many of them as they would if there was compensation paid for them, because, naturally, a man, if he had one, would say, while he thought there was something wrong with this "I will give it up, because, if it is infected, I shall get paid for it"; if not, of course, the animal is worth so much, if it is not infected, and he has to take it on his own account.

3918. (Professor Brown.) You said that a butcher may buy a cow in a market, that it may be passed by the inspector, and that notwithstanding it may be found to be tuberculous?—Yes.

3919. Did you ever see an inspector in the market examine a cow before it was bought by the butcher?

—We have an inspector who goes round, and does nothing else but view them in our Salford market.

3920. Just walks round through the market?—He walks round, and he takes notice. I do not think he misses very much, anyhow. I should not like to go and show one.

3921. How many animals would there be in the market when he is doing this?—We average from 2,300 to about 3,000 in our market; that is about the average of our Salford market.

3922. Notwithstanding that number you would be afraid to put a tuberculous one in there?—I should.

3923. Then he must examine every one of the cows?—He is a clever man, I think, and he has been at this job now for a number of years, and I think he thoroughly understands his business as an inspector. As I tell you, I should not like to put one into the market that was far gone in tuberculosis.

3924. I understood you to say that some of your cows had been seized?—Yes, they have.

3925. Do you mean in the market or in the slaughter-house?—No; they have been seized after they have been dressed in the slaughter-house.

3926. Then they did pass the inspector somehow?—Yes, in the market.

3927. Then it is not so dangerous as you seem to think?—I am talking about a bad case of a cow far advanced. There are cows that are affected with this, that I do not think anyone could tell, unless they can tell by the tuberculin test, but I have not seen that tried.

3928. In these particular cases of your cows, which were condemned after slaughter, you do not think any body could have found out that they were tuberculous?—I do not think they could by passing by them, and looking at them.

3929. You think, perhaps, if they had been carefully examined, by examining the chest and the glands and taking great care about it they might have been found out before they left the market?—They might possibly have been, but I am not a scientist at this thing.

3930. I think you said you do not lose anything by the carcasses being condemned after you have sold them, the loss does not fall upon you?—No, the butcher has to lose that.

3931. You do not give any warranty?—No, I never have done yet.

3932. I think you said that in one case you did not think it wise to put the cow on the market?—No.

3933. What did you do with it?—I sent it to the slaughter-house for the inspector to inspect it.

3934. Was it condemned?—Yes.

3935. Then it shows you were wise, perhaps, not to put it on the market?—Yes.

3936. I think you also said, just now, that you could tell more about the state of the cows than a veterinary surgeon could?—I say that people that are waiting on a herd of cows know when there is something the matter with them from the habits of the cows, and by their not always feeding as they ought to do, perhaps.

3937. And, in fact, the men who are in constant attendance on the animals, and the owner of them himself would be likely to have a suspicion of a tuberculous cow, and a veterinary surgeon would not notice it at all?—He would not, going through them.

3938. (Mr. Speir.) How many cow's carcasses have you had condemned?—I cannot exactly tell you that.

3939. Roughly?—I had one going now and then, but I avoid them as much as I possibly can, and have done ever since this business came in.

3940. How many cows' carcasses pass through your hands say in a year, roughly speaking?—Do you mean my dairy cattle or altogether?

3941. No, the dairy cattle alone?—I should think I have an average of 20 a week.

3942. Twenty a week sold for meat purposes?—You mean fat cattle, do you not?

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3943. Yes, the fat cattle?—I should think I have somewhere about perhaps a dozen a week or something of that sort.

3944. Then these will not be all milked by yourself if you have a dozen?—No, the ones I get in exchange; when these cows are made fat and dry I take them back and replace them.

3945. Say 10 a week, that comes to 500 a year; I want to get some idea how many in one year you have lost; even taking your worst year?—In my own stock do you mean?

3946. No, out of the whole lot that have passed through your hands?—I have never lost very many myself, because I have not kept them so long. If I saw a cow that I thought was infected with tuberculosis I should not buy it at all; I would not have anything to do with it.

3947. Returning to your own stock, of which you have more knowledge than of strange ones, how many of these do you sell off in, say, a year or a week?—I should think I sell about three a week of my own cows off. I do not keep them so long as some people do.

3948. Have you any means of knowing how many of these have been condemned after leaving your hands?—I have known a few good ones be condemned after leaving me.

3949. How many would there be?—Perhaps three or four of them have been condemned.

3950. In a year?—Yes.

3951. That is three or four out of 150?—Yes.

3952. Then you expressed the opinion that if compensation was given it would help to reduce the disease; did I understand you aright in that?—Yes, it would get the cattle into the hands of the authorities sooner than in any other way in my opinion.

3953. Would there not rather be a tendency for a great many people to buy third-class beasts?—Yes, there are people of that sort who want guarding against.

3954. How would you allocate the compensation, say, for an animal that might be taken in that way?—You mean to draw the line somewhere for compensation?

3955. Yes?—I have thought that over and I do not know exactly how that would have to be worked, unless it was by the weight of the carcase. I do not believe in people buying bad cows for the sake of what they are to get out of them. If a man, we will say, has a store heifer, or something of that sort, which is a very nice beast for a store, it would only weigh a very light weight, so I do not know exactly how that would have to be worked.

3956. You seem to be strongly of opinion that what I may call this raid against tuberculosis is tending very strongly to encourage the butcher to go into foreign beef to the detriment of the home producer?—I am.

3957. And that, consequently, if this goes on for a year or two our people will be put at a very great disadvantage?—I think that we shall have no butchers at all very soon if this thing goes on—not really butchers—there will only be some meat cutters.

3958. And, consequently, while the loss of this at first probably falls upon the farmer or the dairyman, ultimately the loss will fall upon the landowner, I presume?—I can tell you this, that men who used to be our best customers for our cows at one time are all going to Birkenhead now. Take Halifax, for instance, they had some sort of trouble there about one a while ago, and they bought no beasts at all in our market for several weeks.

3959. Have you any idea in either your own market or in Halifax of the basis upon which the inspector condemns the carcase?—I do not know what basis he condemns it on, but it was taken from them, and there was some kind of trouble with the inspector and themselves. I do not know how it was I am sure, but I know it stopped them all from coming to our market, and I know there were two

good men that I used to have almost every week for a good cow or two that I have never had since.

3960. And consequently, when no compensation is given, the owner, such as yourself, has to bear the loss just now, because you have to sell your animals at a much less price than you otherwise would?—We have. Good cows now are considered risky; they are put down as dog meat now—that is about it.

3961. (Mr. Cooke-Trench.) Has the inspector in the market the same opportunity of judging whether an animal is in a sound condition, or not, that the butcher has?—Yes, he has.

3962. And, therefore, if he is unable to detect on the casual examination that he is able to make whether an animal is tuberculous or not, the butcher would be equally unable to detect it?—Yes, and I think, perhaps, a little more so, because the one man is a skilled man and the other is not; he is only a butcher.

3963. You buy cows and you keep them about seven months and then sell them?—That is the habit; some of them we keep more and some, perhaps—bad milkers—less.

3964. You only keep them a certain number of months?—That is so.

3965. You do not breed from them a second time?—No.

3966. Is the milk that you sell from those cattle in the meantime able to pay for the whole buying price of the beast and the cost of feeding in the meantime; I am supposing now that you get nothing for the beast in the end?—No.

3967. Your profit is made in this way. You buy the beast for a certain sum and you sell him, probably, for something else?—Yes, there is always a deficiency.

3968. The milk in the meantime pays for his food and leaves you a profit?—That is it.

3969. If the animal is diseased and you lose the animal at the end, is there a consequent loss on the whole transaction in connection with that animal?—Certainly; a very considerable loss.

3970. So that if it was done to a large extent you would either have to retire from business or to protect yourself in some other way?—Yes.

3971. Have you heard anything of a combination amongst the butchers to refuse to buy without a guarantee?—Yes, I have.

3972. If that guarantee is given, the whole loss falls on the man who gives it—on the farmer or the dairyman as the case may be?—Yes.

3973. If they refuse to give it I suppose the butcher gives a smaller price, or refuses to buy at all?—Yes.

3974. So that in either case the loss falls upon the farmer or the dairyman?—Yes.

3975. (Mr. Murphy.) Have the butchers and farmers ever formed any insurance association in connection with this matter in your neighbourhood?—No, I do not think they have in our neighbourhood.

3976. Now to turn to those cows of yours the carcasses of which were seized, where would they have been seized?—In Salford; I am in the Salford Division, I am not in Manchester.

3977. In the Salford public slaughter-house?—Yes.

3978. Could you remember how many had been seized, say, last year—which would be more recent in your memory?—I have not had many this last year for I have been very chary about having anything to do with any cows that looked at all like this disease. Mine had been seized before this last year.

3979. How many were seized last year, you will remember that?—Seized in the slaughter-house, do you mean?

3980. Yes?—I cannot tell you.

3981. Your own cows?—This last year, after I had sold them?

3982. Yes?—I heard of two very good cows being taken, not in our division though, because they went out of Salford.

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3983. Your cows when they are sold, of course, may be killed anywhere?—Yes.

3984. You have nothing to do with that?—No.

3985. I did not know whether your mention of Salford meant to imply that they were, perhaps, stricter in their requirements at Salford than they might be in other places?—I do not know. The Inspector is very strict. He is a very clever man, I think, and whenever he takes one he gets his knife, and he shows you what he is taking it for. He does not take it without telling you why he is taking it, and he shows you his reason for so doing—whenever he has taken one of mine I mean. I am not going to say we are badly used individuals in Salford, or badly used in Manchester. I never saw Mr. King, the Inspector for Manchester; he has not been there very long, and I have had nothing to do with him. I am in Salford, and I have never seen Mr. King, but, I believe, he is a very straightforward sort of fellow. I do not see there is anything wrong done, but if they are ordered to take these cows they have to be taken.

3986. Mr. King is in Manchester, is he not?—Yes. You see we have two men with us now. I do not think we are very much worse used than they are anywhere else, but there are places where I do not think you always get such clever men as we have with us. Our man says:—"This is touched with tuberculosis and I am going to take it," and he takes it.

3987. You were saying that three or four cows were the number you had seized in a particularly bad season?—Yes, about that.

3988. Out of 150 last year?—I never had one taken last year.

3989. How many cows do you think of yours went to the slaughterhouse last year?—They all go to the market; they are all sold there.

3990. I mean to the slaughterhouse?—To our Salford slaughterhouse?

3991. Salford or Manchester: wherever you could trace them?—I do not think many of my cows went to the Manchester slaughterhouse. Most of our cows, as a rule, have been sold to the country butchers.

3992. So that, really, the three or four that were taken would have been taken in—?—In any case they would have been taken.

3993. Where were they taken; were they taken in a public slaughterhouse, or were they taken in a country district where there was no public slaughterhouse?—There was one taken in the country. One of these good cows was taken in the country, and the other was taken, I think, in a Manchester slaughterhouse, not in the public abattoir but in another slaughterhouse.

3994. Then you were more fortunate last year, and that you attribute to having been more careful?—I am very careful about what sort of cows I buy. The cows I used to buy for my own milking and dairying, I would not buy them at all now.

3995. Because of what?—Because of this tubercular disease.

3996. On what grounds do you reject them; on account of their appearance?—If I see a cow that is a little bit slippy in its coat—its hair—I naturally think "that cow has been somewhere pretty well kept, or something of that sort, I shall not have anything to do with that." I would rather give a pound or two more for a cow out of a healthy country place, for instance, out of Cumberland or Westmoreland, than I would if I thought it was a cow out of what we call the low country. There are counties, I know, where disease is, in my opinion, more susceptible to be bred than in others; in fact, I know one farm that I would not have a cow off at any price.

3997. So that you attribute your freedom during last year in, shall I say, a large degree to the care that you, yourself, have exercised in the choice of your animals?—Yes, I have been obliged to do, or else I would not have paid my way.

3998. And you have in coming to a decision, had rather a regard to their appearance than to anything else?—Yes.

3999. Could you carry your mind back to the year before; do you remember whether you had any seized, or had you begun to be specially careful at that time?—A few years ago things were not quite so strict as they are now, and there were many places that we could get cows passed away to that we cannot get them passed away to now, if we thought they were infected in the years gone by.

4000. Can you remember the facts as to 1895, and what your experience was then?—You have told us about 1896, that you were rather more fortunate in that year?—I do not know that I can. I know, as I told you, that we could get them passed away to many places in 1895 that we cannot get them passed away in now, in these outlying places.

4001. Can you say whether you had actually any of your own animals taken in 1895?—I do not know, I am sure, whether I had or not; I am not certain about that. I might have had an odd one, or something of that kind.

4002. You would not be sure that you had any?—No, I am not sure.

4003. But you might possibly have had one?—I might have had one, or something of that sort.

4004. Would your books show it, or would you have any record of it?—Yes, I daresay I could find it in my books; at least I am sure I could.

4005. Could you show it for the year before, too?—Whether I had them taken?

4006. Yes?—I daresay I could by looking back; I do not keep very many books.

4007. (Chairman.) If you could supply the information for the last three years it would be useful to us?—I should be very happy to supply you with any information that may be useful.

4008. (Mr. Speir.) You attribute your freedom to loss during the last year, or the year before, say, to more careful handling of the stock; more careful selection I might say?—Yes.

4009. If that was done by yourself, I suppose the same thing could be done by other people in the same line of business?—Yes, I daresay it could.

4010. Do you not find in your purchases that animals that you might select, say at the new year, to all appearance healthy, might in the autumn show the disease when you sell them?—Yes; you are not always going to be right about it.

4011. Have you had no animals like that during the last two years, even with careful selection?—Yes, I have had some that I have been doubtful about, but when I have been doubtful about them I have not kept them.

4012. You are doubtful about them before you put them away?—Yes.

4013. Were these animals condemned when they went to the slaughterhouse?—Not all of them.

4014. I want to know how many were, if you can give me a rough idea of that?—I do not know whether there were any of those that I was doubtful about that were condemned, or not.

4015. We find very great difficulty, I may tell you, in getting at what is actually the loss from this disease, and if you can give us any information as to it which will show whether you have one out of a hundred, or two out of a hundred, say, it will be a great assistance to us?—I will first tell you something that, perhaps, will be some assistance to you. A week since I had a cow that I was doubtful about; I sold that cow for 15s. less to a man than I had been offered from another man. I knew very well where it was going if I sold it to the first customer that there would be some trouble about it; at least I did not know very well, but I thought so; and, therefore, I did not sell it to him. I sold it to a man that was going right away, that I cared nothing at all about, you understand, because it was no risk to me. I did not want to sell it to a man who was a good

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customer to me, and for it to be taken from him and then next week for me to be avoided of that customer; do you understand?

4016. Yes, I understand. With reference to the animals you are keeping for milk, and which you always sell for meat purposes afterwards, will you oblige me by giving me roughly what is the difference in price between buying and selling?—There is more difference now than ever I knew. With this scare of this disease my cows now are losing from 2*l.* to 3*l.* a head more than they used to lose.

4017. That is scarcely what I want to get at; I know perfectly well how the circumstances stand. Now you buy a cow at 20*l.*, or, say, the average price of your cows is 20*l.*, what will be about the average price of these animals after you have milked them and sell them out?—I should think that my cows lose about from 4*l.* to 5*l.* a head on an average from buying in to selling out. That is what I wanted to tell you. But I believe I am an exceptionally good keeper. Every cow I have now, if they do not milk they feed, and that is the reason why I keep them such a short time, because I never profess to keep a cow after it is coming down to seven quarts a day, I do not consider then it is paying for its keep. Then I should keep it a little longer to make it into little better beef.

4018. Roughly speaking, animals that cost you 20*l.* will have to be sold eight or nine months later for about 15*l.*?—Yes, and in a good many people's hands for less than that.

4019. If you were not an exceptionally good feeder, do you mean that they would probably have to be sold for 10*l.*, 11*l.*, or 12*l.*?—Yes, and less than that.

4020. That happens in many cases in other people's hands?—It does very often.

4021. It even happens, I could believe, in your case when you have a cow which is an exceptionally good milker and does not put on flesh?—That is another thing. A good milking cow—a heavy milking cow—is more susceptible to this disease than a cow that is not a very heavy milking cow. I do not go in for cows that give a great quantity of milk. If I had to give 20*l.* for a cow I would sooner have one that did not give so much milk, and make 16*l.* of it, than I would have one that I shall only be able to get 10*l.* for.

4022. Which would happen very often with you?—Yes.

4023. I want to bring it out in evidence that most dairymen must purchase a very great number of cows which do not realise after eight, nine, or 10 months' milking more than half their price?—There are plenty of them that do not do it.

4024. And the average of even the ones that feed well is probably about three-quarters of the price?—Yes.

4025. (Mr. Cooke-Trench.) Are you able to follow up the cows that you sell, and to know what becomes of them?—No, I could not very well.

4026. Therefore you cannot say how many of those you have sold have been condemned afterwards?—No.

Adjourned until to-morrow at 12 o'clock.

TWELFTH DAY.

At 7, Whitehall Place, Westminster, S.W.

Thursday, 4th February, 1897.

PRESENT:

SIR HERBERT E. MAXWELL, BART., M.P. (CHAIRMAN).

Dr. R. THORNE THORNE, C.B., F.R.S.

Professor G. T. BROWN, C.B.

SHIRLEY F. MURPHY, Esq.

T. COOKE-TRENCH, Esq.

JOHN SPEIR, Esq.

T. M. LEGGE, Esq., Secretary.

Dr. FRANCIS VACHER called and examined.

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4027. (Chairman.) I believe you are a Fellow of the Royal College of Surgeons, Edinburgh?—I am.

4028. You are a vice-president of the Incorporated Society of Medical Officers of Health?—I am.

4029. You have been medical officer of health for the county of Chester for four years, and formerly you were medical officer of health for Birkenhead for 18½ years?—Yes.

4030. I believe you have had a great deal of experience in the inspection of meat?—I have.

4031. I think you have published some opinions bearing on the subject of our inquiry?—I have, on various occasions. Noting that very little attention was paid to this subject by medical officers of health, I wrote a little book, in 1878, on the diseases of animals rendering them unfit for the food of man, in which I advised that: "When the disease (tuberculosis) is uncomplicated and manifestly in an early stage, when it is unaccompanied by wasting and has made deposits in the thorax only, I should say, 'pass the carcass.' That was my first opinion. As

a large majority of the tuberculous animals brought to the slaughter-houses would come within this description, my advice and practice then was only to seize where the deposits were extensive or distributed through many organs, and where there was great wasting or evidence that the animal had died of the disease. Subsequently, in a little book I wrote in 1885, at the request of Mr. Ernest Hart, on the physical appearances of sound and unsound food, I gave similar advice. Shortly after this I changed my opinion, and in the "Food Inspector's Handbook" which I wrote in 1891, I advocated seizing a carcass where there was distinct evidence of the disease. My change of opinion was largely due to Koch's discovery in 1883. It seemed to me that the disease must be regarded as communicable by swallowing infected food as well as by breathing infected air or having infected matter introduced into the blood. It seemed to me also that tuberculosis could not be regarded as localised, because the disease was only apparent in the lungs, for through the lungs circulates the blood and

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sooner or later the bacillus will be carried into the system. I was further much impressed by the fact, noticed again and again, that a carcass might be in excellent condition while there was evidence of the disease in many organs. Towards the end of my service under the Birkenhead Corporation I made an attempt to have all carcasses distinctly affected with tuberculosis condemned. A new meat inspector was appointed, and he loyally supported my efforts. However, the attempt cannot be regarded as a success. After carcasses were seized and an application made to the magistrates to condemn the same under section 117 of the Public Health Act, 1875, the magistrates commonly judged by the appearance of the carcass rather than by the evidence of disease in the viscera. I am of opinion that as long as the practice ordinarily obtains of getting the magistrates to view the carcass—in applications to have the carcasses of tuberculous animals condemned—the magistrates will judge by the general appearance, and if the meat looks well refuse to condemn it. As I still believe that the probability of bacilli being present in the flesh and blood of tuberculous animals is very great, and obtaining the condemnation and destruction of carcasses of animals but slightly affected is scarcely practicable under the present law, I would suggest an alteration in the law by which magistrates, while still retaining the power to order such meat to be destroyed, should have the power when there is evidence that the viscera are diseased and yet the meat looks wholesome, to order such meat to be thoroughly boiled under the direction of the sanitary authority. Wherever there is a public abattoir this could easily be arranged. I may add that where there is no public abattoir, no efficient inspection of meat to be used for food of man is possible. With reference to the statement that I make as to its being the practice to submit the meat or carcass to the magistrates in most districts, and it has always been so at Birkenhead, I may say that lately, Mr. Stewart, the stipendiary magistrate at Liverpool, has been condemning meat merely upon the evidence of the meat inspectors and experts who give evidence thereon, without himself viewing the carcass. When a solicitor took exception to this course, the matter was inquired into, but eventually the solicitor came to the conclusion that he could not press the matter, as he did not think that the stipendiary magistrate was required to view the carcass, but that it was quite competent for him to condemn without actually seeing the meat and to judge by the opinion of the experts.

4032. Before proceeding to your experiences as a county medical officer, would you allow me to ask if you have considered whether the rigour of inspection which you advocate and apparently have succeeded in instituting in Birkenhead, does not affect with different force foreign meat—imported carcasses that is to say—as compared with home supplies?—I do not think that it does. I think that it is exceedingly probable and almost certain that tuberculosis is infinitely more abundant in home carcasses than it would be in imported carcasses; I do not doubt that at all.

4033. Assuming that, you would not deny the possibility or even the probability of a certain number of prairie-fed animals being affected with tuberculosis?—It is known that a certain number of the imported animals are affected—a small proportion.

4034. These animals would not be inspected with the same minuteness or rigour as the home-reared animals?—Certainly they would not.

4035. That is to say, a carcass from which the viscera and offal had been removed might exhibit no trace of tuberculosis although the animal actually had been suffering from it?—It might; there is no doubt.

4036. Now, would you tell us your experience as a county medical officer?—Since I have been county medical officer I have noted that while the phthisis death-rate has not been generally exceptionally high

(1.30 per 1,000 living in 1892, 1.25 in 1893, 1.12 in 1894, and 1.22 in 1895) it has been high in the Altrincham urban district (2.37 in 1892, 1.8 in 1893, 2.32 in 1894, and 1.07 in 1895), and in Macclesfield borough (2.02 in 1892, 1.88 in 1893, 1.97 in 1894, and 2.24 in 1895). Inquiries which have been made as to the cause of these have not indicated that the use of tuberculous meat or milk was a contributory cause. There appears to be throughout the county very little meat inspection done. I may say, practically, that the inspection of meat is more or less neglected, except only in the Wallasey urban district, where there is a large amount of meat taken and destroyed from the slaughter-houses in connexion with the foreign animals wharf. This amount is very considerable, I am referring now to my report for the county for the year 1895. There I say that: "The powers of medical officers of health and inspectors to seize and obtain an order to destroy any kind of unsound food are therefore ample; yet there appears to be very little food condemned in the county. Either there is practically no trade in unsound meat, &c., in this large county, or the trade is not interfered with. The subject is only alluded to in five reports. In the Borough of Crewe two butchers were proceeded against for exposing for sale meat unfit for food. One was imprisoned for a month for exposing the carcass of a pig which was in an advanced tuberculous condition. The magistrates dismissed the case against the other butcher. In the Borough of Macclesfield, the medical officer of health was on three occasions called by the inspector to examine bad meat. In two instances the meat had been kept too long, in the third other parts of the carcass were tuberculous. In all 654 lbs. were seized and destroyed. The Bredbury and Romiley District Council took proceedings against a butcher for exposing in his shop meat unfit for human food, and obtained a conviction. At Knutsford an offence under the 'unsound meat' clauses of the Public Health Act, was reported to the medical officer of health, but on investigation was found not proved. At Wallasey the amount seized was very large—59,936 lbs. of meat (beef, mutton, veal, and pork), and 19,619 lbs. of offal. Nearly all this was seized at the slaughter-houses in connexion with the Foreign Animals Wharf. A small proportion was from the shops situated in the district. No proceedings were taken other than applications to magistrates for orders to destroy the meat and offal seized." That gives the whole of the unsound meat; there is no record kept which excepts tuberculosis and differentiates the one disease from the other; this is all simply put down as beef, mutton, &c., seized.

4037. You are not able to tell us approximately what proportion of the meat was tubercled?—No, it is not known. In the Wallasey district there was one sanitary inspector; and when they put up the large lairages and abattoirs there, it was thought necessary to appoint an assistant inspector, and I may say that, practically, the time of the assistant inspector is given to the lairages and abattoirs, and he has very little time indeed for anything else, so that the assistant inspector, to all intents and purposes, is a meat inspector.

4038. Where is Wallasey—on the Mersey?—Wallasey is next to Birkenhead. The Wallasey lairages and abattoirs form part of that large foreign animal district.

4039. Will you proceed now to deal with milk?—As regards milk, Cheshire is a county in which are a large number of milk farms, many of them being owned by model landlords, who provide good out-buildings for horses, cattle, and swine; still the accommodation in shippens provided for cows, even in first-class farms, rarely exceeds 400 cubic feet of air space per head, and is often less than this. In many districts no regulations have been made under the Dairies, Cowsheds, and Milkshops Order; and

without regulations it is impossible to ensure that the premises, cattle, and milk are kept clean. And in few districts is the inspection anything like as systematic and careful as it should be. From the number of cases in which I have noticed tuberculosis in animals used for dairy purposes, before being sold to the butcher, I incline to think that very many milch cows are more or less tuberculous. This opinion is confirmed by what happened at Mr. F. T. Walley's farm, Tilstone Bank, Tarporley, in 1895. Early in the spring of that year he had his cattle tested with tuberculin. Out of 90 cows only 20 were found sound, and the 70 were accordingly eliminated.

4040. Eliminated by what process?—He merely put them aside, and no doubt they were eventually sold for meat purposes, that is, for food purposes. Of course, ordinarily in a dairy, after a cow has had a dairy life of some four or five years, the eventual course is to send the cow to the butcher; that is, all dairy cows eventually come to the butcher, or very nearly all. There was that test in the spring of 1895; then, in October 1895, of the 20 found sound in the spring, nine reacted. So you see that shows, taking them altogether, that something like 88 per cent. of the whole lot were found to be tuberculous, and these were eliminated. Fresh stock is tested twice before being added to the dairy. Mr. Walley's stock cows have been tested every six months since, and, with slight exceptions, shown to be sound. Testing with tuberculin appears to me the only way that a farmer can ensure that his customers receive from him milk which is free from the risk of being tuberculous; that is, so far as that is a satisfactory and thoroughly reliable test, of which, of course, not being an expert, I can offer no opinion.

4041. Was the general condition of Mr. Walley's farm, and the buildings, and cowsheds, and so on, satisfactory?—They are very good indeed. I think it is one of Lord Toller's farms—either Lord Toller's or Lord Crewe's. The outbuildings are excellent. Mr. Laithwood, the county veterinary surgeon, informs me that he has tested herds of cows for Mr. David Hulme, Hulme Walford Hall, Mr. John Nixon, Somerford Booths, Mr. Joseph Thompson, New Hall, Gawsorth, the Crewe Corporation, C. P. Scott, Esq., the Firs, Fallowfield, and 43 animals of his own. So far he found 63 per cent. reacted to tuberculin, and were pronounced tuberculous. As regards the procedures available or desirable for controlling the danger to man through the use as food of the meat and milk of tuberculous animals, I am of opinion as follows: (1) Cases of tuberculous disease in the human subject should be notified compulsorily to the sanitary authority, as other dangerous infectious diseases ordinarily are; (2) Sanitary authorities should, by means of handbills and otherwise, disseminate among the people locally some elementary information as to tubercular disease; in particular, that it is communicated chiefly by dried and pulverised phlegm (from consumptive patients or animals) carried in the air as dust, and that this may be prevented by easily applied measures of cleanliness; (3) Sanitary authorities should, by their officers, visit houses in which cases have been notified, report as to the milk supply, and the state of the premises, remedy defects, &c.; (4) All sanitary authorities should be required to make regulations, similar to approved regulations made under the Dairies, Cowsheds, and Milkshops Order, and see that they are carried out; (5) Sanitary authorities should recommend the boiling of all milk to be used for food, thus rendering it absolutely safe; (6) Public abattoirs should be established, and, after a short time, entirely take the place of private slaughterhouses; far more efficient inspection of the slaughtering of animals for food purposes should be provided; (7) Cases of bovine tuberculosis should be subject to compulsory notification, as cases of pleuro-pneumonia, &c. are, and, when ordered, should be compulsorily isolated; (8) The herds of dairy

farms should be tested free of cost by the Government or the county or the sanitary authority to farmers agreeing to get rid of animals proved to be tuberculous. Dairy farmers should be enjoined to have all cows tested with tuberculin before adding them to their herds; (9) Animals proved to be tuberculous by the tuberculin test should be required to be ear-marked in some regulation manner; (10) Tuberculous cows notified or discovered should be subject to compulsory slaughter, compensation to be paid to the owner for them by the local authority, to the extent of a fourth or a third of the value, a limit being put upon the value.

4042. That, in your view, is an ideal system of precaution. How far are you prepared to recommend it as practicable?—It seems to me that it is not very difficult. I do not see why regulations which have proved so eminently satisfactory in the case of the old cattle plague, in the case of pleuro-pneumonia, in the case of foot-and-mouth disease, and also, I think, fairly satisfactory in the case of rabies and glanders, should not prove as satisfactory in the case of tuberculosis.

4043. You have the initial difference of the immensely greater prevalence of tuberculosis than of any of the other diseases that you have mentioned; for example, the herd of which you have given us the particulars had about 88 per cent. reacting. It is rather a serious matter to order the compulsory slaughter of 88 per cent. of a herd?—I would not propose to order the compulsory slaughter of 88 per cent. What I would propose, proceeding upon the lines of the recommendations in the Report which was signed by Sir George Buchanan and his co-commissioners, is that the animals eliminated when found to react, might be sold for food purposes, and, as I have suggested in another part of my evidence, that they might be ordered to be boiled. I think some regulation of that kind actually obtains either in Brussels or in Berlin—at least it does under some foreign authority. Where they find there is evidence of considerable amount of tuberculosis, they then condemn the whole carcass; but where the evidence of the disease is merely restricted to the lungs, or is only limited, and they do not consider themselves warranted in condemning the whole carcass, then they order the meat to be thoroughly boiled, and of course then it is sold as second quality meat, and they get, instead of their 8d. per pound or so, 4d. per pound—something like half-price. Mr. Legge, the secretary to the Commission, informs me that this practice is largely adopted in Germany, so that it may be taken that it is the practice at Berlin. I think it makes the system I advocate much more practicable, if, instead of destroying the meat, it is merely reduced in value, and sold at a lower price.

4044. Even so; I suppose you would admit that you would be laying a very heavy restriction upon the home producer from which the foreign producer would be comparatively immune?—The foreign producer's cattle is, as I have already stated, only affected in a very slight manner compared with the extent to which home cattle are.

4045. You are talking of the meat supply?—Yes.

4046. But the foreign dairy supply comes from various sources, does it not?—Yes, that is so.

4047. You have no reason to suppose that there is less tuberculosis in continental dairies than in British dairies, have you?—No; I have no reason to suppose that.

4048. Your regulations could not extend so far?—No, they could not extend, certainly, beyond the seas. However, here is the case of this Mr. Walley, who has taken the trouble to eliminate tuberculous stock from his dairy herd. He is doing quite as good a business as anybody else. His stock now numbers 108 or 110, and he is quite as prosperous as any of his neighbouring farmers; yet he has taken the trouble to go to this little initial expense. I suppose the fact of his having done that to some extent has advertised him and given him a reader

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market than he had before. He has since that time opened a shop in Liverpool, and now sells his milk largely at the shop; before that he used partly to use the milk for cheese making and partly to send it to a wholesale dealer; so I take it that owing to this initial expense which he has incurred he has now a better market for his produce than he had before, and he is doing a better business.

4049. (*Professor Brown.*) I understand that you condemn or seize a carcase if there is any degree of tubercle apparent in any of the organs?—That is what I tried to do in Birkenhead. Now, of course, in the first instance, the inspection of meat does not come under my duties at all.

4050. That seems to indicate that in your view it is dangerous under any circumstances, however slight the degree of tubercle may be?—Yes. What I have said is this: that if I found a slight amount of tubercle in the carcase that would imply some amount of risk, and I would advocate that that meat should not be sold uncooked, but should be ordered to be cooked by the local authority, and then sold as second quality meat.

4051. Are you aware that the experimental evidence suggests that unless there is something like generalised tuberculosis, or at least advanced tuberculosis, the raw meat of the animal properly collected is frequently harmless to such susceptible animals as guinea-pigs and rabbits?—Yes, I am aware of that.

4052. That does not alter your view as to the risk of consumption in the cooked form by the human being?—I think that special attention is drawn to that risk in the evidence which was submitted to the previous Commission on tuberculosis. It was there stated that if a carcase was but slightly affected, we will say, if there were a few grapes in the lungs, and in the course of cutting up and preparing this carcase the butcher ran his knife through some of these grapes, and afterwards cut up the carcase with the knife, the result would be to smear actively infective material over the surface of this particular joint, and that if this particular joint were afterwards used as rolled ribs, we will say, then the actively infective material might, even after being boiled, be still actively infective as food.

4053. And that, as you say, would apply only to the case where you used rolled beef?—Yes.

4054. That was the result of the experiments?—Yes.

4055. Therefore, the moral would be, in such cases of slight tuberculosis not to eat rolled beef?—Yes.

4056. But to eat it in the ordinary way of open cut joints, sirloins and other parts, the whole surface of which would be exposed to the boiling water or to the fire?—Inasmuch as inspectors now have no power to cut into the carcase at all, all inspection is more or less superficial. It might quite happen that while the hindquarters of an animal might appear to be fairly healthy as far as you could tell, with no indication of disease outside, yet the pope's eye gland might be affected with tuberculosis, and that being fairly in the centre of that joint, any joint that happened to be cooked might never be elevated to a temperature at its centre which was a sterilising temperature, a killing temperature.

4057. The fact seems to be that you took a high standard, and declined to allow the consumer to run any risk?—That was what we tried to do. I tried to make the standard at Birkenhead higher than it was elsewhere.

4058. Your contention is that when there is any kind of tuberculosis the meat should either be destroyed or cooked?—That is my contention.

4059. It should be in some way sterilized?—Yes, that is my contention.

4060. You say that the magistrates will, in spite of any evidence, judge from the appearance of the meat?—I say that I have again and again found that they do so; a magistrate has actually said to me: "Oh, doctor, the idea of condemning this meat, why it is 'Christmas meat'; it is prime meat."

f 4061. That has occurred in your own experience?—Frequently.

4062. We have had repeatedly statements made by other witnesses that it is the rarest thing possible for a magistrate to hesitate about condemning a carcase to which his attention is called, and that he nearly always takes the evidence of the expert; but that is not your experience?—You see there was a very strong opposition in Birkenhead to the system of inspection which I tried to make stronger than it was before. The consequence was that a good deal of pressure no doubt would be brought upon the magistrates, and they would see a good deal in the papers of arguments by the butchers, and by the friends of butchers.

4063. At any rate you cannot say, as other witnesses have, that it is a very rare thing for a magistrate to refuse to condemn a carcase when it is brought before his notice by the meat inspector?—No; I cannot say that.

4064. You said that you find more tubercle among English animals than among foreign; are you judging from the condition of the animals at the Birkenhead and Wallasey wharves?—Merely by that. I admitted to the Chairman that the system of inspection at a foreign animals' wharf must necessarily be very superficial. Admitting that that is so, I should say, judging from that very general and superficial inspection, there is not a very large amount of tuberculous animals sent in at the foreign animals' wharf. But where inspection is better, as it would be at a home abattoir, then I should say that the proportion of tuberculous carcasses was larger. I do not know whether you have some figures upon the subject, but I think it would almost necessarily be so.

4065. But you are not speaking from any knowledge of the state of the prevalence of the disease in continental countries?—No, not at all.

4066. Nor from any statistics?—No.

4067. Merely from your observations in the foreign animals' wharves in Birkenhead and in Wallasey?—Yes. I think this may somewhat explain it; in any home abattoir there would be a large number of cows which are old dairy stock sent in almost necessarily. Now when they are importing animals they would not import old stock.

4068. It would not pay them probably, to do it?—No.

4069. In reference to these 70 cows that reacted from tuberculin?—Do you know what became of them?—I do not know what became of them, but I have very little doubt that they were eventually sent to an abattoir.

4070. Is it not probable that the owner of them sent them to the market at once and got rid of them?—I do not think he did.

4071. Are you aware that that is a very common occurrence?—I should think it was a very common occurrence, and on account of that I made the suggestion that animals after being tested by tuberculin, if found to react, should be ear-marked.

4072. Do you know who made the test; was it a competent person?—I cannot tell you who was the veterinary surgeon, but he was a competent man. I have spoken to him and seen him with Mr. Walley; he called at my house about it.

4073. Are you aware that making the test involves a certain amount of care and knowledge of the methods?—Yes, I am.

4074. Is it your opinion that in using the test any person should be permitted to perform the experiment?—I think it must require considerable skill and knowledge. Veterinary surgeons that I have spoken to have quite admitted that it is not a thing which could be done by any veterinary surgeon who had not had previous experience in it. This man who tested Mr. Walley's herds I have no doubt was a man who was in the habit of applying the tuberculin test.

4075. He, I believe, made the statement that he had in certain cases been in the habit of testing the same herd regularly at certain intervals?—Mr. Walley

informed me that his herd had been re-tested every six months since.

4076. Have you thought anything at all about the risk of damage being done to the food supply by milk or meat by the repeated injection of a poisonous substance in that way?—That I thought was surely a matter to be left to the judgment of the experts.

4077. But not to the judgment of the stock-owner probably?—I know the question has been raised from time to time, but I understood from my reading that there was practically very little risk, that possibly the only risk was something like this; that if there was a localised amount of disease in the animal, possibly trying the tuberculin test might tend in a little way to develop it. That is all I have ever heard alleged against it.

4078. Are you not aware that when the method was first tried as a curative method on the continent and also in some of the hospitals here, that the effect was to distribute, or at any rate to indicate the development of, the tubercle in parts where it was not suspected to exist?—I think I may have heard that; that was rather implied in what I said just now.

4079. Do you remember some investigations of Professor Virchow which led to the conclusion that the injection did distribute tubercle from the centres?—I think I may have heard that, that is all rather implied in what I said just now.

4080. So that at any rate it appears there is a certain amount of risk in using the agent, which suggests that the animal so treated had better be got ready for the butcher as soon as possible?—I do not know that I should say that but really I am not an expert on the tuberculin test, and I do not feel that my opinion is worth much upon that subject. I leave that to those who are experts.

4081. You have heard probably that by repeated injections at short intervals you may render an animal perfectly refractory to the injection of tuberculin?—I may have heard that.

4082. Have you any experience of the farmer's view of this matter from your conversation with them; do you think they complain of suffering very much loss from tuberculosis?—They have not complained to me of suffering much loss, indeed I do not think they do suffer much loss. My contention is rather that there are a good many milch cows whose owners go on using the animals and do not suffer a loss.

4083. You have not happened to meet with any cases where dairy farmers have been anxious to keep a tuberculous animal or two because they give so very much milk although of poor quality and eat so little food?—I have not heard of that.

4084. You have not met with a case of that kind?—I have not.

4085. (*Mr. Speir.*) Have you any knowledge of districts in, say, the United States and Canada, where foreign cattle usually come from?—I have been in Canada, but I have no knowledge of it in that respect, with reference to cattle.

4086. There is a prevalent opinion, and I think you almost expressed it in one of your answers, that these cattle were prairie-fed cattle—did I understand you to mean so?—I do not think I said they were prairie-fed cattle.

4087. The word prairie was certainly used by someone—I cannot exactly say by whom?—I know the conditions under which cattle are kept in Canada. I had a son who went out to Canada to learn farming there, and I have learnt a great deal from what he has told me. Then, as I have said, I have travelled in Canada myself. I know that farms in Ontario are worked in a very careful systematic way, and that there is nothing rough there. They commonly send their milk to a central station where it is used for the making of cheese, and they use on their farms, very often, electric lighting, steam ploughs, steam reapers, and all kinds of modern apparatus.

4088. Yes, but what about the housing of the cattle—I expect you agree with me and many of us that much of the spread of disease is caused in the

house, and not outside?—I think that these shippens, where a great many milch-cattle are confined, especially those in towns, practically all their lives, and where they are allowed air space which does not exceed 400 cubic feet, and very often is considerably less than that, have a good deal to do with the nursing of the disease.

4089. In your travelling in America did you find that the stock were more outside than what they are in Britain, or less?—I certainly think they are more in the open.

4090. And in regard to the houses, how did they compare, as far as the cubic space was concerned, with our cattle here?—I really could not speak exactly to that, but I should think they had more room. Why cows are allowed so little room in towns is really because the ground rent is so heavy that people cannot afford to build a byre sufficiently large for them. But in Canada where land is plentiful and cheap, and they can run up shanties with comparatively cheap labour, and where they import corrugated iron, and things of that sort, which readily can be adapted for cowhouses, it is very easy to provide them with better accommodation than is given here.

4091. But then the bulk of our cows are not kept in towns, and land is not so very dear outside, on an ordinary farm?—I do not know; I was rather surprised when I came to the county and found that landlords who take a great deal of care in providing excellent homesteads for their farmers and excellent out buildings for their horses and cattle should not have given a little more cubic space to cows than they have done.

4092. How do you find the buildings of America compare with ours in reference to the light?—I did not specially go through the country to look at the farms or with a view to see how the cattle were housed.

4093. In connexion with the 59,936 lbs. of meat that was condemned at Wallasey, what was the principal reason of such a large quantity of meat being condemned?—A good deal of it might be due to the fact that the animals were sick or dying when they were landed, or something of that sort; then some of it might be bruised meat. There was no difficulty about it. I do not apprehend that any considerable portion of that would be tuberculous. The owners of this meat taken at Wallasey were not fined. They are willing to let the inspector take what he is inclined to take.

4094. In your own county you say you have only an average of about 400 feet of cubic space per animal; what do you think is requisite to keep an animal in proper health?—I have recommended at least 600 cubic feet, and when people have written to me with reference to the byelaws and what I propose, I have said that 600 cubic feet seemed to me not an undue proportion. In some districts they have actually put up the figure to 800 cubic feet, but I do not know any district in which they get 800.

4095. Presuming you had 600 cubic feet, would you make any other regulations necessary for the proper housing of the animals? If any farmer or landowner gives you 600 cubic feet, do you stipulate for any other regulations in connexion with it?—The County Council has no power to stipulate even for the 600 cubic feet. These shippens already exist. They were put up by such capable farmers as the late Lord Tollenmache; he was a landlord, but he was a very capable farmer also; and one has to rest content with that—one cannot change that.

4096. I understand that the county councils have power to make regulations in connexion with that to suit themselves?—I do not think so. I do not see how the county council could come in. The county council has not many powers for interfering with what the district council allows. If a parish council in a rural district complains to the county council by petition that the district council are not doing their duty as regards sewerage, as regards water supply, or something of that sort, then the county council can

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order an inquiry, and under those circumstances they would ordinarily send me to conduct an inquiry into the district, and under those circumstances I might report that the animals had not a good water supply or a sufficient amount of air space, and then possibly some action would be taken; but we cannot directly interfere, so far as I know.

4097. I cannot directly speak with regard to what is the law in an English county, but I am quite positive that at least half the counties of Scotland have fixed a certain cubic space as being necessary, and in nearly every case, even with a smaller animal, it is more than what you seem to use in Cheshire. Would you like that such conditions as that should be applicable in your own county?—I think it would be an advantage if we had definite power to require more air space.

4098. What about ventilation; have you made any regulations with regard to that?—As I told you before, I do not think we are competent to make regulations. I advise the district authorities to make regulations as they are empowered to do under the Dairies, Cowsheds, and Milk Shops Order. I can advise them to do it, and I can personally advise the medical officers to advise their authorities to do this. But in some districts they have made no regulations at all, and all I can do is to persevere in trying to persuade them to do something. In other districts where regulations have been made, they are not kept as they should be.

4099. Now, with regard to this farmer's stock at Tarporley, do you think his stock is a fair average of those in the county previous to being tested?—Yes; if I had asked previous to their being tested I think I should have heard that Mr. Walley's herd were as good as any ordinary herd in the county.

4100. At least, not any worse?—Certainly not.

4101. The presumption, therefore, is that the whole county is, practically speaking, in much the same condition as his herd would be?—I do not like to say that; you must take the testing for what it is worth.

4102. The presumption I put it?—It is only just one sample out of the lot.

4103. How would you propose to carry out the compulsory isolation of animals in the scheme you have sketched out for us?—It is not a very difficult thing; it would be quite possible to have compulsory isolation even in the one building. You could have such an arrangement put up in a shippon, that you could have your tuberculous animal here and the sound animals there, and the sound animals would not be prejudiced by the tuberculous animals.

4104. And the cost would be comparatively trifling?—I think it would be very small.

4105. You do not think either the landlords or farmers would fret very much at being asked to do so?—I do not know that they would, I cannot see why they should.

4106. Do you think it would even pay the farmer to do that on his own account, as it has paid Mr. Walley, or seems to pay Mr. Walley?—There was a certain amount of initial outlay, and after that I think Mr. Walley did very well indeed.

4107. I do not presume that Mr. Walley has done this as a philanthropist?—No.

4108. I expect he has done it from a pounds, shillings, and pence point of view?—I expect so.

4109. Therefore, if he is likely to find it to pay, others may follow?—I do not see why others should not do it, too, and I would recommend others to follow his example.

4110. About the free use of tuberculin, who had you in your mind should be at this cost, the county authority or the parish authority, or the Imperial authority, or whom?—I said it might be done freely either by the Government, or the county authority, or the district authority. It is really for legislators to decide as to which authority would be the most appropriate to lay the burden upon. I do not think it matters very much which authority does it; I

think it would be quite competent for the Government to do it.

4111. (*Mr. Cooke-Trench.*) You said that in slight cases of tuberculosis you would have the carcasses boiled, and that then they might be used for food?—I think the magistrate should be empowered as an alternative, when the local authority brings up an animal instead of condemning it, if he thought the disease was not sufficiently grave to warrant the condemnation of the carcass, to order it to be boiled, under the direction of the local authority.

4112. Would that boiling be carried out before the carcass was cut up into joints?—I do not know how it would be done. I apprehend, if it was done, that the local authority would get some evidence from Berlin, or some other place where it is done, and would make provision accordingly.

4113. In your opinion, would that be sufficient to make the carcass safe?—If it was thoroughly boiled, certainly.

4114. Then thoroughly cooking the meat eliminates all danger of tuberculosis?—If it is cooked through, yes.

4115. If it is boiled?—If you get to a boiling temperature; if, for instance, you bring milk up to the boil, the milk is safe.

4116. Yes, but milk and meat are very different things, you know?—If you get meat right through up to that temperature then you are perfectly safe.

4117. Can you do so?—I think you can ensure that being done, and I have no doubt they do ensure its being done in the steam boilers which they use at Berlin.

4118. You have recommended that compensation to the extent of one-fourth or one-third should be given; that is so, is it not?—Yes, that is so. I merely wished to say that what was reasonable and fair in the case of an animal compulsorily slaughtered for pleuro-pneumonia would be reasonable and fair in the case of an animal compulsorily slaughtered for tuberculosis.

4119. Now, in the case of Mr. Walley, he had 79 of his cows—roughly 88 per cent.—prove tuberculous. If these had been compulsorily condemned, and he had only got compensation to the extent of one-fourth of their value, that would have amounted to his losing upon that single occasion something between one-half and three-fourths of his whole capital, would it not?—I do not know what his capital may be; you mean his capital in live stock?

4120. His capital as represented by live stock which he lost?—Yes, he would have lost a very large percentage.

4121. You have advocated the establishment of abattoirs as the real cure for this?—I certainly believe in them very much.

4122. Have you considered what number of abattoirs would be necessary all over the country in rural districts in order to fully carry out that?—I think if a better system of distribution than obtains at present, as regards meat, were arranged, the number would not, perhaps, be so great. It is usual, in the neighbourhood of very large towns, where they have a large abattoir, for the butchers in the villages round, always to purchase dead meat, that is, they never slaughter on the premises, although they may be privileged to do so, and some of them even have slaughter-houses attached to their premises. I think if the towns were to provide public slaughter-houses the butchers in the rural districts would mainly rely upon these urban public slaughter-houses.

4123. Even though they had to send 10 miles for their meat?—Yes, I do not see why they should not.

4124. That would entirely do away with butchers buying live cattle, would it not?—No; butchers would buy live cattle, and bring them into the public abattoirs in the urban districts, as they do at Birkenhead.

4125. I see. You would advocate a man living say 10 miles from a town, that when he bought a beast he should drive that beast 10 miles to the abattoir, and

then cart the meat back 10 miles home again, is that it?—I think probably a butcher, if he lived 10 miles away from Birkenhead say, would have a meat salesman in Birkenhead who would act as his agent. As a fact, now, there are meat agents who do a very large business for the districts around at Birkenhead and at Liverpool.

4126. Those meat agents only buy dead meat, do they?—Some of these meat agents are actually purchasers of live cattle and slaughterers, others are a sort of middlemen; but there is nothing to prevent a very large wholesale butcher, who slaughters a large number of cattle at the public abattoir being also a meat agent and a meat distributor.

4127. Would it not render it impossible for a country butcher to buy his own cattle, and have them slaughtered for himself, if he was 10 miles away?—That would be so, no doubt.

4128. Do you know at all what the cost of erecting an abattoir is?—I do not know, but I have very often given the cost of the Birkenhead abattoir. I gave it in one of my reports and I could easily send you that.

4129. The cost of erecting and the cost of carrying it on I should like to have?—Yes, I will supply that information.

4130. Now, as to the 400 cubic feet per animal you spoke of in some of the shippens, were those shippens enclosed all round or were they open at the back?—They were open at the back, sometimes both ways, sometimes there was a passage through. They very commonly have the doors into the shippens made half-doors, so that there is generally a current of air through them.

4131. Does that not make a very great difference in the number of cubic feet required for cattle?—Yes, there is no doubt it does; but when you are requiring any number of cubic feet you would also order some amount of ventilation with it, because even if you had 800 cubic feet you would not wish to have them quite closed up or else they would be dreadfully foul, even with such a large allowance as that.

4132. (*Mr. Murphy.*) With reference to your desire to have public slaughter-houses, assuming that public slaughter-houses were provided in the urban districts, the slaughter-houses of the village butcher would still remain in the rural districts?—Yes; he would be a distributor instead of a slaughterer, that is my opinion.

4133. But it would be possible to arrange without great difficulty for the inspection of anything that he killed in his slaughter-house, would it not?—I do not see that there would be any difficulty in that.

4134. So that your object might be obtained without absolutely requiring all cattle to be taken to the public slaughter-house in the nearest urban district?—It is possible to have efficient inspection without the animals being necessarily slaughtered in the public abattoir. When I became Medical Officer of Health for Birkenhead in 1873, all the slaughtering done was done in the public abattoir; then they took in a considerably increased area, Tranmere, Oxtown, and part of Bebington, and the result was that we took in two fairly large slaughter-houses which had for a long time been licensed as slaughter-houses, and those have remained as a portion of the borough ever since. So that besides the public abattoir for town purposes and the slaughtering which is done at the foreign animals wharf, there are now two private slaughter-houses in Birkenhead, and those are regularly and systematically inspected, and I feel sure that there is no greater risk of unsound meat being distributed through them than through the public slaughter-house.

4135. So that, although it may become an absolute necessity for the purposes of a proper meat inspection to have public slaughter-houses in urban communities if the rural sanitary authority have a veterinary inspector for its purposes, it might be one of his duties to inspect the private slaughter-houses that would remain in the villages?—In the case of the few slaughter-houses that were permitted, I think so.

4136. In regard to the public slaughter-houses would you propose to have a separate slaughter-house for the killing of animals that were suspected of having tuberculosis?—I certainly should. Where you have a public slaughter-house it is always a great advantage to have a small building to which you may take an animal which is obviously sick or which comes on to the premises in a cart because it cannot walk, or which for any reason shows evidence of being diseased. It is wise to have a slaughter-house for the slaughtering and dressing of an animal which is obviously diseased before the slaughtering commences. That would not only apply to tuberculous animals but to animals which are obviously diseased from any cause.

4137. If you were proposing to allow the meat of an animal which had a mere localised patch of tubercle to be used for food and the animal were killed in the special slaughter-house by properly skilled persons, might that not obviate the necessity of cooking all the flesh before it could be used for food?—I think it might. I presume you are speaking of cases where there might be something, in the nature of a tuberculous ulcer, or something of that sort, that is the form of tubercle which is most localised; do you mean that, or where the deposits of tubercle, we will say, are under the pulmonary pleura and not under the costal pleura?

4138. I was thinking rather of meat that you would require to be boiled, not on the ground of its being infected during the life of the animal, but because in the process of killing it might become contaminated, and I was suggesting that it might be possible if the meat were killed by officials, who would be instructed to have regard to this danger, to allow a great deal of meat to be issued uncooked, whereas if it were killed under the ordinary conditions of carelessness, there might be some element of risk?—It would diminish the risk very much, there is no doubt about it; but still it seems to me that the safe thing would be to draw the line at the evidence of tubercle, and to require where there was distinct evidence of tubercle in the carcass the meat to be boiled. It seems to me that it is desirable, if you can, to draw a line without exceptions, although I can quite conceive certain conditions under which the rule, when applied, might appear to be rather hard.

4139. Then you spoke of a desire to have a power to cut into the carcass. In the inspection of meat would you propose to cut into the carcass only when you suspected tuberculosis from some sign in the viscera, or as a matter of general practice?—I do not think I complained that we had not the power; I said the fact that we had not the power made inspection somewhat superficial; I do not know that I should be prepared to advocate that the inspector should have power to drive his knife into any carcass he felt inclined to, especially as many of the glands are very remotely situated. I know that has been advocated, but I do not think I ever advocated that.

4140. It might in a particular case be desirable?—It might, but at the same time this would be an extraordinary power to give to the inspector.

4141. There is a power in the Public Health Act, is there not, to require a man to open up his ground for the purpose of examination of his drains?—Yes, I believe that is so.

4142. And if they are found to be sound after inspection they compensate him for the expense he is put to?—Yes; an arrangement upon lines similar to that might possibly be fair and reasonable.

4143. Can you tell us anything about tuberculosis in swine?—I have several times seen it in pigs, and I have seen it in sheep too, but I do not know that I can tell you very much about it. I have seen miliary tubercle in the lungs of pigs several times.

4144. In pigs, I believe, it is mostly the abdominal organs that are affected?—Yes, and I do not think you get grapes under the costal pleura, or things of that sort. Those gross appearances which are so usual in bovine animals I should not say were usual in pigs.

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I should say that tuberculosis of the pig more nearly resembled the tuberculosis of the human subject than bovine tuberculosis resembles tuberculosis in the human subject.

4145. As to the probable source of infection in the pig, I believe that Bang has pointed out the relation between pig tuberculosis and the use of the milk of tuberculous cows?—Yes. I do not know that I have seen a sufficient number of pigs to be able to give a definite opinion upon that subject, but I should say that in pigs it was more closely resembling human tuberculosis than in bovine animals. I think that is about all I can say. You get it in the lungs, and distribute it very much as you would get it in the human lungs and in the mesenteric glands, and that sort of thing, generally more like the human tuberculosis. I do not know that I can go more into it than that.

4146. In connexion with pig tuberculosis has any suggestion occurred to you as to any method that might be adopted for limiting it?—I do not know that there is, except I should naturally say that the pig should not be given unboiled milk from tuberculous animals, or anything of that sort; the pig should be protected in its food very much as you would protect the human subject, if you get an opportunity of doing so.

4147. Have you come across many cases in which fowls have been attacked with tuberculosis?—I have occasionally seen it in the liver, I think, and I have occasionally seen it in the livers of rabbits or hares; but I do not associate it with anything else, except the liver in the fowl.

4148. In your work in Cheshire you have not come across anything like a large destruction of fowls from tuberculosis?—No, I have not.

4149. You have referred to the power of a local authority to require a certain amount of cubic space in cow-sheds?—Yes.

4150. I have here a byelaw before me which has been made under the Dairies and Cow-sheds and Milk-Shops Order, in which the amount of cubic space is prescribed, and this has been confirmed by, I think it must be, the Privy Council, as it was made a number of years ago?—I know that the local authorities can require it. I said I did not think the counties had the power to compel the local authority to order a larger amount of cubic space for their animals than the district authorities were inclined to be satisfied with.

4151. (*Dr. Thorne Thorne.*) With reference to the question of cow-sheds, you are aware, I presume, that any local authority can make an order as to the cubic capacity which is to be given to cows in sheds?—I know that was said, that the county authority have no power to require the district authority to do so.

4152. Then you refer to a large number of instances in your district in which only 400 cubic feet are given?—That is so.

4153. Are you aware that a very large number of districts, including Birkenhead, have adopted 800 cubic feet as a standard?—Yes, I know a great many have.

4154. Are you aware that in all those instances where 800 cubic feet has been sanctioned a space above 16 feet from the floor of the cow-shed is not included in the estimation of the cubic space?—Yes, I think I do know that.

4155. Are you aware that the amount of cubic space always pre-supposes that there is ventilation of the establishment?—Yes, I think I have said that already in one of my answers.

4156. Do you happen to know this also, that the Local Government Board, not having power to define the actual amount of cubic space, write these words when any authority proposes less than 800 cubic feet: "The Board consider that the amount of air space for each cow in a cow-shed should not be less than 800 cubic feet; where a less amount has been prescribed by regulations made under the Order, this has not been done with the concurrence of the Board"?—Yes.

4157. May I take it that it is well known that the conditions to which you have referred as regards existing cow-sheds is one of the most potent causes of tuberculosis in cows?—I think this over-crowding is.

4158. Who is primarily responsible, then, for the production of this amount of tuberculosis in cows?—The local authority; the district authority is primarily responsible for permitting this limited amount of cubic space in the shippens.

4159. I quite agree with you that they are very seriously responsible, but do you think they are primarily, when educated men know perfectly well what are the conditions under which their cows will get tuberculosis: I mean is not the dairy farmer, himself, responsible?—Yes, of course he is.

4160. What do you think would be the effect of compensating that man for his cows when they do get tuberculosis?—I think that the compensation of one-fourth the value would not lead him to greater laxity than he has already been guilty of.

4161. If there were a compulsory requirement as to the amount of cubic space in cow-sheds instead of a purely voluntary one?—That is what I should wish.

4162. Do you think that compulsion as to a sufficient air space would really do away with tuberculosis amongst milch cows?—I do; I am distinctly in favour of that. I think that would be a very important measure.

4163. Would you think it at all a feasible thing that the compensation, if given, should only be given where properly ventilated cow-sheds, with a minimum cubic space of 800 cubic feet per cow was given?—I think so.

4164. I want to ask about an experiment that was made by the last Commission, on which you evidently base your view as to the danger to meat when it is being cut up in a butcher's shop; I am afraid I must ask you to let me read the passage. A piece of sirloin was taken, and then the report proceeds as follows: "It was then cut into a strip of from 18 to 24 inches long, and varying in thickness from 1 inch to 1½ inches; this was laid out on a table, and small incisions were made over the whole of the upper surface. An emulsion of obviously tubercular material was prepared by grinding and pounding down tubercular organs from cattle, pigs, or guinea-pigs, mixing this with milk, and passing the mixture through a fine sieve, the part kept back being again ground and pounded until it would all pass through. This emulsion was thoroughly rubbed into the incisions, and over the whole surface of the meat, which was then rolled up from one end, so that layers of finely divided tubercular material were enclosed at different distances from the surface; this roll was then firmly bound in all directions with string, so as to prevent, as far as possible, the access of boiling water between the layers." I would ask you, in the first place, is anything parallel to that ever likely to happen in any butcher's shop in the kingdom?—Certainly not.

4165. Then you would agree with the reporter when he further says: "The quantity of tuberculous material introduced was no doubt considerably greater than would probably ever be present as the result of accidental contamination"?—Yes, that is so.

4166. May I ask you if you remember that this prepared meat was subsequently kept as long—I am quoting the words—"as possible in sterile beakers in the ice safe, the animals being fed with small quantities twice a day, as long as the meat lasted, or as long as the guinea-pigs would take it." Are you aware of that?—Yes.

4167. Are you also aware that, after all that deliberate action, 15 animals were fed, and only two developed tuberculosis?—Yes, that is so.

4168. Can one really base anything practical on that?—I merely took it as indicating what might be possible. When I was answering Professor Brown, I did not mean that it was probable at all, but it

seemed to me that there was some risk, and I brought it forward as a possibility.

4169. I was very anxious to get your opinion as a well-known expert in public health, one who has been an officer of health almost ever since officers of health were founded. Do you consider that that experiment indicates any real practical danger in an ordinary butcher's shop?—No, I do not think it does.

4170. Of course you are aware that Birkenhead has been held to be one of the places where what has been deemed to be excessive stringency in meat seizure and inspection has been carried out?—That is so.

4171. I rather gather that you admit that when you were officer of health there this complaint prevailed?—I think I initiated the exceptional stringency.

4172. I am desirous to get from you your views as to whether that any longer applies; and if you will allow me, I will quote a few statistics which Dr. Marsden, your successor, has given to us. He points out that during the three years 1894-96, of the imported animals at Woodside and Wallasey lairages, over 600,000 passed through their hands, and he points out also that the number of carcasses seized was 21?—That does not indicate exceptional stringency.

4173. He then points out, as regards the town animals, as he calls them, that the number slaughtered at the Tranmere abattoirs was 3,098, and that of those there were 71 affected with tuberculosis, and that, of these 71, 64 were cows. I believe I am right in stating that these were actual seizures?—I have read Dr. Marsden's evidence, but I do not know whether that is so.

4174. When one comes to see that, out of these 71 cases of tuberculosis, 64 were cows, does not this question of the cubic capacity, that is the need for insistence on a proper cubic capacity, whether as regards compensation or otherwise, become an absolutely important one?—I think it most important.

4175. Then Dr. Marsden tells us that, in the course of five years, the seizure of a carcass for tuberculosis in private slaughter-houses only took place on one single occasion?—He has only two private slaughter-houses.

4176. I know, but a large amount of meat passes through, at least, one of these?—Those two butchers are the two most important butchers in the district. They are large shipping butchers, and they would give a good value for the animals they purchase. They are altogether men in a big way.

4177. Am I right in inferring that any stringency that formerly existed at Birkenhead does not exist under such a system as this?—I do not think there is undue stringency now, certainly; but I think I pointed out in my evidence in chief that my attempt to draw the line as hard as I did attempt to draw it could not be considered a success; that is, again and again I have been floored when I went to the magistrates.

4178. Your evidence is the same as several witnesses have given us as to the comparative immunity of tuberculosis in carcasses that come from

abroad. To an extent which we are not capable of estimating, this is due, is it not, to the fact that the carcasses come without the internal viscera?—Are you speaking of the importation of dead meat?

4179. Yes.—That is it.

4180. Did your statement include live meat also? Did you mean that there is less tuberculosis among foreign cattle, even when they come in alive?—That was my idea, certainly.

4181. Do you know the system in the United States, of labelling and stamping the carcass, to show that it has actually been inspected, and that it is certified as inspected before it comes over?—No, I do not think I am aware of that, but that is a very excellent system.

4182. Then you cannot tell me whether you attach any value or importance to it or not?—No, I cannot.

4183. (*Chairman.*) Of the two sources of contamination, would you say that the risk was greater from meat or from milk?—From milk, immeasurably greater.

4184. And in both, I suppose, professional opinion greatly varies as to the extent of the damage?—Yes, no doubt.

4185. (*Dr. Thorne Thorne.*) I am not yet quite certain that you fully appreciate the purport of the Chairman's question, and I would therefore ask you this: Do you think that there is any substantial amount of disagreement in the medical profession as to whether milk is not a serious cause of tuberculosis in this country?—I think there is scarcely any disagreement among those who are competent to speak upon the subject.

4186. (*Chairman.*) I suppose if I were to put you in one extreme and Professor McFadyean in the other, I should probably be touching the limits?—That may be.

4187. That would, I suppose, regard Professor McFadyean's opinion rather as that of a veterinary surgeon than of a medical man?—Yes; inasmuch as all his practice has been veterinary practice, I take it, since he was passed.

4188. At the same time he is a graduate of medicine?—Yes. I know he is.

4189. You are very far from agreeing with the opinion expressed by him in regard to Question 1246. He says: "I feel quite satisfied that if tuberculosis were absolutely eradicated from the cattle of this country, it would not sensibly affect the percentage of tuberculosis among human beings"?—I certainly do not agree with that; I wholly disagree with it.

4190. And you disagree with him in considering the risk of contamination through meat as infinitesimal?—I certainly do not think it is infinitesimal.

4191. Professor McFadyean considered that it amounted to a distinct danger in the case of milch cows?—That is he puts the risk from milk as immeasurably greater than the risk from meat as I do, only he would say that the risk either from meat or milk is a great deal less than I would put it.

4192. He admits that the risk from milk is appreciable, but says that from meat is infinitesimal?—Yes, that is his view.

The witness withdrew.

Dr. ARTHUR NEWSHOLME, M.D., called and examined.

4193. (*Chairman.*) I believe you are Medical Officer of Health for Brighton, a Member of the Council of the Incorporated Society of Medical Officers of Health, and President of its Southern Branch?—Yes.

4194. Can you describe the conditions under which you have had to condemn the flesh of tuberculous animals?—Since 1889 a considerable number of such animals have been condemned in Brighton. At first there was great opposition to this course, and several test cases were severely contested. For the last two

years the ruling of the medical officer of health has been accepted in each case, and during 1896, although a considerably larger amount of tubercular meat has been destroyed than in any previous year, it has been done voluntarily by the butchers, who have sent for the sanitary inspector in each instance, and taken the meat to the destructor or to the knacker's yard, a formal condemnation by the justice being dispensed with.

4195. Is the increase in the amount condemned traceable to the greater prevalence of tuberculosis or

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to the greater rigour of inspection?—To the greater rigour and extent of inspection. I have here a table showing for a number of years the animals condemned wholly or partly for tuberculosis in Brighton, and wholly or partly for other diseases, showing the proportion between the two (*handing in table*). Last year 13 tuberculous beasts were destroyed, the butcher voluntarily sending word to the inspector and giving them up to be burnt.

4196. In that case the loss falls entirely on the butcher?—That would be so. Taking the whole series of years from 1889 to 1896 inclusive the number of entire animals condemned for tuberculosis was 91, and the number condemned for other diseases was 73, or if you omit sheep, then only 33 for other diseases. Taking the numbers of parts of animals that were condemned during the same years, the number of parts of animals, chiefly the lungs and livers, and so on, was 32, and the number of parts for other diseases was 435; that includes a larger number of miscellaneous things like hydatid of the liver, sheep-rot, and so on, where the livers were being condemned apart from condemnation of the whole animal.

4197. Can you give the total animals exposed out of which these animals are taken?—I cannot give the exact numbers, but last year approximately 120,000 animals were brought into Brighton for slaughtering; that would include sheep and pigs. I am sorry that I cannot give beasts separately.

4198. What regulations have you observed as to the extent of the disease before an animal is condemned as unfit?—We have condemned the whole of the animal in the case of tuberculosis whenever there was evidence of loss of condition and emaciation, or in the second place when apart from such emaciation the disease was widespread, seriously affecting the lymphatic glands and organs of both abdomen and thorax. Of course, the chief difficulty has arisen in the exceptional cases in which there was extensive tuberculosis of the serous membranes—what is known as grapes—but notwithstanding this the beast was in good condition.

4199. In that case you would condemn an animal?—We have in a number of cases.

4200. I suppose you have heard a great many complaints on the part of the owners of these animals?—They naturally object to the destruction of the animals, especially in the exceptional cases where the animal before death has not exhibited any evidence of disease.

4201. You have a public abattoir at Brighton, have you not?—Yes, that is so.

4202. Is it largely made use of?—On the basis of the present trade, out of 120,000 animals brought into Brighton, 14,000 would be killed in the public abattoir, or about 12 per cent. of the total number brought into the town.

4203. Where were the others killed?—In private slaughter-houses in the town, of which there are 45.

4204. Then it cannot be said that the abattoir has been a success?—I should not agree with that; slaughtering has only been done there actually since November 1894. We had no power of compulsorily closing the private slaughter-houses and yet voluntarily we have got already 12 per cent. of the animals killed in the public slaughter-house.

4205. Is it large enough to undertake the slaughtering of the whole of the animals?—Not without enlargement; but it is laid out with the view to enlargement. I have the ground plan here if you would like to see it. Even now a much larger amount of trade could be done there than is actually done.

4206. Are you aware that in Scotland municipalities have the power of compulsorily closing slaughter-houses after having provided a public abattoir?—Do you refer to registered slaughter-houses or licensed slaughter-houses? I do not know whether the distinction holds good in Scotland.

4207. I do not think it does. I am not aware of the distinction?—In England a licensed slaughter-

house can be closed permanently after two convictions for non-compliance with the slaughter-house byelaws, or for having sold unsound or diseased meat on the premises; but the same does not apply to registered slaughter-houses; registered slaughter-houses in England are those which existed at the time of the application to the town or district of the Towns Improvement Clauses Act, 1847, and, unfortunately, all the slaughter-houses in Brighton are of that kind.

4208. How many are there?—45.

4209. That is within Brighton. I suppose there is a certain number of slaughter-houses under the rural authorities?—That is so, a considerable number, and meat which cannot pass muster in Brighton is sometimes killed in these outside slaughter-houses.

4210. Is there any harmony or co-operation between the rural and urban authorities?—To a slight extent, but not to any material extent. A rural policeman will occasionally send us a telegram about certain meat which has been consigned to Brighton and which is of a dubious character; but there is no systematic co-operation.

4211. Then, in spite of any precaution that may be taken in inspecting meat slaughtered in Brighton, you are exposed to the importation of meat which has not been so carefully scrutinised?—That is so, and that is the great weakness of the present position. In fact, our increased stringency to some extent makes us more open to that.

4212. Have any specific instances been brought under your notice of diseased meat being brought into the town?—Yes, we have had a very considerable number in the last few years; for instance, we found that every Sunday morning meat was brought into the town from Lewes in a clothes-basket on a trolley, and was found in a very bad condition. Then again, frequently cattle are killed on neighbouring farms, and the meat is subsequently brought into Brighton; occasionally we have seized this meat and had it condemned, but I fear that some of it undoubtedly escapes detection.

4213. I asked you if you could give us specific instances?—I will give one where, in 1893, the inspector found in a sausage factory in the town portions of the carcass of a cow, the pleura of which had been stripped off, and the meat had not set properly, and there were tuberculous glands in several parts. There was only part of this cow in the sausage factory, but four pieces of the same animal were found in another butcher's shop. In this portion there were also caseous glands. The cow had been killed at a farm near Brighton at midnight; a veterinary surgeon who had attended it for several days previously had left word that if it was taken worse a butcher was to be sent for; the same veterinary surgeon gave a certificate that the cow was free from disease. The Brighton inspector visited this farm outside his own district by permission of the farmer. He dug up the lungs and found that they contained abscesses and tuberculous masses.

4214. Is it to be implied from that that the veterinary surgeon who certified that the cow was free from disease was unskilful, or that he was dishonest?—I am not prepared to give an opinion on that point.

4215. At all events he ought not to have given that certificate?—It was incorrect.

4216. Was he a properly qualified practitioner?—That is so.

4217. Have you any more cases that you could mention?—Here is an instance showing the difficulty of co-operation between rural and urban authorities; a portion of a heifer suffering from a wasting disease was seized at a butcher's shop in Brighton. This animal we subsequently found had been killed at a farm three miles from Brighton by a farmer who is also a butcher. This farmer then sent the carcass to another farmer eight miles further away from Brighton, and the second farmer sent for a notorious butcher in Brighton, who bought the carcass for

25s., and brought portions of it at any rate into Brighton.

4218. When you call him a notorious butcher what do you mean?—He was a man who had been convicted frequently for offences in connection with the sale of diseased meat.

4219. Have any other similar cases come to your knowledge?—Yes; an emaciated cow, which was killed at Chailey, arrived in Brighton three days later. The railway station approaches had been watched for three days, and the movements of the butcher to whom the cow was consigned had been watched. It took us three days to find that particular carcass. The butcher was fined 21*l.* in that particular case. We have other butchers, one particular butcher, who has a farm in the country, attached to which is a slaughter-house, and who also has a slaughter-house in Brighton; part of his meat is killed at the farm in the country, and part in Brighton. The part in Brighton is properly inspected, but what comes in as dead meat is not sufficiently inspected, and some of it has been seized by us in Brighton.

4220. Is there one part in the neighbourhood more notorious than others for the sale of diseased animals?—We have no sale in Brighton, so far as I know, of diseased animals now. There are markets around Brighton, and Haywards Heath is one of these; that is 13 miles away from Brighton. This is a notorious centre from which old screws are sold; for instance, last November a cow was sold in this market to a butcher for 5*s.*

4221. Do you know what became of that cow?—I do not. Frequently cows are sold there for 30*s.* or 20*s.*, and then they are slaughtered in outlying districts. If the meat is passable it finds its way into the town in quarters, if it is very bad it is boiled for the pigs. It is in connection with these markets that we occasionally have telegraphic messages which put us on our guard, and lead to our watching the approaches.

4222. I suppose there are butchers in Brighton who would never dream of touching trade of this description?—The vast majority of them would not touch it. It is only a few sinners who are affected to any great extent by this question.

4223. But the existence of such tradesmen as you describe would greatly complicate any question of compensation?—It would render it impracticable in my opinion, so far as the butcher is concerned.

4224. Because the butcher who at Haywards Heath gives 5*s.* for a cow might have made it 5*l.* or 15*l.*?—I suppose the invoice would have been producible. I do not see how any system of compensation for the butcher is practicable. A proper system, I would suggest, would be for them to combine and only buy with a warranty, or to insure against the loss produced by condemnation. Those are the two alternatives, and the butchers can perfectly well protect themselves by those two means.

4225. With regard to cowsheds and dairies, are you equally active in their inspection and regulation in Brighton?—We have only about 14 cowsheds in Brighton, and they are gradually going into disuse. They are frequently inspected, but there is one very great difficulty, and that is that only the veterinary inspector can inspect the cows. What we want is a system of systematic inspection by the veterinary inspector. The practice in most districts is that the veterinary inspector only inspects when specially sent for, and there is no systematic and regular inspection by him in the vast majority of districts.

4226. Are you talking of rural districts now?—Rural, and I think I might almost say urban.

4227. Which would you say was of the greater importance to the health of the town, the meat supply or the milk supply?—So far as tuberculosis is concerned, undoubtedly the milk question is more important than the meat question. Both are in my opinion important. The meat question is not only important directly, but indirectly, because by making

your requirements stringent in that respect you indirectly very greatly diminish the danger as regards milk, because then it would not pay to keep tuberculous cows.

4228. Can you give examples of the occurrence of tuberculosis in cows in Brighton?—I find that between September 1889 and the 21st November 1896, there were 53 tubercular cows condemned in Brighton as unfit for food. The majority of these came from the surrounding rural districts, and a large share of their milk had been coming into Brighton up to the time when the animals were killed. I cannot definitely say in what proportion of these there was tubercular disease of the udder, but there was in a considerable number of instances to my own personal knowledge.

4229. They were not in milk at the time they were killed, I suppose?—Many of them were, some of them were at any rate, and in some of those there were tuberculous udders; I have instances of that.

4230. Could you quote them?—In October 1889 my attention was drawn by the cowsheds' inspector to a particular cow in a stall in the borough. I visited the stall but was refused admittance, the owner quite properly stating that I had no right to examine cows, and that that was for the veterinary inspector. A veterinary surgeon subsequently wrote to me that the animal in question was simply hide-bound, and I was obliged to be contented with that answer, but a few months afterwards all the animals in that stall were killed, and several of them were found to be extensively tubercular, including this particular one, although it had been stated a few months previously to be simply hide-bound. The animal in question had been giving milk up to the time when I was refused admission. As regards the question of inspection of cows by qualified veterinary surgeons, I am of opinion that unless the staff is increased very greatly a qualified veterinary surgeon could no more undertake that than could the Medical Officer of Health the corresponding inspection in regard to all infectious cases. There is a certain amount of detail work to be done which would undoubtedly be delegated, and must be delegated to a man who has no legal qualification.

4231. To return to this cow; after the report of the veterinary surgeon, what took place?—Nothing more was done; nothing more could be done.

4232. Was the cow killed?—The cow lived for some months afterwards, and was giving milk. It was killed within a few months afterwards and was then found to be extensively tubercular.

4233. Had it been giving milk up to within a short time of its death?—That is so. In regard to the previous case I mentioned of meat finding its way into the sausage factory, that meat came from a farm from which a large amount of milk is supplied to Brighton.

4234. But, in short, is it your opinion that a great risk of contamination is implied by the character of the milk supplied to Brighton?—I do not think there can be the slightest doubt about that.

4235. What proposals have you to make—first as to meat?—I should propose, in the first instance, that the slaughtering of animals in non-registered or non-licensed slaughter-houses should be entirely prohibited. A saving clause might be made in favour of the slaughtering done on a farm which was immediately necessary owing to accidental choking or a broken leg, on condition that all such cases were at once reported to the proper inspector. Then, secondly, I should recommend that all private slaughter-houses should be gradually abolished. The great difficulty in the way of this is the existence of registered slaughter-houses as contra-distinguished from licensed slaughter-houses. We have 45 private slaughter-houses in Brighton, all of which are registered. That is, they existed in 1861, when the Towns Improvement Act was applied to Brighton, and a closing order cannot be obtained in respect of them unless two convictions are obtained against the

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owner or proprietor of the registered slaughter-house, and inasmuch as the owner or proprietor is practically never, in my experience, the occupier as well, it follows that however many convictions one may get against the occupier there is no power of closing the slaughter-house.

4236. Have you any suggestions to make as to the inspection of meat?—In my opinion the inspection can only be satisfactory when it is combined with an examination of the internal organs, hence, the mere examination of dead meat in a town, as it would be in a clearing house or dépôt in the town, is not sufficient. The meat should be examined at the place of slaughtering, and its condition should be vouched for by appropriate stamping.

4237. Of course you could hardly apply that to the foreign meat trade?—Not on this side of the water, except, of course, to those animals that are landed alive and killed immediately afterwards or within three or four days afterwards.

4238. The frozen meat would escape inspection, would it not?—In England it would; it might be applied at the other side.

4239. That would be obviously putting the home trade at a disadvantage compared with the foreign dead meat trade, would it not?—I do not think so; if the home meat is healthy it would be passed all right, if it were not healthy it ought not to be passed.

4240. It would, at all events, be submitting it to a more stringent inspection?—Not if proper regulations were made as regards foreign meat, because the importation of foreign meat could be made conditional on vouching for its wholesome condition under certain definite regulations.

4241. But a voucher signed in New Zealand or in the United States would not bear the same weight in this country as a voucher signed by one of our own inspectors?—That may be so. I may add that I have frequently examined the glands remaining in frozen meat with a view to the detection of tuberculosis, and I have never detected it. I have also frequently examined the meat with the view of finding stripping of the pleura and other indications of possible tuberculosis, and I have never once detected it.

4242. Are you talking of beef carcasses?—Yes. My own impression from that is, that it is very much less common in them than in English killed meat.

4243. Have you considered the question of compensation?—Yes. I do not think that compensation to butchers could be entertained except with very extreme limitations. For instance, cows might be excluded from compensation; that of course would mean excluding the great majority of tuberculous animals; but if cows were not excluded then there would be very great danger of continuing an incentive to the using of tuberculous cows for the production of milk, and butchers, as I have observed before, have ample means, as they have large and powerful associations, of combining with a view not to buy without a warranty. They might, for instance, insist on not buying unless there was a veterinary certificate that the animal in question had been tested within the last six months by means of tuberculin. I should not object to compensation in cases where the tuberculin test had been properly and efficiently and under proper conditions tried, and the result was negative; assuming that there are such cases.

4244. As to milk, what suggestions would you make?—I think it is very important that county veterinary inspectors, with well qualified assistants, should be appointed to inspect every dairy and cow-shed throughout the country, such inspectors preferably not to be allowed to be engaged in private veterinary practice. Then, secondly, the registration of every dairy and cow-shed should be rigidly enforced; in connexion with that would naturally come a higher standard of cleanliness, and better ventilation and lighting of the cow-sheds. I should furthermore encourage the use of the tuberculin test under certain stated conditions, by providing that it should be gratuitously employed by the county veterinary

inspector throughout his district, with this proviso, that the animals tested and reacting should be stamped in such a way that they could not be sold without the fact of their having been tested being known. Of course following on the tuberculin test there naturally would come the isolation of the reacting animals from those that did not react, and the disinfection of the stalls which the infected animals left.

4245. These proposals are made, are they, with a general idea of the extent to which tuberculosis prevails in dairy stock?—That is so.

4246. Have you formed any idea what that extent is?—I do not think that samples which have been quoted can be taken as indicating the actual amount. I think it is quite possible to exaggerate the extent by judging by means of samples. I have no doubt it varies very greatly in different parts of the country, and varies still more in accordance with the breed of the animal; some breeds like the Welsh are comparatively free from it, and others have it in a much larger proportion.

4247. (Dr. Thorne Thorne.) I rather gather from what you say, that the control of dairies which would go to the elimination of tuberculous cows from such business would indirectly very largely remove the difficulty under which the butcher lies as regards the seizure of tuberculous carcasses?—Undoubtedly; I think that the problem requires attacking from the point of the dairy rather than of the butcher.

4248. If tuberculous cows were seized in cowsheds in all cases in which they presented either tubercular disease of the udder or any obvious extensive tuberculous disease, and if compensation were given for the seizure of such animals not yet placed on sale, would this largely, do you think, get rid of the demand on the part of butchers for compensation for carcasses, which they buy, not knowing that they are tuberculous?—It would, I believe, almost entirely.

4249. In other words, might I take it that you look upon it that the number of carcasses that it is necessary to seize is much larger in the cases of cow carcasses than of bull or bullock carcasses?—I have not the exact figures; but I should say it is more than 80 per cent., judging by my own experience. I think I gave 53 tuberculous cows from September 1889 to November 1896. The total number of tuberculous beasts condemned was 68, and 53 out of 68—it is probably 53 out of 65, or something like that—were cows; that is, approximately. I think I should be quite safe in saying over 80 per cent.

4250. You showed us from a Return that, during 1896, 13 whole animals were either condemned or voluntarily given up by the butcher, but there happen to have been none condemned in that year, so that the 13 makes the total for tuberculosis; could you give us any idea of the prices that had been paid for those 13 beasts?—In a few the full price, I believe; but that is very exceptional.

4251. Do you mean the full price for a used up cow, or the full price for an apparently wholesome bullock?—Naturally, the price of a cow, I take it, would be less than the price of a bullock.

4252. Then do you know how many of these 13 were cows?—I could get the information, but I could not say off-hand.

4253. With regard to tuberculosis, these 26 seem to be the total cases that it was necessary to deal with out of 120,000 animals that came under your supervision that year?—That is so.

4254. May I assume that your view is that the matter is an extremely trivial one, when the proportion is so insignificant?—The 120,000, you will remember, include a much larger number of sheep and pigs than of beasts. The number is obviously trivial when taken in proportion to the total number of animals killed—even after you eliminate the enormous number of sheep which there must have been, and which are never affected with tuberculosis, pigs and beasts being, of course, chiefly affected.

4255. You have referred to the apparent immunity of the carcasses of foreign meat arriving in this

country in so far as tuberculosis is concerned; will you inform me whether you would condemn carcasses after the removal of tuberculous organs in home-bred animals that presented appearances as regards the meat which were equally good with those which are presented by the meat of the foreign carcass?—I should not, of course. I should be exactly in the same position in the two cases if I had not seen.

4256. Then I gather from the point of view of your action that the stringency is no greater as regards the home product than it is as regards the foreign imported carcass?—Not at all, except with the possible exception that we have had half-a-dozen cases in Brighton where the animal itself was in prime condition, but in which there was really extensive disease, and it is quite possible that if I had not seen the slaughtering, and had not seen the internal organs, I might have passed the carcass as a prime animal.

4257. You go so far, as I understand it, that you would even cut out tuberculous glands from inside the muscular tissues, and let the carcass pass?—I have never done that.

4258. I thought I understand you to say so?—No.

4259. Then the foreign carcass might have had that operation performed upon it?—Possibly.

4260. And if so it would escape, whereas the home product would not?—That is so; but still having examined a very considerable number of foreign carcasses, and in view of the smoothness of the pleura, and the absence of diseased glands, I am of opinion that there is less necessity for condemning tuberculous meat in that case than in the other.

4261. What amount of cubic space do you require per cow in a cowshed in Brighton?—800 cubic feet always.

4262. (*Mr. Murphy.*) You referred just now to the stamping of meat; do you stamp the meat of animals that are killed in the public slaughter-house now?—No; but the butchers who kill there all take care to advertise the fact that it has been slaughtered at the public abattoir. We have no power to stamp it at the present time, and the butchers might possibly object to any process of stamping.

4263. Does that make you think that the butchers, at any rate, regard the thing as having an enhanced value in the eyes of the public?—There is no doubt about that. They advertise in their shop windows, and so on, the fact that the slaughtering has been done under official inspection in "the abattoir," and it increases their trade.

4264. Do you think it would be contrary to public sentiment if you were to indicate by some stamping, or some marks, that it had passed an examination of this sort?—I think it would increase the feeling of protection on the part of the public. I may mention that it is already done by the Jews who, in Brighton, and, of course, everywhere else, put an official stamp on the flesh.

4265. If there were a general system of public slaughter-houses throughout the country, so far as that could be provided, and a system of stamping meat, would you be prepared to recognise in your own district as not requiring further inspection, the meat which bore the stamp of another urban authority, where one might assume the work had been carefully done?—Unless there was some very gross condition, I should certainly respect it absolutely. I cannot imagine that it would be possible that stamped meat could have escaped accurate inspection in a large urban district.

4266. But you would wish, for the purposes of the dead meat that is brought into Brighton, and which had not been subject to such inspection outside, perhaps to have the meat brought to some centre where you could have it examined?—I think it right to be done as a subsidiary inspection, not the only inspection; an inspection not so much with a view to detecting possible disease, because that could not be done in the halves of the animal, apart from the viscera in many cases, but rather with a view to

stopping any meat that might have become unwholesome in transit.

4267. Of course you would not be able to go much beyond that in the inspection of meat coming from abroad?—That would be so.

4268. If you had a different stamp for meat which had not been inspected by a proper authority at the time of killing, so as to distinguish it from the meat that was killed under proper inspection in a public slaughter house, does it occur to you that that might tend to enhance the value of meat killed under circumstances more favourable for inspection?—I should think that it would distinctly; it ought to do.

4269. So that, if there were a system such as that, instead of the home-produced cattle being at a disadvantage, they would, from the monetary point of view, be rather sought after?—That would be so; it would be one way of distinguishing foreign produced from home produced meat, and of indicating also that one had been examined with the viscera, and the other minus the viscera, which are two very different things so far as assurance of good meat is concerned.

4270. Then you referred to the question of insurance by butchers; does it occur to you that an insurance fund to which the vendor and purchaser of the animal contributed would be much better managed than any fund given as a means of compensation?—I think most decidedly it would be much better managed, and would be very much preferable from every point of view. It would be to the interest of the butchers and of the farmers in that case to see that the fund was not misapplied, and not abused, whereas official compensation in regard to meat in my opinion would be grossly abused.

4271. Have you any experience of tuberculosis in pigs?—Yes, a very considerable number of pigs have been condemned in Brighton for tuberculosis, chiefly from one particular place, a series of piggeries in a very insanitary condition, just outside Brighton, over which we have no control. The pigs there are fed largely on the offal from the slaughter-houses, and I am quite certain that a considerable number of them become tuberculous in consequence. We are frequently having to condemn pigs that are brought into the Brighton slaughter-houses from this particular place.

4272. Do you think that the amount of tuberculosis might be lessened very much by an improved method of feeding those animals?—No doubt about it. Pigs are very susceptible to tuberculosis, and I believe it is much more infective in their case than in the case of beasts; it spreads more rapidly. There is no doubt that by cooking the food, and again by cooking the skimmed milk which they frequently have, that the danger would be greatly decreased.

4273. In respect to cooking, I think it has been called boiling the carcasses of animals which are not tuberculous. Do you think the method of boiling would be that which would be the best adapted for the destruction of the tubercle bacillus?—So far as I can judge from the evidence given before the late Commission it would not be sufficient, and that, more than that, namely, steaming would be required. I believe that is the method adopted at Berlin; and I personally should not be satisfied with the simple system of boiling. We know perfectly well that the temperature of the interior of a joint does not necessarily reach a temperature at which the tubercle bacillus is killed, either in roasting or boiling.

4274. And in steaming?—In steaming I believe it does.

4275. (*Mr. Cooke-Trench.*) Do you think that a sufficient proportion of the meat consuming public would learn to discriminate between these two stamps that have been spoken of and the significance of the difference, so as to really benefit the home consumer?—I think the butcher would take very good care that the discrimination was made.

4276. (*Mr. Speir.*) Who use the public slaughter-houses; are they the butchers near at hand or those at a considerable distance away?—The public

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slaughter-houses are used solely by the butchers of Brighton itself.

4277. Are they the butchers near at hand or at a considerable distance away?—They are butchers quite as remote from the public abattoir as the other butchers who slaughter in private slaughter-houses.

4278. Then what is your reason for thinking that these men come in preference to going to a private slaughter-house?—Most of them come because they have not got a private slaughter-house.

4279. Therefore they are compelled?—Yes; and, secondly, because they want the benefit of the advertisement connected with killing under official supervision.

4280. We have been often told here by previous witnesses connected with the butchering trade that they were antagonistic to a public slaughter-house, owing to the inconvenience of attending it; has your experience in Brighton warranted you in thinking that that is correct?—There is no doubt that, so long as butchers are allowed to have private slaughter-houses at the back of their butcher's shops or within a few yards of their shops, as, unfortunately, they are in many cases in Brighton, they will naturally prefer that to an abattoir a mile or two away, involving a horse and cart.

4281. You do not think the inconvenience is anything serious, I presume?—I do not personally think it is serious. I think it would be to the benefit of those very butchers to go to the public abattoir, because they have, within the length of a yard from their present shops, a nasty mass of putrefying material in connexion with the blood, offal, and so on.

4282. In connexion with the small number of animals that are slaughtered in your public slaughter-house, are you in a fair way of making it pay?—No, not at present. We shall eventually.

4283. In reference to the carcase which you told us had been slaughtered at a neighbouring farm, along with which a veterinary surgeon's certificate had been sent, might I ask the name of that gentleman?—I take it that I am not obliged to give it.

4284. In connexion with one of the cases, where milch cows were being referred to, you said that it would not pay to keep milch cows when the carcasses were being condemned for tuberculosis; might it not happen that cows might have tuberculosis and still give milk for several years, and pay all the same?—That would be so, but I gave that answer in connexion with the question as to compensation, and my argument was this—that, if eventually the farmer would be compensated for the diseased animal, it would be to his advantage to keep it as long as possible as a milk-producing animal, and then in the end get compensation for it as a meat animal.

4285. Your inference rather was that, could that animal be detected very early in the stages of the disease, it would be more profitable for the owner to get a very small sum than to run his risk of putting it on the market as a carcase beast as early as possible, so that it might not be condemned?—My idea was that, if an animal reacted to the test, it would be isolated; it might then be taken up to the market and slaughtered under proper inspection; if the disease was found to be only local, the whole of the carcase could be used for food, and the man would therefore practically lose nothing, but at the same time the milk would be protected.

4286. All that he would lose would be the difference between that animal as a milch cow and as a fat beast?—That would be so.

4287. Which is usually how much? I suppose you do not know?—I do not know.

4288. I presume you are aware that many of these animals, although tuberculous, would give milk that to all intents and purposes might be safe?—That would be so; the weight of evidence is in favour of that view.

4289. In reference to the private slaughter-houses which you have, you said you had been unable to get a conviction owing to the owner in no case being

an occupier; do you know of any similar cases outside the meat trade, where, occasionally, the owner has to suffer for the sake of the occupier?—I do not know to what you refer, nor what the analogy is.

4290. I am not referring to any particular one, but there is one which I have in my mind just now that occurred to me at the time you were speaking?—My point was that the owner does not suffer, and we cannot make him suffer. We cannot get the registered slaughter-houses closed, because the only person against whom you can get convictions in every case, in Brighton, is the occupier, and you may get a conviction for breaking byelaws against the occupier a hundred times over, and you are no nearer getting that particular slaughter-house closed because the occupier does not happen to be the owner also.

4291. In reference to foreign carcasses you admitted that these could not necessarily go under the same inspection as those of home slaughtered animals; would it meet the case if inspectors at the ports on the other side were appointed from this side, to see that they were properly looked after?—Assuming that the killing were done at those ports, it would, in my opinion.

4292. From wherever the killing was done?—Yes, that is so.

4293. And the carcasses properly marked?—That would meet the case.

4294. (*Professor Brown.*) I think you said you would condemn all carcasses if you found the tuberculous deposit, commonly called grapes, merely on the pleura or peritoneum?—No, I did not say that exactly. What I said was that, in the second place, I should condemn the flesh of tubercular animals when, apart from emaciation, the disease was widespread, seriously affecting the lymphatic glands and organs of both abdomen and thorax.

4295. (*Mr. Speir.*) In the Scottish Act, the Burgh Police Act of 1892, section 284, we have these words, which shortly runs thus:—that no person shall thereafter slaughter any cattle or beast, or scald carcasses of the same elsewhere than within the slaughter-houses—that is after a public slaughter-house has been built. Would that meet your view of the case, to give you better inspection in every way?—That after a given time animals shall only be killed in the private slaughter-house?

4296. No, that after the public slaughter-house has been erected in Scotland the powers are that all other ones may be closed?—There is no doubt that is the proper thing to do, but you will have a tremendous outcry about vested interests in the private slaughter-house.

4297. As far as I am aware I have heard no outcry about private vested interests in Scotland?—I take it that is because there are no registered slaughter-houses there; they are only licensed. The crux of the whole thing, at any rate from my Brighton point of view, is the registered slaughter-houses which have a vested interest.

4298. (*Dr. Thorne Thorne.*) You were giving us a reason which might be alleged against the compulsion of slaughtering in public slaughter-houses, that the butcher might have to drive some distance with the carcase back to his shop; that has been brought before us already, and I want to ask you this upon it: is it not the fact that from every licensed or registered slaughter-house, the butcher must, after every slaughtering, get rid of all his offal?—Yes, within 24 hours.

4299. Has he not to drive that away?—Yes.

4300. Would that not very largely go to counter-balance the expense of conveying the meat from the public slaughter-house to the shop?—I think it would. In my opinion it would very seldom mean the provision of an additional pony and trap. They all or nearly all have one already, and they have, as you say, already to remove the blood and offal and manure daily, and it would not be a serious additional burden to have to bring the carcase in, from, say, a mile distant.

4301. I am assuming that you are speaking of an urban district, and not of a slaughter-house which would be very many miles away from villages for example?—That would be so; there is no doubt that the slaughtering would gradually get concentrated in connection with urban districts, or chiefly, at any rate.

4302. (*Mr. Cooke-Trench.*) As far as I could gather, you think that the proper course for a dairyman when he finds an animal re-act with the tuberculin test, is at once to fat it for slaughter?—That is so, to isolate it and fatten it in its isolated position.

4303. Are you able to say at all what would be the cost of fattening it; whether that would be considerable?—That I am not able to speak to; I do not know.

4304. I suppose we may take it for granted that the cost would be considerable, and that he would have to feed the animal for some months in the best way?—Yes.

4305. If he has it before him that at the end of that time there is a considerable probability, and, in some cases, an absolute certainty, according to the evidence that has been given to us that the carcass of that animal would be condemned as unfit for human food on account of having some slight traces of tuberculosis, would not that be a great deterrent to him to fatten that animal?—As a matter of fact it would not be condemned in any district of which I know anything, if there was only slight tuberculosis; and, in the second place, he is not bound to fatten it; he might sell it in its lean condition as second-class meat.

4306. Would he get anything in England for such meat?—A large amount is sold in Brighton.

4307. Really?—Yes; in the back streets, to the poor people who cannot afford the prime meat.

4308. Assuming that in some districts any tuberculosis condemns a carcass, would that not be a very strong deterrent to him to fatten that animal?—Yes, if we assume that; but I do not know any district in which such extreme steps are taken against tuberculous meat.

4309. Would that not be a very strong temptation to him to go on milking that cow and getting the best he can out of her, instead of fattening her?—That might be so.

4310. (*Mr. Murphy.*) You spoke of the butchers advertising that they had their meat killed in the public slaughter-houses; have you had any similar instance of a milk vendor claiming to take particular precautions with reference to his milk in respect to tuberculosis?—Yes, I meant to mention that. I have here a circular got out by a particular dairy in Brighton called the Hygienic Dairy Company, and they have special features stated on the cover. One is as follows:—"No. 4, special. A new advance in science has been made by testing the cows for tuberculosis, and the cows are guaranteed to be free from it. This course has been persistently advocated by the medical profession, and we have pleasure in calling special attention to it as being a strong recommendation for our milk for children and invalids." (*Handing in circular.*) I gave a lecture about a week ago to the Dairymen's Association in Brighton, in which I advocated the same thing, and it was very favourably received, and I believe a number of other dairymen are going to put, in their contracts for milk, a condition that the cows shall be tested with tuberculin.

The witness withdrew.

Adjourned until to-morrow at 12 o'clock.

THIRTEENTH DAY.

No. 7, Whitehall Place, Westminster, S.W.

Friday, 5th February 1897.

PRESENT:

SIR HERBERT E. MAXWELL, BART., M.P. (CHAIRMAN).

DR. R. THORNE THORNE, C.B., F.R.S.
Professor G. T. BROWN, C.B.
SHIRLEY F. MURPHY, Esq.

T. COOKE-TRENCH, Esq.
HARCOURT E. CLARE, Esq.
JOHN SPEIR, Esq.
T. M. LEGGE, Esq., *Secretary.*

Mr. JOHN TATHAM, M.A., M.D., recalled and further examined.

4311. (*Dr. Thorne Thorne.*) May I draw your attention for a moment to a small table on page 2 of your memorandum as now laid before the Commission. I observe there that during 1881-90, the tubercular diseases caused death at the rate of 41.4 per cent. of the total causes of mortality at the ages 15-35?—Yes, that is so.

4312. On looking at the Registrar General's Decennial Report for 1871-80 at the same age period the percentage was 42.6, I find; is that substantially correct?—Substantially.

4313. So that, so far as the percentage of tubercular diseases to deaths from all causes is concerned, there was practically no difference between the two decennia?—Not as regards the proportion. I have got out since yesterday the corresponding figures for

the two quinquennia immediately preceding 1881. I put that table in (*handing in table*). You will see that, substantially, the proportions are the same. It is well to disregard the decimals I think.

4314. It seems to me there is some importance in it, because you tell us that in 1874 a change took place with regard to the certification of disease, and your new table, as I gather from it now, which divides the period 1871-80 into two quinquennia, goes to show that so far as the percentage of deaths from tubercular diseases to deaths from all causes is concerned, no particular change did take place as the result of that altered certification; is that your contention?—That is so; the figures show it.

4315. If one takes the deaths from all causes at all ages, I notice that in the first of the three decennial

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periods, namely 1861-70, we get a general death-rate of 22.4 per thousand?—I think it is so for the earliest of them, but I have not got the figures here.

4316. Perhaps you will accept my figures for the moment. There was a reduction down to 21.3 per thousand in 1871-80, and a further substantial reduction down to 19.1 per thousand in 1881-90?—I have no doubt that is so.

4317. The general death-rate having thus gone down, and yet from your showing the percentage of deaths from tubercular diseases to deaths from all causes having meanwhile practically stood still, might one assume that the fall of tubercular diseases had already really set in, and become established even by 1871-80?—From my reading of the figures, I think there is no doubt whatever that there has been a steady and a substantial reduction from first to last—from the year 1851 down to the year 1895.

4318. The table that you have just handed in makes it almost unnecessary now for me to refer at any length to the fact that in Table G., you omit one decennial period. The fact that you now give us data for the two quinquennia, 1871-75 and 1876-80, practically shows that the fall in mortality from tubercular diseases was fully established in the omitted decennial period?—Yes.

4319. I imagine your only object was to contrast two somewhat remote periods?—That was the object.

4320. Am I right, then, in making the inference, especially from this new table that you have put in, that altered nomenclature has not caused any substantial difference in the two quinquennial periods comprised in 1871-80?—I do not think, from a general review of the figures, that it has; and if it has, such influence has been overbalanced by the very substantial decrease that I have spoken of.

4321. Should I be right in stating that for the age-period 15-35 the phthisis death-rate practically governs the total death-rate from tubercular diseases?—Yes, decidedly.

4322. There has been diminution in the phthisis death-rate, has there not?—There has.

4323. And you have pointed that out?—Yes.

4324. A substantial one?—Yes.

4325. If meat had been doing any particular harm, and if it were possible to detect that by means of these statistics, it should have shown itself, I suppose, between the ages of 15 and 35, a period of life when people eat a very substantial amount of meat?—Yes, but the decrease has been so great as to overbalance any such increase.

4326. I was only saying that if it were possible that these statistics could show it, it would have manifested itself there; am I right?—I think so, I quite agree with you.

4327. I suppose you would admit that between those ages, 15-35 years, there is much more meat eaten now than there was 10 or 20 years ago?—I think so—I mean among the working classes.

4328. And the other classes do not eat less, do they?—Do you mean the higher, the richer classes?

4329. I mean, taking the population as a whole, there is more meat eaten between the ages of 15 and 35 than there used to be 10 or 20 years ago?—I think so.

4330. Then your statistics, as far as they go, do not show any increase of phthisis during that period that can be associated with meat?—Certainly not.

4331. Phthisis is the controlling tubercular disease at that age, is it not?—Yes.

4332. Again I suppose I may assume that from 0 to 5 years of age it is tubes mesenterica and hydrocephalus that control the tubercular death-rate?—That is so.

4333. I notice, for example, that in the period 1881-90 tubes mesenterica caused 64,025 deaths?—Yes, among children under five years.

4334. That is per annum, I suppose; or is it a rate?—No; it is deaths in the ten years.

4335. Then the deaths from tubes mesenterica are 64,025, and from other tubercular diseases 95,113,

making a total, when they are added together, of 159,138—that is according to the decennial return—out of which phthisis only caused 18,950?—I am sorry that I have not got the figures here, but I daresay those are the facts. I do not like to speak positively; if I may, I would rather refer to figures.

4336. Those two forms of tuberculosis together outweigh the phthisis deaths under five years of age?—Yes, they do.

4337. Then, again, there has been a substantial diminution in the tubercular death-rate under five years of age, which has been going on for some time?—Yes, that is so.

4338. Therefore, may I assume, even granting that milk is a cause of tubercular disease under five years of age, that tubercular disease at that age has been diminished in other ways to such an extent that any increase due to milk is masked?—Decidedly.

4339. Then I would not be going very far wrong if I were to say that, valuable as your statistics are, it is not permissible for us to draw any inferences from them as to the influence of either meat or milk upon the production of tubercular disease at one and another age?—I do not profess to do so.

4340. There would be one mode of getting at that, I imagine, and that would be to compare the deaths from tubercular disease amongst the different classes of the population, would it not?—Yes, amongst the different social ranks of the population.

4341. I notice that the Registrar-General of Dublin is, perhaps, in this matter ahead of your department, since he every week, not only divides the deaths, including those from phthisis amongst four classes according to their social status, but he divides each of those classes again into a number of sub-classes?—He does so.

4342. Is it possible, do you think, that we could get the information we want from him?—With respect to Dublin, certainly, and if not from him, I do not think it can be got from anyone in the United Kingdom.

4343. Could you tell me, at all, why the larger country is so far at a disadvantage in statistics as compared with Ireland?—I cannot account for it.

4344. If you had similar information to lay before us, may I assume that you would have been able to give us better opinions than you now can from pure statistics as to the point we are discussing and studying?—I think it is probable that I might have been able to help you if I had this information.

4345. Putting statistics aside, as an officer of health of long standing, and in a very large community, would you give the Commission your idea as to whether tuberculous meat is causing any substantial amount of tubercle in the population?—I have a general impression, from my long experience in Lancashire, that to a certain extent tuberculous meat (and to a much greater extent tuberculous milk) has an evil effect upon those who consume it. That is my general impression. What the amount of the mischief is it is quite impossible to say.

4346. I mentioned meat first because I was going to try and get a separate opinion with regard to milk; do you feel able to answer me separately as regards meat?—I think that probably a certain amount of mischief is caused by it.

4347. Might I say that that mischief, however, is altogether outweighed by improvements in other conditions which are diminishing phthisis?—Yes, no doubt.

4348. With regard to milk, would your opinion be a stronger one as to its causing tubercular disease?—It would be stronger.

4349. Have you any experience from Manchester to show whether breast-fed children, for example, suffer less from different forms of tubercular disease than children fed with cow milk?—Speaking without the figures before me I am unable to answer your question with that definiteness that I should like to do, but I am quite sure that the present medical officer of health of Manchester could give you valuable information on that point, because I know that he has investigated

the question with the help of figures collected during a considerable number of years.

4350. I may say that he has promised to do so, but I was desirous, if possible, to get your general impression upon the subject, apart from statistics, if you felt able to give one?—I am afraid I cannot go further than that. Would you permit me to revert to one point with regard to the incidence of *tabes mesenterica*. May I read a paragraph from my previous remarks in reference to Table C. "Considering the separate parts of this year of life, the actual increase seems to have been confined to the age-group 3-6 months, the other age-groups under one year indicating a delayed decrease. A possible explanation of this is to be found in the relationship between *tabes mesenterica* and diarrhoea. Both diseases fall most severely on children under one year of age, and the mortality in both cases specially affects the age-group 3-6 months. The period 1886-90 showed rather heavier diarrhoea mortality than the previous period 1881-85 had done. Reference to the Registrar General's annual reports shows that, whether from the difficulties of diagnosis,"—in the case of *tabes mesenterica*,"—which are often great, or because *tabes mesenterica* is really more fatal during epidemic diarrhoea periods,"—this is the point,"—the rates from the two diseases almost invariably rise and fall together." I should like to put in this chart, in which the rates are reduced to graphic form, and which I think you will see shows that most clearly (*handing in chart*). I put it in to support my statement that *tabes mesenterica* is a very indefinite cause of death, and that diarrhoea is not infrequently mistaken for it. To me it is a most striking chart.

4351. Would you consider it at all possible that diarrhoea should be an inciting cause of *tabes mesenterica*, and that truly *tabes mesenterica* is more prevalent as a cause of death during diarrhoea years than in others?—I think it is very likely that the latent tubercular disease may be re-kindled by the diarrhoea and so cause death.

4352. But I infer that that is not the total explanation in your opinion of this chart?—No, certainly not.

4353. It is really a mistaken diagnosis between diarrhoea and *tabes mesenterica*?—That is my opinion, and it is to prove this point that I ask leave to put the chart in. I have another chart here which compares the incidence from *tabes mesenterica* with the incidence from tubercular meningitis. There you see two entirely different curves, showing that the two have very little relation to one another; that is equally, I beg leave to submit, worthy of record (*handing in another chart*).

4354. In other words, although tubercular meningitis may be the result of internal tuberculosis, yet the two things are so absolutely separated that there is no confusing them?—I think not.

4355. (*Mr. Speir.*) It seems to be a fact that, while your figures show an immense decrease with regard to phthisis, yet in *tabes mesenterica*, dealing with the deaths under one year, from 1881-95, there is, practically speaking, little difference?—There is a slight increase in 1886-90, but if you compare the increase with the very large figures we are dealing with you will see that it is relatively small.

4356. I see that it is almost nothing as far as that disease is concerned?—Almost, and so I should disregard it; the figures are very large, you see.

4357. Have you any reason to give why there is no diminution there corresponding with the other diseases?—I have already said that *tabes mesenterica* is a form of disease in which I have very little confidence, and therefore I do not like to say too much about it. I have specially guarded myself from attaching too much importance to anything that this particular table may suggest.

4358. Very much the same, I take it, applies to tubercular meningitis, Table D., which, during the same period, goes down from 2,386 deaths per million births to 2,171 under one year of age?—In this table there is a gradual diminution from first to last, and

there is none of that interruption in the case of tubercular meningitis which is shown in the case of *tabes mesenterica*.

4359. Have you an explanation to give of that?—I do not think it would be worth while to take notice of such small differences.

4360. If there is very little difference there must be some reason why it is remaining, practically speaking, stationary?—I am afraid that the diagnosis of *tabes mesenterica* is so unsatisfactory that it would not be wise to draw an inference from so small a difference.

4361. I am now speaking of tubercular meningitis; does the same remark apply to it?—Pardon me, but I think I am right in saying that there, from first to last, the figures show a distinct and a decided diminution from the first period to the last.

4362. Yes, but still it is not very much from 1881 to 1895; it is very little?—I agree with you.

4363. Have you any explanation to make why these figures remain practically the same?—I have tried in my remarks on these tables to show that the ages under five years of age, certainly the ages under one, are liable to more error than the ages above five.

4364. My own idea was that probably the better diagnosis now made might throw more deaths under that head than might have been thrown in the previous period?—I do not like to risk an opinion from these figures on that point.

4365. (*Dr. Thorac Thorac.*) Am I not right in saying that many statisticians look with such suspicion upon the certified causes of death under one year of age that they rather group them together as a whole without attempting to differentiate between the deaths according to cause?—It may be so.

4366. (*Mr. Murphy.*) Would that be a possible explanation of the increase in the mortality in scrofula and other forms of tubercular disease shown in Table E.?—I have before said that I regard this section, relating to scrofula and other forms of tubercular disease, as nothing better than an overflow from the other sections; and therefore, although I have put in a table with respect to these diseases, I attach, practically, no importance to it, except as forming, with the other diseases, what we regard as the tubercular group. There may have been transference, and I think very likely indeed that there has been transference, from the diseases under the heading of Table E., either to tubercular meningitis or to *tabes mesenterica*, or even to phthisis, and perhaps *vice versa*. I may say that I have given the rates of mortality from all these forms of disease in very great detail, not because I have much faith in the figures for the earlier ages, but because I wanted to present as complete a set of tables as I possibly could. Having regard to the fact that in the single years, from 0 to 5, there is a very great deal of difficulty in getting either the population living at those ages or the exact age at death, you can easily see that transference from one year of age to another—from 1 to 2, or 2 to 3, or 3 to 4 is very easy and very likely to occur; so much so that many statisticians object to use the rates of mortality at single years under 5. I have added them here simply for completeness' sake, and not because I have much faith in them. I think I ought to say that. They are here printed in black type to show that the rates are not the ordinary rates, but that they are rates per million births, in place of rates per million persons living.

4367. Referring to the suggestion as to the transfer from other forms of tuberculosis and scrofula to other groups, one still sees that the mortality at all ages from other forms of tuberculosis and scrofula shows progressive increase?—Yes, I think that might probably be explained by transference.

4368. To it?—I think so.

4369. I understood you to say, in your previous answer, "transference from scrofula"?—Transference from one to the other I mean; there may be mutual transference. I have only put this table in to complete

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the other tables, and I have little faith in them separately, whatever they show.

4370. If one wanted to consider the thing with as little error as possible you would be disposed to add all the forms of tubercular disease together?—I should, and I have done so in the first table. That first table is mainly the one upon which I base my opinion.

4371. Would it be fair to take phthisis separately, as indicating, perhaps, a different source of disease?—I think that you may fairly take the phthisis table separately, because it refers, as Dr. Thorne Thorne said, to tubercular mortality at a certain definite interval of life; for instance, from 15 to 35 or 45 years of age.

4372. I notice that the incidence in successive periods of three months in the first year of life shows that there is an increase in phthisis as well as an increase in the other forms; that is to say, from 3 to 6 months they suffer more than from 3 to 6 months, and from 6 to 12 months they suffer more than from 3 to 6 months?—May I draw your attention to the fact that the 6–12 months period is double the length of the others, and that that explains the difference there. Of every million births, 641 children under one year of age died from phthisis, and those 641 children were distributed in this way—88 under 3 months of age, 188 from 3 to 6 months, and 365 from 6 to 12 months, or double the period; so that the 365 for the last 6 months would be about equal to the 188 for the 3 months immediately preceding.

The witness withdrew.

Mr. J. Wiley.

Mr. JOHN WILEY called and examined.

4379. (Chairman.) You are a butcher and cattle dealer of West Hartlepool, I believe?—Yes.

4380. Have you been long in the trade?—Upwards of 25 years.

4381. I understand that you are a member of the National Federation of Butchers?—Yes. Not personally, but our association is a member.

4382. You are aware that complaints have been made on behalf of that society of the action taken by the sanitary authority of recent years in West Hartlepool?—Yes.

4383. What is the nature of that complaint?—The complaint that we have made from the association has been in reference to seizures that have taken place. They became so serious that, in 1891, after several of our traders had been ruined, and all the money that they had had been taken from them through those seizures, we had to form ourselves into this mutual aid, and try to help one another. We made complaint to the local authorities, but they could not assist us in any form whatever. We made complaint to the National Federation, and of course they did what they could with respect to the Government question.

4384. Can you describe the machinery and action of your mutual aid society; how does it work?—It has worked very satisfactorily until this year, when the members have begun to be dissatisfied at paying the money. We started in 1891, and we had a membership of about 40; the whole of the butchers in the town did not join the association. We agreed to pay two-thirds of the original cost of each animal seized.

4385. Has that gone on satisfactorily since?—That was subject to the price; any animal that cost less than 10*l.* we gave no compensation for whatever. On that sheet of paper that I have given you you will find the exact number we have paid for out of the association.

4386. I see that in 1891 there were four cattle seized, and 36*l.* 6*s.* 8*d.* paid in compensation; in 1892 there were four, and 28*l.* 15*s.* paid in compensation; in 1893, 11 seized and 100*l.* 4*s.* 4*d.* paid in compensation; in 1894, 10 seized and 92*l.* 13*s.* 6*d.* paid in compensation; in 1895, five seized and 33*l.* 4*s.* 10*d.*

4373. The period from 3 to 6 months generally suffers, throughout, I think, more heavily than the period 0–3 months?—That is so.

4374. That is true for each of these forms?—You see that the figures here are relatively very small.

4375. Quite so; it is to their constancy I am referring?—There has been a distinct decline in phthisis, too, has there not.

4376. In successive decennia or quinquennia, you mean?—Yes.

4377. Have you any information as to whether there is a difference in the decline of phthisis on the one hand, and of the other forms of tubercular disease on the other, in rural districts as compared with large towns?—It may be possible to get out something of that kind, but I have not got it here, and it would require careful investigation before I could answer that question satisfactorily.

4378. (Chairman.) I wish to give an expression of recognition, on the part of myself and my colleagues, of their indebtedness to you for the great trouble you have taken. When I applied to the Registrar-General for information on this subject he, of course, mentioned your name at once, but I really did not know the extent of the labour which we were imposing upon you by accepting his offer. Whatever be the deductions we form from your tables, we are extremely grateful to you for having laid them before us; I believe nothing like them has been prepared up to the present time?—I have had a great deal of pleasure in doing what I have been able to do.

paid in compensation; and in 1896, 18 seized and 159*l.* 4*s.* 8*d.* paid in compensation, making a total, in the six years, of 440*l.* 9*s.* paid in compensation by your mutual aid society?—Just so. Then you will see there are some that were not in the mutual aid, but we got our figures from the medical officer, and he told us the exact number which had been taken.

4387. In the six years 24 cattle seem to have been seized which did not belong to members of the association?—Just so.

4388. Valued at what—two-thirds of their value? No, their full value.

4389. Valued at 38*l.*?—Yes. The original cost of the cattle that belonged to the members of the association was, I believe you will find, 660*l.* 13*s.* 6*d.*

4390. In addition to the 440*l.* paid in the six years for compensation to members of the mutual aid society, reckoning the cattle at two-thirds of their value, there was the original cost of the cattle seized which had been paid by them, and that amounted to 660*l.* 13*s.* 6*d.*?—Yes.

4391. Besides which there were 24 cattle not belonging to members of the mutual aid society for which 38*l.* had been paid?—That is the estimated value that we took of them; we could not give the figures of that as definite. We knew how the prices ranged; they ranged from about 12*l.* to 21*l.* odd each.

4392. Then the expenses of administration during these six years were 40*l.* 10*s.*?—Just so.

4393. Representing a total loss to the butchers of West Hartlepool during these six years of 1,525*l.* 12*s.* 6*d.*?—That is it.

4394. Do the butchers dispute the justice of these seizures?—Yes, they very much dispute them. We contend that they have no right to take them until they prove that the thing is injurious for food, and we say that they have not yet proved that.

4395. Assuming that the inspectors are discharging their duty in condemning carcasses showing tuberculosis, have you any other cause of complaint against them?—No.

4396. There is no want of uniformity?—No; I believe that our medical officer thinks that he is discharging his duty in taking the cattle that are troubled

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with it. I believe that he is honest in his convictions. Of course we disagree with him, but that is the only difficulty we have betwixt us and the doctor.

4397. Where are these cattle slaughtered?—They are slaughtered at the public abattoirs.

4398. All of them?—All of them.

4399. Are there no private slaughter-houses?—Not in West Hartlepool.

4400. Were there never any private slaughter-houses there?—There were; it will be over 30 years ago.

4401. What became of them?—They were done away with. They were outside the original boundaries, and when the local authorities extended the boundaries—

4402. They stopped the licensing of them?—Yes.

4403. Do you hold, or do the members of your trade generally hold, that no meat ought to be condemned for tuberculosis, no matter to what extent it prevails?—I would not say that. I will speak for myself. I do not consult any of the traders with regard to a question like that, but I can give you my opinion about it. I consider that there are cattle in certain stages that are perfectly fit for food. It is so localised that it is impossible for it to interfere with any other part.

4404. Is it the practice in West Hartlepool to condemn the carcass for any trace of tubercle?—It has been until, perhaps, about three months ago.

4405. And now the inspection is not so rigid?—It is not so rigid now.

4406. But still you complain of it as too severe?—We complain of it as too severe. The complaints are not so great now as they were, but we complain still; we want to have compensation for what is taken. We cannot look upon this question simply as a trade loss.

4407. The amount paid by the mutual aid society was larger last year than in any previous year, and the number of carcasses condemned larger?—Yes, you will find that correct.

4408. That does not look as if the inspection was more lenient?—There is no doubt that in previous years, from 1891 to 1894, there were cattle taken away that had been troubled with it, but now we are in public slaughter-houses, there is no chance of anything of that going away at all. Cattle costing 17l. up to 20l., and upwards, have been taken just because they have been slightly troubled, whereas before they were not inspected so rigidly, but the tubercle was taken off, and they were allowed to pass. My remark about lenient inspection apply to the last three or four years. The butcher cleaned it for himself.

4409. Do I understand that previous to 1896 there were private slaughter-houses in West Hartlepool?—They were not private slaughter-houses, they were public slaughter-houses, but under another rule altogether to what we are now. There were so many built separate—about 12 of them altogether built in one block, but separate, and they were not under such a rigid supervision as they are at present.

4410. The existence of a public abattoir has been partly the cause of a more rigid system of inspection, then?—Yes.

4411. Is it known among your trade that any class of animal is more liable to be seized on account of tuberculosis than another?—I do not know. I have often thought myself that the shorthorn breed and the Ayrshire breed are more subject than any other. I have found it more prevalent in those two classes than in any other class.

4412. I would not call those classes, I would call them breeds?—Yes, the shorthorn breed and the Ayrshire breed.

4413. What I mean is, Would a butcher feel more secure in buying a bullock or a heifer than he would in buying an old cow?—No, not in the least.

4414. The carcass of one is as likely to be seized as the carcass of another?—Yes; I will give you an instance that took place at Castle Eden auction mart about four years ago. There was one beast there

which took the first prize at the show—in fact, four first prizes; it was sold for 50l., and when slaughtered was found to be troubled with tuberculosis from one end of it to the other.

4415. Was that a bullock?—It was a heifer beast. The cattle that we have had have run from about two years old up to, perhaps, 10. I should say six or seven years of age, taking an average of the cattle.

4416. (Professor Brown.) At the beginning of your answers you said that the complaint was chiefly that there were so many seizures taking place?—Yes.

4417. Why were there so many; do you know?—On account of their being troubled with tuberculosis.

4418. That is to say, in other words, there were so many tuberculous animals sent to slaughter, that there were many seizures in consequence?—There were many seizures in consequence of it, and we complained because we could not tell, when we were buying these cattle, that they were troubled with tuberculosis. We have had cattle coming into our town that have been passed by veterinary surgeons, alive, as sound and healthy animals, and when they have come in they have been taken and have been condemned.

4419. You say they were passed by veterinary surgeons?—Yes; we have had cattle come into our town passed by veterinary surgeons as sound, healthy, animals, and when they have come in and been slaughtered they have been condemned; and we had good grounds to be dissatisfied with such treatment.

4420. Do you mean that all the cattle that come in for slaughter are examined by a veterinary surgeon?—No, certainly not.

4421. You are speaking of one or two particular cases?—Yes. The whole of the cattle that have been condemned in West Hartlepool during the past few years have been cattle that have come from the markets or the auction marts, bought in *bonâ fide* manner in open markets.

4422. Do you know of your own knowledge that those particular cattle were examined by a veterinary surgeon before they were slaughtered, or do you mean that they were examined by him in the ordinary course of the inspection of the market?—Just so; in the ordinary course of the inspection of the market.

4423. Where he walks round and takes a general look at them?—Yes.

4424. Do you think you could find out a tuberculous animal if it were not decidedly bad?—No, I do not think I could.

4425. Do you think, in buying an animal, you would not have any idea whether it was tuberculous or not?—No, not the slightest. I will give you an instance of two beasts that my brother's father-in-law had to sell. He asked my brother to go up and look at them. He told him there was one of them a little off its meat, and he was afraid it was troubled with tuberculosis; the other one was a beast that was eating well and was in good condition to all outward appearance. When they were both slaughtered the one that he thought was bad with tuberculosis was as healthy and sound as could be, and the other one was very bad with tuberculosis.

4426. You are a pretty good judge of cattle, generally, I suppose?—I do not know; I would not like to say.

4427. You ought to be from your experience?—Yes, I have had experience enough.

4428. I suppose you would know whether a beast were sick or well?—It is impossible to tell with the tuberculous cattle. I have not been able to do so; I have tried. I have been as careful as ever I could be. I have been very fortunate. I generally buy for our firm, and I am buying from 8 to 10 beasts, perhaps, a week—that is all for slaughter.

4429. In the case of any other disease but tuberculosis you would know whether the animal were ill or well?—Yes, I think I should.

4430. If he had anything at all the matter with his lungs?—Only at certain stages; I would not pretend to know everything.

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4431. But still, generally, you would know a sick animal from a healthy one?—Yes, I have not the slightest doubt I should.

4432. Have you met with any instances of cattle, in your own case, where the beast was at all wasted?—I have seen cattle that have been wasted very often.

4433. Have you bought any?—No, I would not buy them.

4434. Then you have not had many seized yourself?—We have not had one. I have bought cattle and sold them to other people and they have been seized, though.

4435. They have been seized after you have sold them to other people?—After I have sold them again.

4436. What would be the average price of those animals?—They would range from about 12*l.* to 18*l.*

4437. And those have been seized in the hands of other people after you had sold them?—Yes.

4438. To the best of your judgment they were perfectly free from any sign of any kind of illness?—Perfectly free, to the best of my judgment, or I would not have bought them, for the simple reason that I was selling, perhaps, to a man that was having credit, and if they had taken them from him it would be a loss; so I was always particularly careful to do the best I could in buying cattle.

4439. I think you said, in answer to one question, that you thought the inspector had no right to seize a carcass, and that the medical officer of health had no right to condemn it, until he proved it was unfit for food?—That is my contention, and has been right throughout.

4440. Have you any idea how he was to prove it?—No, I have no idea; if he makes an assertion he should prove it.

4441. Then you ask him to prove what you admit at the same time to be absolutely impossible that he could prove?—Then he should not make the assertion. If I made the assertion that a man was doing something wrong you would naturally want me to prove that he was doing wrong.

4442. But there are some carcasses, surely, that you could not object to being seized?—Some carcasses of beef, certainly not; I should say they did right in taking them.

4443. A very soft, watery looking carcass, you would think ought to be seized?—If the cattle were in a very plain state of flesh I should certainly say "Take them"; but the cattle that have been taken in West Hartlepool, the price alone is sufficient to tell you, were good animals. If you get cattle from about 12*l.* up to 20*l.* odd, the price denotes that there is no shadiness about anything with them.

4444. Will you tell me under what circumstances you would think it right that a carcass should be seized—in what condition should the carcass be?—If I thought the carcass was not good enough beef for human food I should say "Take it." I could not describe the condition; I should have to see the animal myself first.

4445. Can you describe any condition which you think would justify an inspector in seizing a carcass?—No, I would not.

4446. But you would seize one yourself under certain conditions?—Yes, I would.

4447. Then if I were to say to you, Why do you seize that carcass? I object to its being seized until you can prove it is unfit for food. What would you do?—I should seize it more on account of being bad beef than troubled with tuberculosis.

4448. That is not the question; you object to the inspector seizing any carcass which he cannot prove to be unfit for food?—I do.

4449. In the case where you, yourself, would seize a carcass, how would you prove that it was unfit for food?—The condition of the beef.

4450. But I want you to prove it; I admit it is bad, but I want you to prove to me that the carcass is unfit for food?—If I had the beef here I would show

it to you; I have not the beef, and I cannot show it to you.

4451. (Mr. Speir.) I think you have said that the most of the breeds that were seized in your market were either all shorthorns or Ayrshires?—I beg your pardon, I did not.

4452. In other words, you said you thought these breeds were more subject to the disease?—Yes, I do.

4453. Did you not misapprehend the Chairman's question when he asked you if there was any difference between bullocks, and heifers, and cows, and you said there was no difference?—I understood the Chairman to say, were there more cows seized troubled with tuberculosis than heifers or bullocks; that is what I understood the Chairman to say.

4454. And you said "No"?—I said "No"; I said they were all subject to it.

4455. Yes, but have not more cows been condemned in West Hartlepool than bullocks?—There may have been more cows than bullocks; but putting bullocks and heifers together I do not know that there is much difference.

4456. Then what proportion of bullocks are sold in the market compared with heifers?—The proportion is smaller of the bullocks than of the heifers, I should say, in our part of the country.

4457. In regard to the compensation that your association have paid for the animals that were condemned during the last six years, you said that the original cost of these animals was 660*l.*?—Just so.

4458. And that the association had repaid 440*l.*?—Yes.

4459. That the cost of the expenses was 40*l.*; and that the outside butchers had paid 380*l.*, making up a total loss of 1,500*l.* odd?—Yes.

4460. I think you have made, probably, a miscalculation in that, and I will try to prove it. Take your own ones—the association ones—first. The animals cost 660*l.*; presuming they had been utterly destroyed at the first, there could be no more loss than the 660*l.* surely?—Yes, there is the loss to us. We have to make up the loss that it has proved to the butchers. If I go and give 20*l.* for any cattle and that is taken from me, that is a loss; my friends make up the 20*l.*, or make up 15*l.* towards me; that is making that beast to have cost 35*l.*. It is a loss to the butchers, taking them as a body.

4461. That beast would thus have caused loss to double its original value, which it could not do. If these animals cost 660*l.*, and if you, as the owner, say, of the whole lot, got 440*l.* back, your loss was purely and simply 220*l.*?—But the 440*l.* is taken from men that have no occasion to pay it. If I buy one beast for 20*l.*, and the present gentlemen have a mind to make it up to me it is so much loss to them as well. That must go with the sum, and that must be added to the original loss. I have lost 20*l.* in the first place; you make it up to, say, 15*l.* to give to me, and that is a loss to you. It must be a loss to us. Let me give it in this way. Personally, our firm have had no cattle taken, but, indirectly, I have paid 70*l.* towards subscribing to other men. That is a loss to me, or to my firm, of 70*l.*, and it must be.

4462. Decidedly it is?—Very well; the other butchers have lost their beasts to begin with.

4463. Take the association as a company; presuming that they were the purchasers of all these cattle, and that they had laid aside 440*l.*, but they paid 660*l.* for the lot; as they get back their own 440*l.*, how much would they have lost in the transaction?—They have lost what I said. If I take 1*l.* out of this pocket and I put it into the other it is the same; but if I take it out and give it to another man it is gone entirely from me.

4464. But you are doing it amongst yourselves?—It is a loss to ourselves as a body.

4465. (Mr. Cooke-Trench.) You had or have—is it existing still—an association for compensation towards one another?—It is divided into two now.

4466. But there is an association?—Yes.

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4467. How much do you pay to that, or how do you pay; how are you assessed?—Two-thirds of the original cost.

4468. That is what you pay to the member who loses, but how much do you subscribe; do you pay into that association a certain sum for every beast which you buy, or how?—We pay 6d. for every heifer and bullock and 1s. for every cow.

4469. Does that not rather imply that the cows are more liable to tuberculosis than the bullocks or heifers?—Some think so; it is not my opinion though, because I think I have proved it to the contrary.

4470. Why is double the amount charged for cows that is charged for bullocks and heifers?—Simply because the majority of the members thought there was more danger.

4471. I see; the opinion of the majority is that there was more danger?—Yes.

4472. But you do not agree with that?—No.

4473. (Mr. Murphy.) Can you say whether that contribution has been sufficient to pay the costs of the seizures? Have you a balance in hand?—We have no balance in hand; we are in debt now.

4474. Is it owing to the number of the seizures?—Yes.

4475. But those seizures have not been confined to tuberculosis, have they?—They are all tuberculous animals.

4476. Does this insurance society only relate to tuberculosis then?—That is all.

4477. And not to seizures for other reasons?—No.

4478. You spoke of cattle being seized which you had bought and sold to other people; can you remember how many there were?—I could not.

4479. Not to within a few?—I should say, roughly guessing, eight or nine; that is taking the period of about six years.

4480. And that out of how many?—About two a week of the beasts that I know particularly well that have been seized. There are some that I may not have knowledge of; but one particular man that I sent two every week would have about eight or nine in the six years.

4481. (Dr. Thorne Thorne.) The National Federation of Butchers has handed in to this Commission a list of the beasts seized for tuberculosis in West Hartlepool in the period from 10th September 1891 to the 23rd June 1896. I find that they were 44 in number. Do you know that out of those 44 there was only one bullock and only two heifers, and that the remaining 41 were cows?—I do not know; I am not aware of it.

4482. If this paper, handed in by the West Hartlepool Butchers' Association, is correct, that shows that the danger is infinitely greater as regards cows than as regards bullocks, does it not?—Yes; but I never heard that our association handed such a paper in.

4483. It is headed "The West Hartlepool Butchers' Association"?—And they have put it down to cows?

4484. They give the list of the sex and the price of every animal seized?—I have seen lots of them, and I know more heifers and bullocks have been taken than is stated in the paper referred to.

4485. You have never seen this table?—I have never seen that table.

(The Secretary.) It was sent to Mr. Field in the first place, he sent it to Mr. Chaplin, and Mr. Chaplin sent it on to the Commissioners. That is how it came here.

(The Witness.) What I have given you is taken from our secretary.

4486. (Dr. Thorne Thorne.) Was the control over the meat supplies before 1891 less than it is now?—Much less, I believe.

4487. How many traders have been ruined since 1891 by the present inspection?—I should think about four ruined; they have not money now to go to market with.

4488. Since 1891?—Yes.

4489. How many before 1891, when it was less stringent?—None, to my knowledge.

4490. But you told us?—I beg your pardon; it was about two years previous to 1891 when the doctor started to take these cattle; at one time they never used to touch them.

4491. You told us that this association was formed in 1891 because the traders were ruined by the seizure?—Just so, and previous would mean about two and a half or two years.

4492. How many years have you been in business yourself?—About 25 years.

4493. About 12,500 cattle or carcasses have passed through your hands at the rate of 8 or 10 a week, which is over 500 a year?—I would not say carcasses; if you say cattle, I will agree, because I have sold them alive.

4494. Out of those 12,500, which is about the sum, you have never had one seized?—No. Mind you, I have killed cattle that have been troubled with tuberculosis, but not this last six years.

4495. I was not asking you what you killed. You have never had one seized?—No.

4496. Then you have no grievance?—No more grievance than this, that I have had to help to pay money to assist others where there has been no occasion for it.

4497. Now we have had four or five gentlemen who deal with carcasses, and with cattle, before us, and every one of them has told us substantially the same story, that they have either never had one seized, or, at the outside, they have had only one, two, or three seized over a whole lifetime; where are the people who are always having their cattle seized; we have never met them yet?—They can be produced, if you wish them, every man. Every man's name that is down there, you can have them produced. The doctor himself will tell you that the cattle have been taken, and they must belong to someone.

4498. But the number that is seized in West Hartlepool is very small?—It is very large in proportion to the population, we think.

4499. I find there were 52 only in six years; that makes an average of eight in a year. How many cattle came in in the year?—I could not say.

4500. You gave us 18 seized in 1896; out of how many was it?—I should think about 60 or 70 killed a week.

4501. It is a very small number seized for tuberculosis out of a very large total?—We consider it a very large number. If it had been beef that was unfit for food we should have thought nothing about it; we should have thought it served the people right for taking it. Where we consider our hardship to come in is that we should go into a market and buy what we think a legitimate article, and take it home and have it taken away from us.

4502. Pardon me, it is not taken from you; it is taken from no butcher or carcass dealer that has been before us?—But it has been taken from the butchers, and we are not speaking individually, at least, I am not speaking individually.

4503. I know; but none of them will speak individually. What is the difference between all these gentlemen who come before us, and whose cattle are not seized, and these men whose cattle are seized; that is what we want to know?—In what sense of the word do you mean "difference"?

4504. Are they dealing in an inferior article altogether?—No, because some of our leading butchers in the town have had them taken from them.

4505. How is it they never have come before us?—I cannot tell.

4506. (Chairman.) Would you undertake to produce one of the tradesmen who has been ruined by the seizure of the carcasses?—I can undertake to produce a man that lost the whole of his money, that is what I call ruined. The money that he had to go to market with, he lost it, by the beast being taken from him, and he is naturally what I term "ruined" on account of it.

4507. Can you produce him?—He had to buy on credit. That is what I wished you to understand

Mr. J. Wiley. when I said "ruined"; he lost the whole of his money.

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4508. Can you produce him as a witness before us?—It just depends upon his expenses coming up here from Hartlepool.

4509. Of course he will get his expenses for coming up?—He could only tell you what I have told you now. I can produce the man. I can produce him either before any magistrate we have in West Hartlepool, or the Committee.

4510. (*Dr. Thorne Thorne.*) What is that man doing now?—He is butchering.

4511. He was not long ruined then?—He has had to buy on credit.

4512. How long did he have to buy on credit?—He is buying on credit now.

4513. He has had so many seized that he has ever since had to buy on credit?—Yes, and he is in debt now.

4514. That is the man we want to see?—If you dispute my word I know he will come up here if you will pay his "exes" for coming. The man is simply in my debt, and I have him in my books now. He has not been able to pay for his stuff.

4515. Do the butchers of West Hartlepool think it a hardship that there are no private slaughter-houses there?—There are only one or two. I have an objection to public slaughter-houses simply on this ground, that the expenditure is more; we have to pay more than what we could build for ourselves. If the authorities of West Hartlepool, when they were building the one public slaughter-house, had built so many smaller ones, but let off to the different butchers that were killing more than one beast, at a rental of so much a year, I should have no objection whatever to the public slaughter-houses. My objection lies simply in the extra expenditure.

4516. How does that extra expenditure arise?—I say it arises by the amount of money that they expend in putting buildings up, and they want to charge us more than is needful for it.

4517. If they had put up a public building which was divided into separate shops, which they could let off, would it have been of less cost than building one public slaughter-house?—They could have built one smaller instead of building one very large one—built it so much smaller, and built round about it so many smaller ones that they could be let off to butchers at so much a year.

4518. Then the point is that it is in excess of the requirements of the town?—No, I do not say that.

4519. How could they build a smaller one if it is not too large?—My objection is simply on the ground of expense. My firm pays approximately about 30*l.* per year as slaughtering fees. This is exceedingly heavy. If the corporation had erected so many smaller houses for the accommodation of similar firms to ours, and let them off at a rental, sufficient to pay a fair interest for the outlay, this serious item of expense would have been greatly modified. There could still have been a larger house for the accommodation of those who did not care to rent the smaller ones. The primary cost of the whole would not have been more than under present arrangements, and the convenience would have been greatly enhanced.

4520. Will you kindly tell me what was done with that heifer that cost 50*l.* which was found to be tuberculous, to which you referred?—I could not tell you; it was not slaughtered in West Hartlepool.

4521. You do not know whether it was seized or not?—It was not seized, I know that. It was in the country. I know it was troubled with tuberculosis, and I mentioned to you this case simply to show you how impossible it was to tell a beast that was troubled with tuberculosis, and to show you as well that where they are troubled with tuberculosis they can put flesh on and grow.

4522. That animal was not seized?—Not to my knowledge.

4523. Was it slaughtered?—Yes, it was slaughtered.

4524. But not seized?—It was not slaughtered in West Hartlepool; it was sold to a country butcher.

4525. Would you regard it as right to eat the meat of an animal that died of pleuro-pneumonia?—I could not say; I do not know whether it is injurious to eat or not.

4526. You expressed a very strong opinion about tuberculosis, and I thought, perhaps, you might have one as to pleuro-pneumonia?—I do not know. I have eaten of the beef of tuberculous animals knowingly, and I would not be afraid to do it again if the beef were in good condition.

4527. Who has not eaten the beef of tuberculous animals?—I do not know; I should think very few.

4528. There are very few that have not?—Yes, more or less.

4529. (*Chairman.*) Taking the list, as supplied by your association, the West Hartlepool Butchers' Association, of those tradesmen from whom animals have been confiscated since September 1891, I find that there is a person who has had seven animals taken?—That is the gentleman I mentioned to you.

4530. Would it be possible to have his evidence here?—I do not know, I am sure.

4531. You do not know?—No, I do not know.

4532. Would it be possible to get the evidence of any of these traders whose animals appear on this list?—I should say so. I could not guarantee anything. There you have the names, and they could be asked to come. Then, of course, it would be left to themselves whether they would come or not. I do not know.

4533. We want to get the evidence of a butcher who has actually had a carcass confiscated?—I see.

4534. Hitherto we have failed to find one; if you could help us we would be very much obliged to you?—I understand what you mean now. We have not had any taken from ourselves; but I have seen them, and I can vouch for the men's names that are on there that had the cattle taken.

4535. (*Dr. Thorne Thorne.*) You can buy without the risk of seizure?—No. I tell you honestly that when I go to a market I am very much afraid until I get the cattle slaughtered and into my shop. I have told our doctor many a time that I never go to market to buy any cattle but I am always in doubt till I get them killed and in the shop. That is the feeling I have the whole of the time.

4536. You have had an invariable success?—I have had an invariable success.

4537. (*Chairman.*) Then to summarise your evidence concisely, first, you think it unnecessary to confiscate tuberculous carcasses?—In certain stages I do.

4538. And secondly, you think that the person from whom they are taken ought to be compensated?—I do.

4539. Have you considered where the compensation should come from?—I consider it ought to come out of Imperial funds. If they pass a law, and if they are to protect the health of the public, they have the right to pay.

4540. Why not out of the local fund?—I have no objection any way, whether it comes out of the local funds or the Imperial funds.

4541. There is a difference there not?—I do not know where the difference would be. It would be harder for the townspeople, I know that, than it would be for the country people; the townspeople would have more on the rates.

4542. (*Mr. Cooke-Trench.*) Does the return which you put in include cattle under 10*l.*?—No.

4543. They are in addition to those altogether?—Yes.

4544. (*Chairman.*) Are you sure of that?—I beg your pardon; heifers are 8*l.* and cows 10*l.* That was the limit we tied ourselves to, anyone who paid under 8*l.* for an heifer was not compensated, and if he bought a cow under 10*l.* he was not compensated.

4545. (*Mr. Cooke-Trench.*) That only includes cases that were compensated?—Yes.

4546. (*Chairman.*) I do not know whether you want that statement to go into your evidence, because I find on this list, supplied by the West Hartlepool Butchers' Association, that there were three cows at 8*l.* and one at 8*l.* 10*s.*?—In price—the original cost?

4547. You can see for yourself (*handing list to Witness*)?—This will be two-thirds of the value.

4548. "Price" is written at the top of the column. (*Dr. Thorne Thorne.*) It does not say "compensation given"?—I should say it is just the compensation that is paid to them, because I know that our rules are—with a heifer, 8*l.* was the limit, and with a cow, 10*l.* I know that is our rule now, that we pay for no heifer that has cost under 8*l.*, and that we pay

for no cow that has cost under 10*l.* These prices I do not know, I cannot understand them. It is a very rare occurrence that beasts cost 12*l.* 13*s.*, or 12*l.* 17*s.* 9*d.* It is generally 12*l.* 5*s.*, 12*l.* 10*s.*, 12*l.* 15*s.*, or level money, *i.e.*, sovereigns.

4549. (*Mr. Cooke-Trench.*) You said, in answer to Dr. Thorne Thorne, that out of this large number that passed through your hands none had been condemned; I think I gathered from your previous evidence that you mean none had been condemned while in your possession, but that some had been condemned after they had parted from you?—Yes, some of the cattle I have sold have been condemned afterwards.

The witness withdrew.

Dr. SAMUEL GOURLEY called and examined.

4550. (*Chairman.*) You are Medical Officer of Health for West Hartlepool?—Yes.

4551. And have been for how many years?—Over 20 years.

4552. Are you in general practice as well?—Yes; it is not a big enough place to keep a medical officer altogether.

4553. The last witness complains that you are terribly strict in regulations of the meat traffic in Hartlepool?—I had better tell you what the regulations are, and it will be for this Commission to judge. We have a public slaughter-house—an abattoir—and all beasts, by law, have to be killed there, and not in people's back yards and back-rooms, as they are, unfortunately, in many places in the north. The beasts are seen by a practical man when they are being killed; he sees them disembowelled, and sees what is done in the process of slaughtering and dressing, and he sees if any organs are diseased, and in case of his seeing anything abnormal, it is his business—he is a practical slaughterman who has charge of the abattoir—to send for the sanitary officer, and he comes and examines it, and he is a man who holds a sanitary certificate, and a man of experience in meat inspection. If he sees anything unusually abnormal he sends for me and I go and examine it. If I think it is right I pass it. What guides one in passing it in the case of tuberculosis is, whether the disease is general or localised; in other words, if there is just a patch on the pleura or on the peritoneum it is removed by the keeper of the place, and the beast goes on to the owner. If on the other hand the disease is well marked, and every organ is more or less diseased to the extent that it can be seen by the naked eye, and you can tell from the feel of it that there is tubercle in the different organs, then in that case the beast is condemned entirely and destroyed. That is the practice that we have in force. May I give you the numbers that have been condemned?

4554. Yes?—In 1892, five beasts were condemned; that is in the whole year of 1892. There were 14 in 1893, 17 in 1894, and nine were condemned in 1895. In the last year 21 were condemned—that is for the whole year. But the increase of last year arises largely from the fact that the new slaughter-houses were completed and were in actual work. For some years before that all the slaughtering was not done in this building; it was scattered about a good deal and done privately, and the authorities did not enforce killing in the public slaughter-house. But since they have got these new, up-to-date places, they insist upon their being killed there, with the result that 3,300 were killed, and out of that, 21 were condemned last year. That is, 3,300 beasts, to say nothing of sheep and pigs.

4555. Were the condemned animals more of one class than of another?—Yes.

4556. What class of animals did you find most affected with tuberculosis?—With one or two exceptions they were cows of an aged description, from 8 to

10 years; it is difficult to say what age some of them were. They were without teeth almost altogether; they had nothing but stumps.

4557. There has been a grievance on the part of the butchers of the town owing to the seizure of some of these carcasses. Were those grievances well founded in your opinion?—There have been some grievances. Not so much as in the past; they have acquiesced in their destruction and entered no protest about it. They have a mutual aid society which is supported by the butchers themselves. They feel the pressure of having 21 of their beasts insured and having to be made up by their subscriptions, but they have never questioned the right of my action in condemning these beasts. A sub-committee of the corporation, in addition to the usual practice, have inspected all these beasts before being condemned by an order of the magistrate, and in addition to that a committee of butchers themselves have seen all. It has been perfectly open, and they have had an opportunity of objecting or questioning the right of destruction, but they never have made any protest.

4558. You have some specimens with you?—Yes, I have some which I took two days ago, they were brought from a typical case, a cow, about 10 years of age. That beast, and most of the others condemned, were beasts in a good state of nutrition; they were not first-class meat, certainly—I would not consider any of them, with one or two exceptions, were first class. But this beast seems to have kept in very fair condition, considering the diseased state of the internal parts. The lungs were badly affected, and the pleura and the peritoneum, and some of those specimens were taken out of the mediastinum behind the breast bone and lying between the lungs, where the parts were exceedingly diseased.

4559. You would think it a very bad matter, if not amounting to hardship upon the butcher, that an animal should be cut up so badly?—It was very hard lines.

4560. There was nothing to indicate that it was diseased?—Nothing; and the previous cases that we have destroyed, where the animals were purchased at the Newcastle market, and turned out of the truck apparently perfectly healthy, and a nuisance to themselves and a danger to the public, and when cut up they have been found in the same state as this cow that I have brought the pieces of. It is impossible for the butcher to tell, as far as my knowledge goes—and I have studied the matter for the last 20 years—before the beast is killed and opened out.

4561. Could a veterinary surgeon, from an external inspection, have detected the disease in the animal?—I think not. I have in some cases—four or five cases every year, I believe—called in the veterinary surgeon in a case where an animal happened to belong to a man who might take opposition proceedings for the unlawful or illegal destruction of a beast, and the veterinary surgeon has admitted that he could not tell when the beast was alive, and I do not think that it is possible for any man to tell, although some profess to know.

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4562. Would you think it fair that compensation, under due restrictions, should be given to butchers when carcasses are seized?—Certainly, I think it would be a fair act, provided it was surrounded with such restrictions as would prevent any imposition. I confess there are difficulties in the way of putting restrictions to prevent imposition, but provided the restrictions are sufficiently stringent, I think in the case of a man who bought, say, an animal in the open market and paid the ordinary market price, I would certainly be in favour of his getting compensation, in case it were found out on slaughtering that the beast ought to be destroyed. I think it would be only fair to give a two-thirds valuation, or some such compensation.

4563. Then you think it would be quite possible to devise such restrictions?—I am not very clear upon that point. I know there are difficulties, and I am not in a position to suggest the necessary restrictions that would ensure it against imposition. The difficulty under which the men down with us at Hartlepool seem to labour—and it seems rather unfair—is this: For example, this last witness, Wiley, who is largely a dealer in cattle, if he sells to a Hartlepool butcher, or any of the butchers in the neighbouring boroughs, where they have private slaughtering and slaughter in their kitchens or anywhere, that carcass can be so dressed that all evidence of disease can be removed, or nearly so. When the beast is put in the shop to be sold in joints it is impossible to detect. I would not pretend to do it, but there is no difficulty when all the entrails and contents of the animal were visible. There would be no difficulty there. Mr. Wiley's grievance is this: If they sell to a Hartlepool butcher, or a butcher in any of the neighbouring boroughs, where there is no public slaughtering, there is very little condemnation, in fact, I do know—I have one place in my mind—a town of 15,000 to 20,000 inhabitants, and I have never heard of a beast being condemned there. If they were sold to a man in West Hartlepool and killed openly, some of them would be condemned. It seems rather hard lines.

4564. What opinion have you about the importance to the public of this rigid inspection?—Well, I have an opinion of my own that there is a danger entailed upon the public who consume this tuberculous meat. I have no figures on it, but beasts that are so diseased as to have been condemned by me, I think the flesh of those animals contains an amount of germs that must react upon the people who use it.

4565. And you are quite of opinion that the inspection carried on at West Hartlepool has not been unduly vigorous?—Oh, no, I think not, to be an inspection at all. To be efficient, I think, we have condemned very few. In many cases we have had localised disease removed, and the beasts have gone and been sold. I confess I would not like to buy it or use it myself, or for anybody that I had any control over; but at the same time I do not think that they would sell much of it if it were labelled tuberculous meat. The authority gave them the option of sterilizing the whole carcass or cutting it up in small pieces and selling it cooked; but the butchers themselves would not look at that; they would not accept that, or try it. If the meat were thoroughly cooked, then I have faith in it that it would then be safe enough to eat, but the public would not—nor the butchers either—agree to that.

4566. (Mr. Murphy.) Did you see all the 21 carcasses that were seized last year?—Yes.

4567. Can you remember whether they showed signs of emaciation?—With the exception of one, the beasts when condemned have been in fair condition, the majority of them. In the case of one cow there was extensive glandular disease, and she had been scoured very much and had been reduced in condition too, but many of them who have had very severe tubercular disease are certainly not wasted. They are the carcasses of oldish cows, the majority of them are very old; the older they get the more defined the disease seems to be, but it had not got into all these beasts,

and they had been killed before getting into an emaciated state.

4568. Would you say that they were in poor condition, as distinguished from being obviously emaciated from disease?—Some of them were in poor condition. Many were in a surprising state of flesh as compared with what you would have thought before you saw the different organs.

4569. In those cases the tubercle was generalised, though the carcass appeared in good condition?—Every organ was more or less affected. Some organs were worse than others. The liver and spleen seemed to be the favourite hunting ground in addition to the pleura and peritoneum, and the glands of the neck is a favourite position for it.

4570. So that in these cases there was no prospect of any possibility of excising the diseased portions?—No; the disease has got so far advanced that there might be a danger of smearing the parts left with some of the tubercle.

4571. Can you say, generally, whether the cattle that are killed in West Hartlepool come from any particular locality?—The majority of the cattle seem to come—the cases that have come under my observation—have come from Newcastle market or Stockton market, two large public markets, and both of them have contributed their quota.

4572. (Mr. Cooke-Trench.) These 3,300 head of cattle that you speak of, are these the total number that were killed?—Yes, for last year.

4573. Only 3,300 killed?—Yes, 3,300. Our population is 52,000.

4574. And 21 of these were condemned for tuberculosis?—Yes.

4575. That is 6.3 per thousand?—Yes, per thousand.

4576. That would come to 1s. 9d. per head on every animal killed?—I have not calculated that.

4577. You stated that carcasses can be so prepared by removing traces of tuberculosis that an inspector would not detect it?—He might detect it by finding the absence of certain parts of the meat that had been removed in order to do away with the traces of disease.

4578. Its absence might lead him to suspect it?—Its absence would be very suspicious.

4579. Can imported cattle be dealt with in the same way?—We do not import any now. We used to import, but they were slaughtered on the premises.

4580. I mean foreign cattle—cattle coming from America or Australia, or anywhere?—We have none.

4581. Would it be possible to prepare carcasses so that they would pass an ordinary inspection?—I scarcely think so; you can always tell if the pleura or peritoneum is removed; the different organs are destroyed; but the lining in the lungs, and the lining of the abdomen, if healthy, will be left on, but if the beast is tuberculous they will skin that off, and that will be evidence, in my mind, that something has been wrong.

4582. (Mr. Speir.) What proportion of stock coming to your market is cows and what bullocks?—I am afraid I can scarcely say.

4583. Roughly speaking?—We are a large working-class population, and I am afraid that we import more cows than bullocks.

4584. You made special reference to a cow about 10 years old?—Yes.

4585. Which you said was in very fair condition?—Yes.

4586. And had some bad glands; are these the glands that are there on the table?—Those are specimens of them, but the whole of the lungs in this case are as bad as this. I have only brought two or three cuttings of it.

4587. Was this carcass condemned?—Yes.

4588. How much causes you to condemn the carcass?—If I saw everything, and in all the organs, and not a sound organ about it, I would condemn it.

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4589. If the flesh was good, and supposing all the organs were bad, would you allow it to go on?—No; I would burn it.

4590. But how much would cause you to condemn it?—The presence of tubercle in all the organs.

4591. If there was one of the organs free would you pass it?—It would depend.

4592. If the flesh was good?—I cannot conceive the flesh being good in the case of a beast more or less diseased. Say that three or four organs—take the lungs, the heart, and the spleen—and suppose these were badly tubercled, I cannot conceive the rest of the animal being safe food.

4593. (Professor Brown.) I think you said that the public slaughter-house was used by the butchers because they were not allowed to have private slaughter-houses?—Yes; that has been the established custom in West Hartlepool since the place was started.

4594. And they are allowed to kill animals in their shops?—No, except they get a special permission the week before Christmas to kill them upon the place, but that is more for them to be on exhibition than anything else.

4595. They do kill them in the shop front, open to the street, do they not?—During that week, but that is the only time.

4596. Do they not put a curtain up and kill them, and in a very neat way too?—Yes, it is so.

4597. So that they can clear all the results in a short time, and open the shop again?—But you cannot get them cleared away so well as in the public place.

4598. I am not suggesting that you can. But as a matter of fact they do, under certain circumstances, kill the animals in their shops?—That is so.

4599. You say that the cow from which those specimens were taken was in fair condition?—She was.

4600. Did you see the carcase 12 hours after it was dressed and hung up?—In less time—four hours after dressing.

4601. That would be too soon to dry it properly?—But the tuberculous diseased meat, if extensively tubercled, sets in quite firm; it was set in, but there was not time for it to be completely set; but they do if they are not far advanced and condition going off.

4602. Did I understand you to say that that cow was examined by a veterinary surgeon?—No, not that one.

4603. Do you think it probable that if the system were adopted of giving the owner of the carcase the alternative of having it cooked, sterilised in any way, and then exposing it in the market as meat from a tuberculous animal, which the local authority warranted to be safe, would the people buy it?—No, I do not think they would. The idea was not at all popular when the option was offered.

4604. Not even to the poor people?—No.

4605. Are you aware of the system in Germany, where they have a special market in which tuberculous meat is properly sterilised?—Our north country population are more particular in what they eat.

4606. You do not think that that would answer?—It would be safe enough as far as we knew at present.

4607. But you do not think that it would be patronised by the public?—I do not think so.

4608. (Chairman.) Does anything else occur to you that would be of interest to us?—There is just one thing; if compensation is granted, even under the most stringent regulations, it would not prevent the extension of public abattoirs, and I look upon public abattoirs as a great boon to the public and safety for them, whereas if no compensation were granted at all I feel sure that there will be a very strong opposition to inspection by the butchers, and against the extension of public slaughter-houses.

4609. You are aware of the powers conferred on Scotch municipalities by the Burgh Police Act?—I believe in Edinburgh they have it, but I do not know of any other place. I believe they have a special Act; at least I have been always under that impression.

4610. It was incorporated in the Burgh Police Act of 1892, which gives burghs optional powers of putting up a public abattoir and suppressing private slaughter-houses. Would that meet your views?—Yes, there are several authorities in the north of England who are considering the question now, but they are met with the private interests of the butchers, and they seem to get to a deadlock.

The witness withdrew.

The Commission adjourned *sine die*.

FOURTEENTH DAY.

At 7, Whitehall Place, Westminster, S.W.

Thursday, 1st April 1897.

PRESENT:

SIR HERBERT E. MAXWELL, BART., M.P. (CHAIRMAN).

Dr. R. THORNE THORNE, C.B., F.R.S.

Professor G. T. BROWN, C.B.

SHIRLEY F. MURPHY, Esq.

T. COOKE-TRENCH, Esq.

JOHN SPEIR, Esq.

T. M. LEGGE, Esq., *Secretary*.

Mr. BENJAMIN ST. JOHN ACKERS called and examined.

4611. (Chairman.) You are chairman of the Cattle Diseases Committee of the Central and Associated Chambers of Agriculture; the chairman of the Farmers' Club, a member of the Council of the

Shorthorn Society, and a member of the Royal and other Agricultural Societies?—I am.

4612. And you have been good enough to come to convey to us the views of some or of all of these

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societies?—That is my object. I may ask, perhaps, that the Commissioners will be kind enough to understand that everything that I say to-day is simply as a representative of my constituents and not as my individual opinion, unless I am asked as to what my individual opinion is, although it would probably agree with nearly all that I have to say for my constituents. You must understand, however, that I am not an individual witness.

4613-27. Then, perhaps, you will take your own way of putting before us the views which you have to represent?—[*The Witness referred to the dissatisfaction felt by the Central and Associated Chambers of Agriculture, that English agriculturists were not represented on the Commission. He proceeded to read reports and resolutions of the Central and Associated Chambers of Agriculture, the Farmers' Club, and the Shorthorn Society on the subject, but the Commissioners, after consultation, decided that they could not receive evidence on this point, with which they had nothing to do.*] I will now, with your permission, put in the different reports and resolutions which have been passed by our bodies. I may say, perhaps, here, that the number of individuals that are represented by those different associations is somewhere about 20,000, and while it is true that there is not one association in every county in England we have members at any rate, if not associations, in every geographical county in England. Every one of these resolutions which have been put in has been passed absolutely unanimously, not only in the committee which originated them, but also in the large gatherings where they were passed, and which include a great number of Members of Parliament and others, who, if not members of the associated chambers, are privileged to come and debate the questions. May I read them out?

4628-9. (Chairman.) Kindly do so, please?—These are the points:—"The Committee have on more than one occasion had the subject of the loss suffered by farmers from the wide-spread prevalence of tuberculosis brought under their notice, but have been unable to recommend any definite action pending the issue of the report of the Royal Commission on Tuberculosis. They have good reason to believe that, notwithstanding some further delay, owing to the recent death of the Chairman of the Commission (Lord Basing), the report may now be shortly expected." Well, then, the following is the report of the Cattle Diseases Committee of May, 1895:—"On July 21st, 1890, a Royal Commission was appointed 'to inquire and report what is the effect, if any, of food derived from tuberculous animals on human health, and if prejudicial, what were the circumstances and conditions with regard to tuberculosis in the animal which produce that effect in man.' The report of the Commission (dated April 3rd, 1895) has just been published. Much of it lies outside the scope of this committee, but certain points are raised in connexion with the subject which are of great importance to stock-owners. (2.) The Commission obtained ample evidence that food derived from tuberculous animals can produce tuberculosis in healthy animals, and they infer that man can also acquire tuberculosis by feeding upon materials derived from tuberculous food animals. They further think it probable that an appreciable part of the tuberculosis that affects man is obtained through this food. (3.) Cows and pigs are the animals in which tuberculosis is found with greatest frequency. Such statistics as are given by the Commission show that among calves and sheep—the latter especially—the disease is rarely found. The comparative immunity of calves affords no proof, in the opinion of the committee, that the disease is not hereditary, and they are strongly of opinion that no tuberculous animal should be used for breeding purposes. (4.) The Commissioners state that tuberculous matter is found principally in the organs of the animals; as a rule, most abundantly in the lungs,

lymphatic glands, serous membranes, but often in the liver, spleen, kidneys, intestines, and other structures. The report adds: 'These organs are usually removed by the butcher in "dressing" the carcass, though some of them may, intentionally or not, be left. To a practised eye it is hardly possible that tuberculous matter in these organs can escape detection, and the importance of its presence there will soon be apparent. For in the tissues, which go to form the butcher's "joint," the material of tubercle is not often found, even where the organs exhibit very advanced or generalised tuberculosis; indeed, in muscle and muscle juice it is very seldom that tubercle bacilli are to be met with; perhaps they are somewhat more often to be discovered in bone, or in some small lymphatic gland embedded in inter-muscular fat. Yet there is always a difficulty in making sure of the absence of tuberculous matter from any part of a carcass that shows evidence of tubercle elsewhere.' This finding of the Commission has, in the opinion of the Committee, a practical bearing on the importation of dead meat, which invariably arrives in this country in dressed carcasses, and without any of the organs from which the presence of tuberculosis might be readily detected. No evidence appears to have been taken bearing on this point, but the Committee cannot but think that it is worthy of consideration, and that inquiries should be instituted with the view of discovering to what extent tuberculous meat is imported. (5.) The Commissioners make no recommendations, as they state that their reference did not permit inquiry or report on 'administrative procedures available for reducing the amount of tuberculous material in the food supplied by animals to man.' In a supplementary report, however, Professor Brown recognises the existence of fair ground of complaint on the part of butchers, by reason of the seizure and destruction of meat, which before slaughter appeared to be in good health and condition, and refers to a suggestion that, 'a strict inspection of animals before slaughter should be insisted on, and that the authorities should take possession of all diseased animals and compensate the owners.' (6.) The Committee, while recognising that the labours of the Commission have resulted in valuable information, are of opinion that the subject of tuberculosis needs to be regarded not less from the point of view of the stock-owner than from that of the meat or milk consumer. It is not reasonable that the loss of a beast condemned and destroyed in the interests of the public health should fall upon the owner, unless it can be shown that he has been guilty knowingly of keeping and selling diseased animals. A Departmental Committee, appointed in 1888 to consider, among other matters, the best method of dealing with tuberculosis, with a view of checking the progress of the disease, recommended that tuberculosis 'should be included in the diseases in the Contagious Diseases (Animals) Acts, so as to provide for the slaughter of diseased animals, when found diseased on the owner's premises, for the payment of compensation for the slaughter of such animals, for the seizure and slaughter of diseased animals exposed in fairs, markets, &c., and during transit, and for the seizure and slaughter of diseased foreign animals at the place of landing in this country, for the purpose of slaughter and compensation for the seizure and slaughter of diseased animals exposed in markets and fairs.' The report of the Royal Commission shows no cause for receding from the position then taken up by the Departmental Committee, and this Committee recommend that the Government be urged to carry into effect the recommendations of the Departmental Committee of 1888. They are further strongly of opinion that compensation out of the Imperial Exchequer should be given for

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"apparently healthy animals, or the carcasses of such condemned in the interests of the public." I may here point out that, which all practical men know, that some of the best fat animals, and some of the best, and some of the healthiest looking animals, are those which are found afterwards to suffer from tuberculosis when they are killed. Well, then we go to the next Cattle Diseases Report, November 4th, 1895: "The Committee desire to refer to their report dated May 27th last, on the subject of tuberculosis, and to urge upon the Government the desirability of giving effect to the recommendation of the Departmental Committee on Pleuro-pneumonia and tuberculosis of 1888, and further, to provide compensation out of the Imperial Exchequer for the carcasses of apparently healthy animals condemned in the interests of the public." Then we go on to June 1896: "In a report presented to and adopted by the council on May 28th, 1895, the Committee referred to the report of the Royal Commission on Tuberculosis, and urged that effect should be given to the recommendations of the Departmental Committee," &c. Then: The Committee are glad to observe that the Government have promised to appoint a Royal Commission to undertake the work which the late Commission considered to be outside their reference." Then we come to November 1896: "In their last report the Committee referred with satisfaction to the promise of the Government to appoint another Royal Commission on Tuberculosis, to complete the inquiries which were outside the scope of the first Commission. A Royal Commission has now been appointed, and will commence to take evidence on November 16th." It then gives the reference to this Commission, and then it goes on: "Although it does not very clearly appear in the terms of reference, it may be assumed that the Commission will carefully inquire into and consider the complaints which have for so long been made by agriculturists as to the state of the law on this subject. In their report of May 27th, 1895, the Committee observed that 'the subject of tuberculosis needs to be regarded not less from the point of view of the stock-owner than from that of the meat or milk consumer,' and they still adhere strongly to that view." In the Report of last February the Committee say that: "No invitation has yet been received from the Royal Commission for agricultural evidence, and the committee therefore recommend that the secretary be instructed to inform the Commission that they will be prepared to offer such evidence. They deem it of the highest importance that the views of owners of cattle should be fully laid before the Commission. The council having adopted the recommendation of the Committee and placed the question of tuberculosis before the associated bodies with the view to its discussion at the meeting at which this report is presented, it is not necessary at present to formulate precisely the views which should be laid before the Commission. The Committee, however, venture to submit that any proposal for 'stamping out' tuberculosis by means of slaughter, on the lines adopted with marked success in the case of cattle plague, foot-and-mouth disease, and pleuro-pneumonia, is quite impracticable. They consider, however, that compensation for pecuniary loss suffered by farmers, butchers, or others, by reason of the seizure of tuberculous animals or meat in the interests of the public health should be paid for from Imperial funds. They suggest also that the owners of milking cows, visibly affected with tuberculosis, or having chronic diseases of the udder, or found to yield tuberculous milk, should be compelled to notify the fact, and that such animals should be at once slaughtered, and compensation paid for them out of Imperial funds to the extent of at least three-fourths of their value. With the view of giving effect to this suggestion they would advocate an inspection of all dairies at stated intervals by a veterinary surgeon appointed by the Board of

"Agriculture." Again, let me say, every one of these resolutions was passed unanimously, both in committee and at the larger meeting afterwards.

4630. Now what have you to say, first, on the question of compensation?—The question of compensation is one which it is absolutely necessary to grasp and to come to a decision upon before it would be possible, I take it, to get any uniform effective system of dealing with tuberculosis. Roughly speaking—I am now only speaking, as I said before, for the bodies that I represent—the only absolute suggestion that has been made, I think, is that not less than three-quarters of the value of the animal should be granted in all cases where it is not clearly proved that animals in a wholly improper state of health have been continued on, when they had no right to be continued on. Whether some compensation should not be given so as to get rid of the danger of having those animals is another matter; but with all animals that are slaughtered for the public health, either because they appear to be tuberculous, or if found to be tuberculous afterwards, and the meat is destroyed, then, at least, three-quarters should be paid, and should be paid out of the Imperial Exchequer. It seems only right that if they are slaughtered for the public health the public, out of Imperial funds, should make good at least a large portion of the loss.

4631. Then, I understand that your view is that all milch cows visibly affected with tuberculosis, or having chronic disease of the udder, or found to yield tuberculous milk, should be slaughtered?—That is a detail which I should not like to go into, because I do not think I am sufficiently conversant with the subject.

4632. I am reading the report of the Cattle Diseases Committee of the Central and Associated Chambers of Agriculture for last February, paragraph 4; February 1897?—I had not it in my mind when you mentioned it.

4633. That is rather a large order?—It is not for me to say. Our point is clear, and it is this: that whatever is necessary for public health, the public should pay compensation for.

4634. What I want to point out is that this is a distinct recommendation from a very important body represented by you, and I ask you, Is it not rather a far-reaching proposal that all cows yielding tuberculous milk should be slaughtered?—It is a recommendation, at any rate, which has been made from the English stock-owners' point of view, and they are not represented here; and I would point out that, on the face of it, they do not expect full compensation.

4635. I am not talking of compensation. I divided the question here: I said, in the first place, this committee recommends the slaughter of animals yielding tuberculous milk, and I ask you, as an agriculturist, is not that rather a far-reaching proposal?—It is. But there have been a great many other proposals with regard to cattle diseases which were thought to be very far reaching, but we have gone far beyond those, and found the advantage of going further than what was thought at one time advisable.

4636. Have you formed any opinion of the proportion of milch cows in the country affected by tuberculosis?—One of our witnesses, Mr. Kay, will speak specially on that point.

4637. Would you be surprised, if this recommendation were carried out, that all animals yielding tuberculous milk should be slaughtered, that it would involve half of the milch cows in the country; 50 per cent.?—That is rather more than we should have thought, but we are aware that it would be a very large number.

4638. You have probably seen it estimated at 45 per cent.?—I think the evidence, at any rate, that Mr. Kay is prepared to give is that it would be about 25 per cent.

(Secretary.) Mr. Kay mentions 20 per cent.

4639. (Chairman.) I want to be sure that I understand the meaning of this recommendation. Assuming

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that 25 per cent. of the cows of this country were found to give tuberculous milk, it is the deliberate recommendation of the Committee on Cattle Diseases of the Central and Associated Chambers of Agriculture that these should be at once slaughtered?—That is certainly the recommendation.

4640. And not slaughtered for food, but destroyed?—I do not think that was suggested, because we believe, from expert evidence given before, that a considerable portion of the food of animals that have tuberculous udders is good—well, I do not say good, but is harmless for human food, and therefore there is nothing that I can see in this recommendation that they should be destroyed.

4641. Except that it goes on to say that they should be compensated for to three-quarters of their value?—If you remember, in the case of the animal which is destroyed for pleuro-pneumonia, it is only a portion of the loss which is borne—you do not give the full value—you do not reckon what the animal would be if buried, but what you would make of the carcass that goes to the compensation.

4642. That is precisely why I want to get the exact terms. I rather suspect there is some mistake in this recommendation, and we attach great importance to it, coming from such a source. If you read it again, it is distinctly recommended that they should be at once slaughtered, and compensation paid for them out of Imperial funds to the extent of at least three-quarters of their value, not three-quarters of the loss?—Well, I am confident that it is not intended that there should be three-quarters of the value of the animal, if the animal can also make a profit—a certain amount—that, I am sure, is to go against it.

4643. It is a little obscure?—It does not seem to me obscure; but then, of course, I know so well what is in the minds of the bodies I represent, and we are following the pleuro-pneumonia idea. We have always had the idea that it should be only the compensation for the loss which should be counted; and if we make anything of the carcass, that should be considered in the compensation.

4644. But you have handed in this report to be printed in our evidence, which will go before a number of people who are not agriculturists, and who do not know what is in the minds of the agriculturists. That is why I am anxious to get your view of it. Now, you wish to speak of a uniform system under the Board of Agriculture?—We say that any regulations that may be made should not be left to local authorities, but all regulations, in order to deal with this very important question, should be made by the Board of Agriculture, that is, so far as affecting the cattle part, and that everything should be uniform from one end of the country to the other, and that there should be no such thing, as at the present time, with regard to present orders about cattle disease, that what may be done in one county and district may not be done in another.

4645. You want uniformity of inspection?—We want absolute uniformity in every particular, and that emanating from the Board of Agriculture.

4646. Then, on the question of importation of foreign meat; are you satisfied with the way in which inspection is carried on at present, and the results of it as affecting the interests of the producer?—No, we are not satisfied. We think that foreign meat has now an undue preference because, as has already been pointed out, it comes to this country both trimmed and dressed, and therefore, the parts which are most easily seen by the naked eye to be tuberculous have been removed, and it is far more difficult—I do not say impossible—for it to be ascertained that the animal which produced that meat was itself suffering from tuberculosis, and possibly to a considerable extent, before it was killed, than it is with English animals which are not trimmed and dressed, but which are visible and can be seen, and therefore they are more easily condemned. We do not object to their being condemned if it is thought, in the interest of public health, that such should be the

case, but we do say that there ought not to be one inspection for English meat and one for foreign; and we think that it is quite possible, nay, we feel sure that it is quite easy for these carcasses sold to be so examined that it would be found out whether they came from animals suffering from tuberculosis or not.

4647. Have your societies any views as to the possibility of extirpating tuberculosis or stamping it out?—Well, at one time I think there was an idea some years ago that the thing might be possible, but I do not think that then we had any idea of the extent of tuberculosis, and further than that, the last Royal Commission very clearly pointed out, at least, to our minds, that there is an ever-recurrent recurring source of contamination with regard to this particular disease through man. Under these circumstances we do not think it would be possible to deal with it in the same way as any of those other diseases have been dealt with. If I might be allowed to say so, I should be very glad (and I hope it will not be putting too much before the Royal Commission) if the Commission could consider the point whether persons engaged in dairies which are inclosed, or in sheds or whatever they may be, cow-houses and so forth—whether persons who are attending upon cattle in these places should be allowed to continue doing so if they are found themselves to be suffering from tuberculous disease. It is a point, how far I have a right to suggest it, but it is a point which I deem to be very important.

4648. I may mention that the point has been brought before us by other witnesses. Is that the only suggestion you have for dealing with disease?—We have no special recommendations to make.

4649. You look upon it, I suppose, as hereditary and congenital to some extent?—That is a point upon which I should like, if I might, to give the opinion of practical farmers—I will not say against, for a moment, scientific evidence, but whether against or for, or whether it be half-and-half, we hope that the views of agriculturists in this matter may be listened to. As practical men, we do not say what the causes are, but we simply state facts. Now we consider that, if it is not congenital, it is at least hereditary, in so far as animals from tuberculous dams are far more likely to develop tuberculosis. Take, for instance, the case of 100 calves, all reared on mixed milk, not sucking their dams or fed on their milk—their milk may be mixed up with all the other 100 cows—let these be kept on the same farm and fed and cared for in the same way, and it will be found that a far larger proportion of those from tuberculous dams will become tuberculous than those from healthy mothers. It has been asserted by expert evidence before the former Commission that the juice of the meat of tuberculous animals taken from parts in which science cannot detect any trace of tubercle can, and often does, cause tuberculosis in animals into which it has been injected. Is it, therefore, unreasonable to hold that calves from tuberculous dams are congenitally tuberculous, although science cannot at present detect any trace of tubercle in their young bodies? That, we hope, is distinctly understood as in no way controverting scientific evidence, but simply giving our own practical experience in the matter; and I may, perhaps, be allowed to add one word, and that is this: sometimes it has been asserted that pure-bred herds are more subject to this disease than others. So far as my experience goes—and it is considerable in this matter—and so far as it is covered by the experience of others, there is no reason for believing that to be the case. On the contrary, where herds are kept in good condition, there is less of tuberculosis in those herds as a rule, than in any other.

4650. Even where no attempt has been made to eliminate the disease?—Well, of course, if a pure bred herd had got tuberculosis badly in it, and the owner of the herd, because those animals were very valuable, would not have any of them destroyed, then I should not say so. But take a dozen pure bred herds and a dozen ordinary herds, and examine those, and you

will find less tuberculosis in a pure bred herd than in the others.

4651. (*Dr. Thorne Thorne.*) You have submitted, once or twice this morning, what the loss is to the farmer owing to tuberculosis. Would you mind explaining to me how that loss precisely arises—that is to say, is it a direct loss on the individual animal, or does the loss arise indirectly, by reason of a general lowering of price in cattle? I am now limiting my question to the farmer only?—It affects the farmer in more than one way. It affects the farmer, first, from the fact that if he gets a cow which has a tuberculous udder, he very often cannot use the milk at all. The milk is sometimes boiled up for pigs, but is often milked on the ground, and the whole of the milk is thus lost; and also, when animals become tuberculous, of course there is a wasting in some of them—by no means all, as I mentioned. Some fatten better than healthy animals, but when killed, are found to be very tuberculous. On the other hand, of course, there are a great many that waste gradually away. Then, again, if he finds that an animal is distinctly tuberculous, he hesitates about breeding from it. A young heifer, say, two years old, that he was going to bring into his milking sheds or into his dairy for some years, he would have to fatten her off. Well then, of course, he has to run the great risk in fattening her off and the flesh being wasted.

4652. The flesh being wasted?—The carcass being wasted.

4653. That is what I wanted to come to. That is rather the butcher's grievance?—Pardon me, it depends upon the bargain.

4654. That is what I want to come to?—If the bargain is a simple one, the farmer saying: "Here is an animal, you may take it at your risk; the price is 18*l.*," if there is a loss it falls upon the butcher; but on the other hand—and it is a very common arrangement in my part of the world—if the farmer says, "I want to have that animal killed; will you take her and weigh her, and the price shall be so much per lb.," but if it turns out to be tuberculous and the meat is diseased, the butcher is not going to bear that loss.

4655. But, as a matter of fact, you say that it is very common—that it is very general—that the farmer shares the loss with the butcher?—It is in our part of the world usual in such cases for the farmer to bear the whole loss; but I may say now that this point, not having come before us, I am speaking in my private capacity.

4656. What part of England do you represent?—Gloucestershire and Herefordshire and that part of the West of England.

4657. My reason for asking you that question is, that the butchers have rather put it that they bear all the loss, and that they want this large compensation for themselves?—I may say, at once, that the majority of the animals are so sold, and that is the reason why I mentioned, in the first instance, by the kind permission of the Commission, that in view of the agriculturists being represented on the Commission the butchers ought to be represented also.

4658. I do not want to pry into your financial matters, but, in the first place, I may assume that you are a large breeder of cattle?—I am not now.

4659. But you have sold a large number. Could you give me, or the Commission, any idea as to what had been your losses through meat that has been found to be tuberculous?—I am happy to say that I have never had a case of tuberculous disease known in any animals that I have had.

4660. Should you be astonished to find that nearly every butcher or farmer has told us precisely the same thing, or almost the same thing?—I cannot answer for others.

4661. Would it astonish you to find that that is so?—It would very much, because I am sure we have the evidence of one of our own witnesses, Mr. Kay, very strongly in the opposite direction.

Most of my cattle were pure-bred Booth shorthorns of a very high class.

4662. (*Dr. Thorne Thorne.*) That is a very interesting point?—They were healthy and very strong.

4663. Perhaps you will allow me to revert to the point which the Chairman referred to, that is to say, as to the recommendation of the Central Associated Chambers of Agriculture to the effect that cows having chronic disease of the udder should be at once slaughtered. I suppose you are aware that the last Commission said this: "That in the tissues which go to form the butcher's joint the material of tubercle is not often found, even where the organs exhibit very advanced or generalised tuberculosis." Can you give us the precise reason for this association recommending this immediate slaughter rather than a fattening of those animals for the butcher?—The idea is that, inasmuch as these animals will probably at any rate be condemned when they come to be killed—that is the idea at any rate in the minds of the farmers, because that is left in doubt—they have no guide—they do not like to run the great risk of fattening them. If an animal is distinctly tuberculous, say, has a tuberculous udder, the probability is that the farmer considers that when it is killed it would be found tuberculous, and the meat would be condemned. Therefore he would get rid of the animals at once rather than go through the long process and expense of feeding the animal, because a heavy milking animal is a very difficult animal to feed; and there may be under the present law an entire loss.

4664. I will take your own experience; is it really a fact that every cow which presents the slightest evidence of tuberculosis is condemned?—The evidence is very varied in that respect. You will have, I am sure, when you have our agricultural witnesses evidence of different plans adopted in different parts of England.

4665. I am asking you for your own experience?—My own experience is nil in this matter.

4666. I mean your experience with reference to the agricultural interest in this matter?—My experience from talking with others is that in some places they are very strict, and in a case of what is considered a very small risk, the carcass is condemned; in other cases the carcass which is very much worse is allowed to be consumed.

4667. Well, then, in speaking of the compensation up to three-quarters of the value, you put it under two headings, I think; in the first place, animals that are slaughtered in the interests of public health, and, secondly, the animals condemned when found tuberculous after slaughter. I want to ask you whether you would make any distinction between those two cases. Take the first case, of animals that are slaughtered in the interests of public health; they would be animals that would be deliberately seized by some local authority without the consent, or certainly not with the direct consent, of the owner, and they are slaughtered in the public interest. I can understand myself that you have a claim as to compensation there; but is not there a very great difference between that case and the second case, namely, that of a man who in the ordinary process of business buys an animal, kills it for sale and it turns out to be bad, and is seized because it is bad. Would you compensate those two people on precisely the same scale?—I should say, in answer to that question, that the latter is even a more strong case than the former; that is, in one case it is seized and slaughtered, in the other case it is seized and destroyed in the interests of the public. Take the milking cow—the cowsheds in London or anywhere else—an animal is yielding tuberculous milk, and it is seized in the interests of the public health. The loss to that particular dairyman is the price at which he can buy another animal, but in the other case the farmer has lost, not only the animal, but all

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the food which that animal has consumed to get it in condition for the market, and of course it is very much more expensive to feed an animal for market than has been a dairy cow.

4668. But I am speaking of the butcher; does a man lose more when it is beef than as a dairy cow?—It depends entirely upon the size of the animal.

4669. I am talking of the ordinary animal, not prize animals?—At certain times of the year milking cows cost much the larger price, because they must have milk in the dairies to supply the towns in the winter, but at other times, except that now prices have been brought down through foreign competition, the butcher's animal was always the more valuable.

4670. Could you give me any idea; is there such a thing as an average price of an animal?—Absolutely none. Good milkers fetch high prices.

4671. I mean butcher's meat; is there an average price of an animal?—Oh, no. I have sold an animal for over 30*l.* and another at 18*l.*

4672. Then there is no average?—No, none. We should want very much better statistics kept in this country to get an average. I believe in some foreign countries they have attempted it.

4673. Have you formed any opinion in your own mind as to the amount of tuberculous disease there is in the bovine race, generally?—No; but it appears to be very much larger than we had any idea of some years ago.

4674. If a man buys an article with that stigma attaching to it, do you think that the public should bear the cost of his trouble when he has drawn a black ball out of the bag so to speak?—If it is done in the interests of the public health, I think I am right in saying —

4675. I referred to the amount of disease in the bovine race?—I am taking another case similar to that. The pig is subject to one or more diseases, which are sometimes classed as swine fever, or more than one name is given, and they are slaughtered, and the farmer is compensated. We do not see any reason why cattle should be treated differently.

4676. Has there been one atom of that disease diminished by means of that compensation?—Yes, very greatly. If you turn to the returns month by month—I have not been out for a couple of months, having been ill—but I may say that from the beginning of 1895 to the end of 1896 you will see a very marked increase in the good done, and a decrease in the amount of individual cases.

4677. My reason for putting the question is because I have seen statistics in the opposite direction?—If you look at the later statistics—I mentioned the matter to Mr. Elliott at the Board of Agriculture, and he pointed them out—and we have returns every month on the matter.

(Chairman.) That is a matter on which agriculturalists are in no possible doubt whatever, namely, that compensation has contributed greatly to the reduction of disease.

4678. (Dr. Thorne Thorne.) I will call your attention to a question that I put to Mr. Elliott on that very point. It is at Question 266 in the evidence of this Commission, on Wednesday the 18th November 1896. I asked him: "What has been the effect of slaughtering and giving compensation as regards the abolition of swine fever; has the practice been a success or not?" His answer was: "I should say that the truth lies between the two. During the last thirteen weeks we have had just about half the amount of swine fever that we had during the corresponding 13 weeks last year. We are showing at the moment, and have been for the last three months or so, very good results as compared with the results of last year." I then asked him: "How long has compensation for swine fever been given?"—(A.) "Since November 1893;" and then he showed there had been an improvement in the last three months, out of a period of some four years. (Q.) "At what rate per annum?" I asked Mr. Elliott, and he replied, "We spent about 190,000*l.* altogether last

"year, not simply for compensation." May I ask you again, do you think that this is in the interest of the public?—I am afraid to reply directly, because I think your question has a meaning which I did not attach to it. If I may be allowed to answer in my own way I should be glad to do it.

4679. Certainly?—I say that I think that compensation given for the slaughter of animals suffering from swine fever has been very useful indeed, and I will tell you my reasons. Until compensation was given a large proportion of the animals suffering from swine fever were never known; nothing would induce the people to come forward till they had compensation. It was years before we reached every part. There are many people who still will do anything rather than let it be known that they have swine fever on their premises. You will remember that it stops markets when it gets to a certain point, and it interferes with the trade, and it becomes obnoxious to their neighbours, and it was not until compensation had been in operation for a considerable time that it began to tell. I have always held, and I am certainly borne out by what you have just read, that this plan is now succeeding; but it is bound not to succeed at first. Perhaps I may be allowed to add that in a former part of my evidence I suggested that there should be uniformity, that everything should be uniform from the Board of Agriculture. Now the arrangements that have been made with regard to swine fever have, at different times, been exceedingly irregular, and are so at the present time. We ought to have absolute uniformity and regularity, and from the central office.

4680. My reason for asking, of course, is because you quoted the precedent of swine fever as an instance. I should like to add to what I have just said, this: I asked Mr. Elliott, "It is not a satisfactory precedent then?" and his answer was, "It is by no means a satisfactory precedent as yet; I hope it may become so"—"As yet," he says.

4681. Up to that date over half a million sterling had been spent upon it. You still think that this is in the interests of the public?—Decidedly.

4682. Now coming to the foreign meat question: You say that foreign meat has an undue preference in the matter of inspection, because the carcasses are stripped and there is a difficulty of course in ascertaining the state of the internal organs. If all foreign meat were inspected under some central control at the port of arrival, or anywhere else before it was sold, do you think that would to any extent get rid of that grievance?—It is rather the thoroughness of the inspection that we should like to dwell upon. We hear that scientific research can find out whether certain meat comes from tuberculous animals or not. We say if that is the case it is highly desirable that that should be applied, that there should be tests tried to see whether animals coming from a particular place are badly affected by this disease.

4683. I am not quite sure that you follow my question. In asking if there was inspection—which we are bound to assume for the moment would be proper inspection—of all carcasses on their arrival in this country before they were sold, would that remove the grievance to any extent?—To a certain extent.

4684. Could you suggest any other way by which that undue preference might be obviated?—It might be obviated. I do not say that it could—perhaps it is an international question—it might be obviated by the animals being open to inspection on the other side of the water before they were killed, wherever they may come from, and that this country should only receive carcasses of meat from places where such inspection applies.

4685. I suppose you know that some carcasses are labelled as having been examined?—Yes, a very great advantage is gained.

4686. But would there be any advantage in that unless the importing country had their own inspector to do this at the foreign port?—I think it would be much better if they could have their own inspector. On the other hand, I think that if scientific research

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proves over and over again that animals said to be perfectly healthy have been sent over to this country and it has been proved that they are not so, I think that no civilised country would continue to allow that without a further and more proper inspection.

4687. Referring again to this undue preference, what is the difference, in your opinion, between the ordinary inspection of meat, of carcasses that are to be sold for meat in an ordinary English town, and that which applies to the imported meat. I am referring to a town that has no public abattoir?—Because as a rule in these towns the animals are slaughtered in the town, and the inspector sees the animal before being trimmed and dressed.

4688. Is that a very frequent thing in the ordinary towns of England?—I think so.

4689. I wish I could agree with you—I wish we were even approaching a more decent inspection?—Do not let me be misunderstood. If you ask whether I think there is anything like inspection enough, I would say that I know several towns where there is no inspection at all, and where everything is allowed to take its own course. Of course I must not give instances, but I could; and I am entirely in favour of a very much stricter inspection. First of all, I am in favour of public abattoirs, and there should be proper and thorough inspection, but we say, granting all that, there ought to be equal care taken, as far as possible, that animals that are suffering from disease, and the carcasses coming from abroad, should not come with the appearance of being apparently in perfect health.

4690. Are you able to say that they suffer equally from disease—the carcasses from America, for example, as compared with the carcasses of animals slaughtered in England?—I cannot say that I have much knowledge of it, except that I have read of certain countries. For instance, there is a considerable amount of tuberculosis in Denmark, and a very large number of Danish cows come over to London.

4691. In the form of carcasses?—In the form of carcasses.

4692. We have some evidence that the American ones do not suffer so much as ours?—I am afraid I cannot say anything about the American ones; I can only speak about the Danish.

4693. There is another point, namely, that persons suffering from tuberculous disease ought not, in your opinion, to be allowed to continue working in a dairy?—I did not go so far as that. What I did venture to suggest was that it was a point which might well be considered by this Commission, and that the decision of the Commission would have very great effect and weight in that particular.

4694. Then can you suggest to the Commission any other way of dealing with that, except that the owner of the dairy himself should insist on his employees being periodically submitted to some examination in order that he himself might eliminate them from the dairy?—I should have thought that the public officer of health, if the law were altered, would have as much right to prevent a person going into a dairy and contaminating the supply from that dairy, on the question of tuberculosis, as he would have now—I speak under correction—with regard to scarlet-fever or any other disease; at the present time a person suffering from scarlet-fever is not allowed to attend cattle and dairy sheds or to milk cows.

4695. That is on the assumption that he knows the state of health of the individual?—When he comes to learn the state of health of the individual. If he inspects the dairies he ought to know about the people who work in the dairies; he ought to inspect the water supply, the drains, and the ventilation, and also to inspect the health of those persons who are attending upon the cattle.

4696. Your idea is that the medical officer of health should examine the employees as to their personal health and the dairies, periodically?—At any rate he should have the power of doing so if in his opinion it were in the least necessary.

4697. (*Chairman.*) All this, if it were carried out, would be imposing, would it not, a disability upon the home producer to which the foreign producer is not exposed?—I am sure in this particular case the terms of the reference are clear—it is a question of public health. I am now rather taking it from the question of public health. Of course, we as agriculturalists have nothing to say, because we sell our cattle to the dairymen, and we hear nothing more about them; they disappear and we do not keep them. It is not a question for us as agriculturalists. This was a question that Dr. Thorne Thorne asked me with regard to the health of cities, where you have got a supply of milk coming from cowsheds, which are waited upon by persons suffering from tuberculous disease.

4698. (*Dr. Thorne Thorne.*) I did not think of the healthiness of the milk, I assumed that your suggestion was that the man should not convey disease to the animal?—That was not my whole meaning. My meaning was also with regard to people waiting upon cattle in country districts, where it is great in the danger it does; it was by no means with regard to the cowsheds and dairy-sheds only.

4699. Do you imply that a person suffering from tuberculosis of the lungs, for example, would infect the milk, because he is in a dairy?—No, what I said was this: I thought that if the person was so suffering from tuberculous disease as to be a danger —

4700. To whom?—In the case of the sheds and dairies, to the people who drink the milk, and in the other case to the cattle generally; that it was a case for the Commission to consider whether there should not be some rule and regulation, with regard to these persons being prevented from attending on the cattle if they were found to be in such a position as to produce disease.

4701. (*Chairman.*) Then I asked upon that, whether such restrictions, if imposed upon English producers, would not put them at a disadvantage with foreign producers, who are not so treated to such restrictions?—The Danes are subject to such restrictions. I think you will find—I may be wrong—that there is every care taken in certain parts, at any rate, of Denmark, that there shall be no reasonable possibility of milk that is supplied to human beings in Copenhagen being contaminated.

4702. By the presence of consumptive dairymen?—In any way.

4703. But this is a specific point. I have understood you to recommend that, roughly speaking, persons suffering from tubercular disease should not be employed in dairies or cowsheds?—I made no suggestion of that kind. All that I did was to say that, in the first instance, I hoped the Commission would kindly consider the question; and in the second, in answer to a distinct question that I was asked, if it was to be done, how should it be done, and I gave my answer.

4704. Then I asked my question: Does it not imply restrictions on home producers such as foreign producers are not subject to?—All restrictions do undoubtedly fetter to a certain extent and hamper the English trade; there is no question upon that. But on the other hand, look how cheerfully in the end though not in the beginning, agriculturalists have submitted to the very, very, severe measures which have had to be taken to stamp out other diseases; and there is not one single case in which they have not wished that the plan had been more severe in the first instance.

4705. I put it in another way. Are you aware of any analogous regulation relating to the presence of persons suffering from tubercular disease, in dairies, existing in other countries?—I have no special knowledge.

4706. (*Mr. Murphy.*) You were speaking, when we adjourned, of the English cattle owner being at a disadvantage as compared with the foreign cattle owner, on account of the more rigid inspection of

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meat in this country. Do you think, if meat inspection were generally adopted throughout England, there would be any advantage to the English producer if that meat were indicated by some mark showing that it had passed English inspection?—Those I represent have always been in favour of marking meat—if it is first quality or second quality, that is the point.

4707. Such a mark as I am thinking of would tend to show that the meat had been examined in England, and, therefore, to that extent, was more completely guaranteed than meat which had been killed abroad?—Quite so.

4708. And you think that would be an advantage to the English agriculturist if that were done?—I think so.

4709. And those you represent may be taken as holding the same opinion as yourself?—Although this particular point has not come up with reference to this Royal Commission, we have, over and over again, taken up the question of marking foreign meat, and the Central and Associated Chambers have passed resolutions in favour of marking meat, either foreign or English.

4710. The matter you referred to just now makes me wish to ask a question on compensation. Supposing it was thought desirable to exclude from the dairy farm persons who were found to be suffering from tuberculosis, would you propose to compensate those persons?—The broad principle, to my mind, is that if a thing is done for the good of the country, for the good of the public, the public should go to a certain extent, not perhaps the whole extent, towards compensating for loss which is caused solely for the benefit of the public, or mainly for the benefit of the public.

4711. Then you think it would be proper to compensate such persons?—I think there is a general idea that such persons should not be allowed to attend; but, if they had been accustomed to attend before a new law were passed they should be compensated. But I should be very careful with regard to the new persons attending, because once they knew what the regulations were, then they, themselves, should see their own doctor, and be examined, and not undertake that work if they are not fit for it.

4712. You refer especially to compensation, where something is done to the detriment of the individual, which is in the interest of the public health?—That is so.

4713. You, probably, know that persons who suffer from infectious disease in this country are not allowed to expose themselves in a public place, and there are limitations put upon their movements in a great number of instances, and they are prevented from carrying on their occupations. Would you extend the principle of compensation to those people?—That is a law for which regulations have been for some time in operation. We are now speaking of something new, and I guarded myself just now that it was only those who were at present engaged that should be compensated. If a new law be passed, preventing them following their vocation, then, I think, some compensation might very well be made; and I was very careful to guard myself with regard to the future.

4714. But the people were those who, while carrying on their occupation, are found to be suffering, say, from tuberculosis?—But that is in the future. If this law were passed, and the regulations were perfectly well known, I do not think there should be any compensation afterwards. They would take the same risk that anybody else takes.

4715. (Mr. Cooke-Trench.) You made a very valuable suggestion, if I may be allowed to express an opinion about it, that tuberculous animals should not be used for breeding purposes. Have you at all thought how that is to be carried out?—At the present time I am inclined to think that farmers do not, as a rule, breed from animals and cows that they believe or know to be tuberculous, unless it be in the case of some particular cow that might have

one more calf; but the first thing they do with an animal that is tuberculous, known distinctly to be tuberculous, is to feed it off.

4716. But I understood your statement, or the recommendation of your committee, was to extend, not only to cows that were obviously tuberculous, and not to be voluntary, but that you would, or at least your association would, prevent people from breeding from tuberculous cows?—I do not see the recommendation on this paper; there is a suggestion here that the owners of milking cows visibly affected with tuberculosis —

4717. No; that is not it. Would you, yourself, suggest that cows affected with tuberculosis should not be used for breeding purposes?—It is a somewhat difficult question to answer. If a general scheme were adopted for all England, and it was part of the scheme that such should be the case, then I think it would be acquiesced in. But, as at present advised, I think the disease is so much more general than was believed to be the case a short time ago, that I doubt whether we are quite ripe for so stringent a course being taken.

4718. If we were ripe for it, can you suggest any possible means by which it could be carried into effect?—I suppose it will have to be by the tuberculin test.

4719. Applying it to every cow that was proposed to be put to the bull?—But the objection to the tuberculin test is that it has been a rather uncertain test. It has not always answered its purpose. By the papers one sees that Professor Koch has now, he thinks, at any rate, discovered something which will be absolutely certain. That, of course, will make a great difference.

4720. But I want to get at the fact whether it is possible to exclude tuberculous cows from breeding. I am very strongly of opinion that if it was possible that it is desirable?—I think it is possible.

4721. I want to know how?—I think it is possible, but whether it would be desirable, in the first instance, to take such a very stringent measure, which would require such a very, very large, amount of compensation, is a matter of public policy.

4722. But I want to know how you would ascertain that, and compel the thing to be done. For instance, every small farmer has his cow. How are you to ascertain that his cow is tuberculous, and then to prevent him breeding from it?—At present I would rather say that this is a question for the future.

4723. You are not prepared to speak on the subject?—Not to give any advice upon the subject at all. I only say that if it was part of a general scheme, it would be acquiesced in.

4724. Your association advocated the inspection of all dairies, is that not so?—Certainly.

4725. Does that include private dairies?—By "private" do you mean private-house dairies?

4726. Yes?—No. I should say not to a private-house dairy, where the milk is only used by the persons to whom the dairy belongs; but if any of the milk be sold away, then the milk should be inspected.

4727. Suppose, in the case of a farmer or a gentleman who supplies his own labourers with milk: would you require it in that case?—I think that inasmuch as in the case of the labourer in his cottage the inspector has to see that he has not to live in an insanitary condition, so the inspector should see that he shall not drink insanitary milk.

4728. Then if you inspect the dairy of a man who is supplying his labourers with milk, would you not inspect the dairy of a man who supplies his indoor servants with milk?—I do not think the things are the same. It has been always recognised in legislation that the family is one thing, and those that are outside the family are another thing.

4729. You think that a man has a right to poison his own family, but not those outside of his family?—But those who come into a farmer's house take the risk.

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4730. Then you modify your answer as to the inspection of all dairies?—I do not think that applies to persons who supply only, we will say, their own household.

4731. As to compensation, I may have misunderstood you, but I thought you seemed to limit compensation to cattle that were slaughtered for the public good; is that so?—Cattle that are slaughtered and meat which is destroyed.

4732. And meat which is destroyed, thank you; I think I missed that. You would advocate the slaughter of all animals, in public dairies, at all events, that were found tuberculous?—Yes.

4733. Have you made any sort of rough estimate of how many millions it would require to compensate the owners of these?—No, we have not gone into any question of that sort. We only say that if a general scheme is adopted for the public health and public good the public funds should compensate.

4734. (Chairman.) You said more than that—as I pointed out, you said a good deal more than that—not you, personally, but your committee?—We may, of course.

4735. You have handed in the paper, you know?—Certainly, and that says what you have already pointed out, perhaps?

(Chairman.) It does.

4736. (Mr. Cooke-Trench.) This compensation has a bearing upon your recommendation that all dairy cattle found suffering from tuberculosis should be slaughtered and compensated for. I want to know whether you have at all considered the practical question of how many millions would be required?—That has not been gone into.

4737. You have not gone into that question at all?—No.

4738. Now, as to the loss to farmers. May I just draw your attention to this statement made by Mr. Field, a member of Parliament and butcher in Dublin; he says, in answer to a question: "Certainly, but the loss does not immediately fall upon the farmer just now. It will when we introduce the warranty basis." And, again, he says, in answer to the question: "Does the farmer feel it directly?"—(A.) No, "only indirectly. We are the buffer, and we want to get out of being a buffer." Have you heard anything about an association of butchers, who require a warranty from farmers?—I have heard it suggested, but I have not heard any, or scarcely any, details of it.

4739. If anything such as Mr. Fields suggests were to be carried into effect, that would place the loss directly upon the farmer?—It would.

4740. You said that in your experience the number of cases of tuberculosis was very small?—I have never come across a case personally.

4741. You have never come across a case personally?—Well, I did not say that animals I have seen did not suffer from tuberculosis, but that I did not know it, that I had not had any case of my own.

4742. You have not come across a carcass sold by you as being apparently perfectly healthy, but which was found afterwards to be tuberculous?—I have not had any experience of it personally.

4743. And that, having been the general evidence that is before us, does it not reduce the question of compensation to a very small sum?—Yes, if that evidence be correct.

4744. It then becomes more a sentimental grievance than one of the pocket?—Of course, I am bound to say —

4745. I am not talking of dairy cattle, but of apparently healthy carcasses being confiscated?—You will have two of our witnesses who will bring evidence very much in the other direction, I think, in which they will show that they have suffered very considerable loss from apparently perfectly healthy animals that had been condemned; but I have no personal experience of that.

4746. Now it was suggested that dairy cows found to be suffering from tuberculosis should be fattened

for sale. The fattening of cattle is a very expensive process, is it not?—Very.

4747. Would a farmer be likely to undergo that, with the great probability that the cattle would be seized afterwards?—No, I have already pointed that out.

4748. And if he did so, and exposed them for sale, he would be exposing meat for sale well knowing it to be tuberculous, would he not, if he fattened them, believing them to be tuberculous?—No, because there is so much uncertainty in the knowledge at the present time that one could hardly show that it was knowing, but believing.

4749. As to these consumptive attendants that you were talking about, I suppose that the danger was not from the cattle to the milk, but that it arises from the possibility of the attendants spitting about, and the sputum conveying the disease?—That would be one way. I am not, myself, sufficiently scientific to say that there may not be other ways. I rather gathered from the previous Commission that there might be other ways.

4750. But that was an obvious way of doing it?—Yes.

4751. And suppose these people are prevented from attending the dairies, is that any reason why they should not turn their hands to other things?—Many of them, of course, would have to take reduced wages, or they might not be able to get employment. A cowman could not at the present day turn his hand to the work of a ploughman. In olden days an agricultural labourer could do anything and everything, but that is different now, when every man has his own vocation, and cannot turn his hand to everything.

4752. As to the compensation to the attendants, I want to know where the claim for compensation arises in that case?—I can only repeat that, in our opinion, if, for the public health and public good, certain persons are deprived of their means of livelihood by a new Act coming in, then, until those persons have died out and gone, that ought to be the rule, but not with regard to new persons who come after the Act has been passed.

4753. Have you, as an association, at all considered the practical question of how those inspections are to be carried out, and by whom?—I suppose, under the Local Government Board or the Board of Agriculture—one of them.

4754. Under the Local Government Board?—Or the Board of Agriculture—I am not clear how far these two different Departments of Government may overlap at the present time. This very Commission certainly affects agriculture, and it has been appointed by the President of the Local Government Board, so that I should not like to say anything which might really afterwards be found not to be correct.

4755. Have you considered at all the question, which you will probably be asked presently, of one authority condemning the cattle and another authority, namely the Imperial authority, being asked to pay for them?—I have already stated that, in my opinion, that should not be allowed; that everything should be done by the Imperial authority in this matter from start to finish.

4756. Then you would not put it on the local authorities at all?—It should all come by regulations from the Board of Agriculture, or whatever the proper Government office may be; whether they would delegate certain of their powers, in certain instances, is a matter of detail. But the power responsible should be the Government Department, and the compensation should be from the Government out of Government funds.

4757. (Mr. Speir.) Did I understand you aright when you said you would give compensation to dairy employees who were now tuberculous, but not to those who might be employed after the passing of any Act which might be brought into force?—I should go to this point; I should give a certain time after the passing of the Act, during which those who are now employed, and who might be found to be suffering

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from tuberculous disease, should be able to send, if they desired, a claim for compensation, which would be considered. After that time had expired, then those who come in afterwards, knowing the law, must take their own chance.

4758. For instance, if you applied exactly the same principle to cattle, how would the thing work?—I do not quite follow the question.

4759. You say you would give compensation to attendants who were now tuberculous, and after a certain date, say, five years hence, would you give none; how would it work if you applied something of the same principle to stock?—Under the plan which I venture hardly to suggest, but which I venture to speak of, the dairy attendants would cease to be tuberculous, because there would be a Government examination, and these people would not be allowed to attend, so that the only case that could possibly come in for hardship, if it were a hardship, would be someone who had fraudulently got in against the law.

4760. Supposing I say that in the case of stock exactly the same thing happens, presuming that the Government be agreeable to compensation for all tuberculous animals at the present time, taking the principle you have laid down, would it not be just to say that you would not give compensation for tuberculous animals which would be brought in some years hence?—No, for this reason, that in the case that I mentioned it is the free will of the man to enter a particular calling which he knows he is not suited for. In the other case it is quite different. You would have to prove that the breeders of these animals had deliberately gone on with animals that ought not to have been bred from, allowing for ordinary care, that is one thing. I do not see that the two cases are parallel.

4761. Assuming that it was possible—I will not say that it is, but assuming that it was possible—to breed animals that would be free from tuberculosis, would you put the animals on the same footing as the attendants?—Do you mean that if it could be done by slaughtering—that all tuberculous animals were once destroyed out of the country and then there was no more tuberculous disease—that would not be possible? We should have tuberculous disease in that case, but to a less extent, cropping up; but I am not sure that I gathered the meaning of your question.

4762. I am inclined to believe that a great deal, at any rate, of the tuberculosis present in animals has been caused, I will not say by the indifference, but through the want of knowledge of everybody. Now, if by better attention to several details that could be reduced, is there any reason why you should put any stock that are born, say, three or five years hence on a different footing from what you have suggested with regard to attendants?—That stock would be, surely, very much like stock now destroyed for other diseases; it would be a question whether they might not then, if reduced to that small proportion, come under the Diseases of Animals Act.

4763. I rather think not. I will explain myself better by referring to what, Professor Bang, of Copenhagen did with a stock of little over 200 in 1892. He said at the end of 1895—3½ years afterwards—“None of the subjects born on this farm after the commencement of the experiment, although their mothers for the greater part belonged to the diseased section, have shown the febrile reaction during those three years, with the exception of the two cases previously mentioned.” Of that stock 80 per cent. of the cows were found to be tuberculous in 1892. This is the produce of that stock. Now, if it could be done in the 200 stock, why not in a 2,000,000 one with the same precautions?—We have to be quite sure that it can be done in the first instance. If it can be done then the two might come under the same head—the human and the animal.

4764. Then you also said, in regard to tuberculin, that it was very irregular?—I hardly said “very irregular,” I think it was “uncertain.”

4765. Have you any experience that it is uncertain?—I have only the experience that I have taken from the report of the previous Royal Commission.

4766. That is rather a bit odd. Presuming now that it was, comparatively speaking, certain, would the people in Gloucester and Somerset, and the district for which you are speaking principally, agree to any reasonable means of separation if anything could be attained by such a course?—I believe that if they knew that there was a test which would be practically certain, that they would be willing to go through almost any temporary loss of trade, or whatever it might be. But that is subject always to what I have mentioned, if the animals slaughtered are compensated for out of Imperial funds.

4767. Would the cowhouses in your neighbourhood, with which you are, no doubt, most familiar, admit of putting up a temporary division, so that animals that were known or supposed to be quite free could be separated from another section which were suspicious?—I think so.

4768. Would that come to be any serious inconvenience to farmers generally?—It would, in the first instance, be an inconvenience and a certain amount of expense; but, if successful, it would be cheerfully borne.

4769. But you do not think it would be very serious, either against the occupier's interest or the proprietor's interest?—It would undoubtedly be against both in the first instance, but we are only too anxious to do anything in reason to get rid of different sorts of cattle disease.

4770. Earlier in your examination, to the Chairman, you made a statement which to me appeared to be rather strange. I might not exactly have picked up what you said. Now, I understood you in reply to Professor Brown, to express an opinion that the authorities should take possession of all diseased animals and compensate the owners. You were reading from the Central Chamber of Agriculture paper at the time?—I am not aware that I said so. I have no remembrance of having said so. I did not say so.

4771. You expressed the opinion of the Central and Associated Chambers of Agriculture, that whatever is necessary for public health should be paid for by the public?—Yes, up to a certain extent, at any rate.

4772. There is a large amount of meat all over the country destroyed at times. For instance, a ship laden with New Zealand carcasses may be destroyed. These are destroyed for the public good, you would not be of opinion that these should be compensated?—I think the things are totally different. We here in England have apparently healthy animals which are proved to have something the matter with them after slaughter; therefore we ask that there should be compensation. In the other case the carcasses started from the other country, and they were perfectly in order. There was no hidden doubt as to whether they had got some disease or not, but it was simply a question of their not keeping from one place to another, and that is simply a trader's risk, just in the same way as I send a quantity of beasts up to London because I think I can get a better price than in the local market, and if they deteriorate or are injured, or anything else happens to them, I do not ask for compensation from public funds.

4773. You used the words just now “hidden doubt.” Earlier in the examination, you said that while you asked for compensation for all animals, then you expressed it that cows visibly affected should be paid for to three-quarters of their value; now you use the words “hidden doubt.” How do you reconcile that with “visibly affected”?—I am speaking now of animals slaughtered for food, apparently perfectly healthy, you see.

4774. I can understand anyone asking for compensation for an animal which he purchased and supposed to be sound, but I can scarcely see the force of another person asking compensation for an animal which you say is visibly affected, and for which the Chamber

wants compensation to three-quarters of its value?—We only ask it for the public health. We understand that in the interests of public health it is desirable that those animals should be slaughtered. We see no objection to that, provided that a certain amount is given out of Imperial funds.

4775. But if the animal is visibly affected, and the owner knows that it is a danger to himself, his own family, and the world generally, why should he be allowed to distribute poison throughout the whole country?—He should not be allowed, but he should be compensated the same as a man who has a diseased pig is compensated.

4776. Then you said that this compensation should all come out of Imperial funds. How would you do in the case of an officer condemning a carcass, the carcass being brought before a justice of the peace, and he allows it to pass—who do you say is to be the authority there?—I am afraid I cannot lay down any rule of that sort. All I can say is that the Central Office in London should lay down general rules for the country, and all these rules should be one and the same throughout.

4777. But every rule of that kind must go to the judges of the land for the time being; they are the ultimate judges. I sell to a butcher and an inspector condemns my stock; in the event of difference we must go to the judges?—Take, for instance, the case of an insanitary house, the sanitary inspector comes round, he says: "That is not in a proper condition." If he says so, we may not think he is right, but we have got to put it right—we have got to put the thing in order.

4778. Not so far as I understand it. The owner may test the case whether he should or not?—In England, if you have got your pigsty too near the house, and the inspector thinks so, you must go so many yards away.

4779. Neither you nor I are the law?—Forgive me for saying so, I know it, because I have had to do it. I know very well what is the course pursued.

4780. With regard to this matter of compensation for all affected animals, you said to Mr. Cooke-Trench you had not gone thoroughly into the matter, neither have the Chamber considered it?—Pardon me. They had not gone into the question of what the amount of compensation would come to.

4781. When I tell you that there are a little over 11 millions of animals in the country—and supposing there are only two millions that is one-fifth or one-sixth of those infected, and you would admit that 15*l.* was a very small sum for each on an average, that runs up to 30,000,000*l.* to 40,000,000*l.* The Chamber would think twice before making such a recommendation as that, would they not?—Perhaps I may be allowed to say we guarded ourselves by saying that we did not suggest that this should be done in its entirety; only certain animals were mentioned, but not all tuberculous animals. Whatever be done by the order of the Government, then the Government should pay.

4782. I took down your words—"all diseased animals should be slaughtered and compensation given"?—I am only speaking of this particular passage.

4783. Over and above these 10½ to 11 millions of bovines, which we have in the country, we have also 4½ to 4½ millions pigs, and those are all more or less infected also, so that the sum of 30,000,000*l.* to 40,000,000*l.* for bovines has to be further increased by something for pigs. Would it not be better for the Chamber to reconsider that matter?—You must forgive me once more protesting against the idea that we have suggested that all tuberculous animals were to be slaughtered. They suggest that "The owners of milking cows visibly affected with tuberculosis, or having chronic diseases of the udder, or found to yield tuberculous milk, should be compelled to notify the fact, and that such animals should be at once slaughtered and compensation paid for them." That does not take in all the tuberculous animals in this country.

4784. Well, the difference is immaterial. However, we will not quarrel over that. The point you brought forward with regard to foreign meat, as to getting an undue preference, I think requires some consideration. You suggested inspectors should be sent from this country to the other side, or something of that kind?

(Chairman.) No, I do not think the witness suggested that.

4785. (Mr. Speir.) Someone else did. (To the Witness.) Presuming that you think that all foreign meat should be put under exactly the same conditions as our own, and that it could be carried out, should not the same restrictions apply to foreign milk?—Certainly.

4786. And if you apply it to foreign milk, then you must apply it to foreign milk products?—Yes, all things which can bring in the disease.

4787. Is it possible to carry such a thing into effect?—That I must leave to the medical profession.

4788. Then there is another point which you brought up, which we have not previously had brought up, and I am pleased you introduced it, namely, with regard to pure-bred stock. There is a strong presumption amongst the general public that pure-bred stock are much more infected with this disease than the average of the general country—you expressed a different opinion?—Forgive me; I said that it was stated, but I did not think it was the general opinion. I said it had been stated so, but my case is certainly the other way, so far as I have any means of judging—which has been considerable.

4789. When you use the words "pure-bred stock," you refer to animals of, comparatively speaking, pure breeding, without the term "in-breeding" applying?—I should say those in herd books of any particular breed.

4790. But there is a difference. We have any number that are in herd books that are mated to their fathers and mothers, we may say, the progeny of which are so closely in-bred that you would not be the least surprised to find that bad results should follow. Do you include these?—I can only speak from my own experience, which is, that if you in-bred healthy cattle with healthy cattle you will have more healthy cattle than if you take them from the outside.

4791. There are a good many animals in several of the herd books that have been got from a brother and sister or a father and mother. Simply because these animals are in the herd book, you do not say that their progeny is as free from disease as those bred further out?—If the parents and ancestors of those two animals have been healthy, I think that they are less likely to be diseased than others. But, of course, if there is anything unhealthy, the effect of mating them so soon brings out marked signs of weakness in the system.

4792. You start on the presumption that they are healthy to begin with, whereas it might be the other way?—It depends entirely which way they are.

4793. Then you expressed a strong opinion as representing the Chamber of Agriculture, and of farmers generally, that tuberculosis was decidedly hereditary?—Yes.

4794. When I gave you the result of Professor Bang's work, that animals which are 3½ years old, and which, with two exceptions, have shown no trace of disease, although three out of every four of those animals have been bred from tuberculous mothers, and in some cases from both tuberculous mothers and tuberculous fathers, does not that alter your view?—No, it does not, for this reason; in the case that you mention, they have different treatment, as I understand, from the very small amount which you read—they are under different treatment. I said, if you continued the same treatment with animals bred from tuberculous dams and those not bred from tuberculous dams, that those who were bred from tuberculous dams were more liable to show tuberculosis than those not bred from tuberculous dams.

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5795. I understand from that that if they were brought within the sphere of infection a larger proportion would take the disease than of those from a healthy stock?—Yes, unless there was some preventative used.

4796. But would not exactly the very same thing happen with in-bred stock which might be in the herd book, to which you alluded, if they were brought within the sphere of infection?—I should again reply, with my own experience and the experience of the very things which I have mentioned in my own herd of in-breeding—I should say that those animals could stand out winters and go through chances of infection better than any other animals from healthy parents. If there had been a weak spot, then, at once, I quite agree that the in-and-in breeding ought to be prevented if possible—it is most objectionable.

4797. But when you do so yourself, how are you to get others to avoid it?—Pardon me; I do not do it.

4798. I thought you said so?—I said I had done it with certain animals; only with those animals that I knew from generations, so far as human knowledge can tell, had been thoroughly healthy. I would not have allowed a beast of any kind or description to have been bred from an infected animal.

4799. But our knowledge of this disease has grown very much within the last four or five years especially, and there is no doubt that opinion has altered regarding it, and I expect yours has altered too, has it not?—So far—I recognise that there is a great deal more disease than we knew existed before.

4800. Assume now that there is more disease than there was when you were more in the business, have you any reason to account for it?—Only, I should say, superior knowledge.

4801. Is it not probably caused in some way by closer housing during the winter time?—That would very likely apply to certain parts in towns and so forth; it certainly is not my experience in our part of the world that we house closer than we did. On the contrary, I remember one of the old chairmen of the Royal Agricultural Society, Mr. Holland, the member for Evesham, had a special plan of putting up buildings for the fattening of cattle, and they were made practically to touch each other—there was always one touching the other—I do not say that they did not move away, but they were within touch, and in a most confined space, and you could see them all round Evesham—I do not know that it is so to-day—and he argued, if you wanted cattle to fatten quickly that was the best means to adopt. But my personal experience is, in all parts that I know of, that we are getting more ventilation in our sheds and in our houses.

4802. Are you not doing so because of what is known with regard to this disease?—No.

4803. Are you doing it because you think that animals are fattened quicker with comparatively speaking good ventilation than they are with indifferent ventilation?—I am afraid it is generally done upon the simple principle that it is the fashion to do certain things. We ought to have more air in our houses, and we ought to have more air in our cattle sheds, is the idea. I do not think it is done from any other reason than that.

4804. Is it not more the increase in general education that is causing people to do so, they know from general knowledge with regard to human beings that it is so, and it is likely to be the case with animals?—Quite so.

4805. (*Professor Brown.*) I should like to get an idea as to what the practical farmer considers to be the difference between heredity, in regard to disease, and the disease being congenital?—The difference, as I take it, is this: that to be hereditary it is derived from its ancestors; to be congenital, it must be in the animal at the time that it is born.

4806. Then the heredity, in the practical man's estimation, means that the animal is born more liable to have the disease, if the infective germ get into it?—That is so.

4807. Is that not the general belief at the present time?—I hope that it is the general belief.

4808. It is what scientific men admit to be the case?—I am very happy to hear that such is the case. I rather gathered from a correspondence in the newspapers not long ago that the medical profession attending men and animals somewhat differed in this matter.

4809. The real case, is it not, is that that is a heresy of the newspaper profession, which are mixing the two things together. But a scientific man admits that heredity does not mean the transmission of the germ from the parent to the offspring?—Not necessarily.

4810. Not necessarily, and if it ever does mean that, that the proof is congenital that the animal at the time of birth has the disease existing in its organism in a demonstrable form?—Quite so.

4811. Those cases are extremely few?—Undoubtedly.

4812. Tuberculosis has been found in the calf at birth, or before birth. Do you think that, as a practical man, it would be possible to exclude tuberculous cows for breeding purposes by any species of legislation, or any method of direction?—I think, if any general scheme for the greater diminution of tuberculosis were adopted, that that would be one of the things to be taken into account.

4813. And the same thing would probably apply to bulls?—It certainly should do.

4814. But you would not suggest that any legislation to that effect should take place?—No.

4815. That it should be an offence to breed with a tuberculous cow or a tuberculous bull?—Our ground is this: that if there is to be a movement in favour of diminishing the disease, that, in our opinion, is one of the first things to be taken in hand. That is practically the meaning of this passage which has been read and commented upon before.

4816. But you would not, at any rate, for the present, suggest that it should be made a penal offence to use a tuberculous cow or bull?—Not unless it can be proved by scientific knowledge, which I do not possess, that in the interest of the public health it should be immediately put in force.

4817. But if it were proved, as you proved it within your own experience, to be in the interests of the public health, would you make it a penal offence then?—No, I would not make it a penal offence, unless it were part of a general scheme for very greatly diminishing the disease.

4818. Speaking on behalf of your constituents, you recommended that cows with tubercle—with diseased udders—and cows which give tuberculous milk, should be slaughtered. Are the cases in which cows have tuberculous udders and give tuberculous milk at all common?—I fear they are.

4819. Have you any idea as to the per-centage of tuberculous udders and cows giving tuberculous milk that are not tuberculous animals?—Not personally. I have already mentioned that my personal knowledge—I am speaking entirely for my constituents—is small.

4820. Are there not very few cases?—I do not know.

4821. Out of 100 tuberculous animals—tuberculous cows—a comparatively small number would give tuberculous milk?—I could not answer that question; but we have witnesses who will speak to that very point from their own experience. Mr. Middleton is one.

4822. With reference to the suggested system of warranty, you objected that it would throw the loss upon the farmer—it naturally would?—I was asked a question, "If that were the case, would it throw the loss upon the farmer?" and I said, "Certainly."

4823. It is done in regard to horses, is it not?—A great many things are done in regard to horses. We sell horses in different ways, and it is according to how you may be acting.

4824. But it throws the loss on to the breeder, or on to the original owner?—By no means, always. A

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dealer comes to your place and he buys any number of your animals and he does not always get a warranty.

4825. But if you warrant them?—Yes, but as a rule you do not.

4826. But someone has to warrant horses, as a rule, no one buys without a warranty?—It is generally a veterinary examination.

4827. Is that the custom now?—In my experience it is almost universal. I have never come across a case where a warranty has been exacted, if a good veterinary opinion has been pronounced. Of course, I am not speaking of race-horses, or anything that is exceedingly valuable.

4828. But still, there are more horses warranted than there are cattle, at the present day?—I should think there are.

4829. I mean with regard to tuberculosis, particularly, in cattle. If there were a system of warranty adopted; if, in other words, the butcher insisted upon the farmer taking the risk of loss, would not that very largely increase the price of the cattle sold. Would not the butcher have to give more for a warranted animal than one that is not warranted?—I am afraid, with the present competition from abroad, that would not be the case. What would happen would be that those not warranted would be less, and the others would be much what they are now.

4830. And the butcher would fall back upon the foreign meat?—The butcher who buys the warranted animals, do you mean?

4831. The butcher whom you said would not buy the warranted animal would have to get his extra supplies from abroad?—I mean that the farmer would sell those at a lower price than are not warranted—the butcher would still buy, but at a lower price. The loss would be upon the farmer there, not upon the butcher.

4832. You pointed out that the system of warranty is likely to be forced upon the butcher?—I think it is not at all improbable. But the choice butchers—men who can afford it—get the pick of the market; but other animals exist, and they must be killed and eaten unless condemned, and there are lots of butchers who buy the inferior animals.

4833. Would you give compensation for all meat, even if the owner knew that the animal was ill or diseased?—Pardon me, I never said that. Nothing can be stronger than our view that if a farmer deliberately sends an animal knowing it to be unfit for human food, he ought to bear the entire loss.

4834. That is your opinion now, whether you said it or not?—Decidedly.

4835. You would not compensate a man who intentionally sent meat of a sick animal into the market?—On the contrary, we hold that these sick animals should never get into the market—that they should be slaughtered.

4836. (Chairman.) The terms of the report on this question are that "the owners should be compelled to rotify the fact"?—I am much obliged to you for calling my attention to that.

4837. (Professor Brown.) There would be no objection, I suppose, to keep a cow that gave tuberculous milk—that is, to fatten it?—Well, of course, if we could believe, or get more scientific knowledge, and could practically know that there would be very little risk in that animal becoming meat which would be unfit for human food, I certainly answer your question, "No." On the other hand, if it be very doubtful, then, as I mentioned before, I think farmers would be very loath to feed animals up sufficiently for butcher's meat with the chance of its being seized at the end of the time.

4838. In other words, the farmer whose animal was condemned as tuberculous would have rather killed at once, and have no more trouble about it?—Certainly.

4839. Compensation, I gather from what you said in answer to several questions, you would estimate as a kind of bribe to the owner of the animal to give notice of disease?—I did not put it exactly in that way.

4840. I do not think you used the word "bribe"?—What I said was with regard to the question of disease—of swine fever, for instance—that until that was the case it was exceedingly difficult and impossible, practically, to find out the diseased animals. It is not quite so much in cattle, because cattle are not so easily stowed away as pigs.

4841. But I mean, as a general principle, the giving of compensation is for the purpose of inducing people—to put it mildly—to notify disease?—Certainly that is one of the great reasons.

4842. They would not notify if they knew that they would lose instead of gain by it?—There would be certain persons who would not do so.

4843. The general result would be that persons who had diseased animals would take some means of getting rid of them, rather than give notice, if no compensation were given, and they had to incur a great deal of trouble and disturbance of their beasts?—Certainly.

4844. For that reason you advocate compensation?—Yes, that is one of the chief reasons.

4845. Do you think that foreign meat that comes into this country, the greater part of it being sewn up in canvas, can be inspected?—I have never found anything practically impossible, if it is considered desirable.

4846. I mean rather, for instance, this one particular case; if there are some thousands of carcasses of sheep coming into the Albert Dock, as there are every day in the week, or certainly three or four times a week, do you think that those carcasses could possibly be inspected?—I think that if English carcasses must be inspected, foreign carcasses should be inspected, never mind what the difficulty or cost might be, whether done in the way you suggest, on the landing of the animal, or whether it is better done, as Dr. Thorne suggested or mentioned, on the other side of the water, there might be much less difficulty, and it might be done much more effectively on the other side than here.

4847. It would be more effective, undoubtedly, on the other side of the water, presuming that you had competent men to inspect?—Precisely.

4848. Have you ever seen a ship unload in one of the docks?—No.

4849. You would not appreciate the impossibility of doing anything at all beyond getting out of the way, so much as one would who had seen the process over and over again?—I should not appreciate the difficulty so much.

4850. In this country the usual inspection is outside, not in the meat market?—Yes.

4891. Except in the case where there are abattoirs?—Yes.

4852. Is it not the case that foreign meat is subjected to that inspection, along with English meat, whenever it is taken into the meat market?—Foreign meat is examined; but English meat is examined if there is a public abattoir, or when that is not the case. In many cases the inspector of the local authority examines the animal before it has been dressed.

4853. But those cases, in reference to private slaughter-houses, are surely very few in number?—Private slaughter-houses are a very large majority.

4854. Therefore it follows in the very large majority of cases there is no efficient inspection of meat?—Whatever it is, it is done at a much better time for finding out the disease than in the case of foreign meat.

4855. That is to say, in your opinion, efficient inspection implies attendance in the slaughter-house where the animal is dressed, where you can see the organs as well as the carcass?—Unless you go to the expense of a severer test upon the meat, which, of course, we, as farmers, would not suggest.

4856. I gathered from what you said that you objected to consumptive persons being in cowsheds?—Really, forgive me, I did not say so. I did ask, and very earnestly asked, the wisdom of this Com-

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mission to consider the point, but I expressed no opinion of my own.

4857. But as a matter of common sense, would you consider it desirable that a man suffering from consumption should be in a shed in daily attendance on animals that are particularly susceptible to the same disease?—Certainly not.

4858. According to your experience, you have come to the conclusion that breeding in-and-in is in no way objectionable if you have healthy parents?—That is so, if you have healthy parents. But it is terribly injurious if you have any flaw in the parents. And not only in the parents, you must go further to the ancestors; it is not sufficient that the sire and dam should be healthy, you must go further back than that from our point of view, not from the scientific point of view.

4859. That is exactly what the scientific men would say, that to be sure the animal is healthy there must be a healthy history?—We are only too glad that our practice coincides with science.

4860. You would not be surprised to hear that the very highest class of scientific man is also the most practical man in the world?—I do not wish to question it; but some practical men also agree with scientific men and come to the same point.

4861. Do you think that the experiment that is now going on in Denmark is at all conclusive, relating as it does to animals of one generation—3½ years old?—It is not conclusive as to all the points which will have to be noted, certainly.

4862. If you are called upon to express an opinion from what your previous knowledge would enable you to say, would you consider that of this certain number of calves from tuberculous animals, which have been taken from their mothers at once, and fed on sterilised milk, and kept from all sources of infection—would you say that if these animals were placed with a sick number of other animals that have been bred of healthy cows and healthy bulls, and both of them were exposed to sick causes by infection, that the animals from the tuberculous cows would stand an equal chance of escape with those of the healthy cows?—No, we should say that they would be more likely to take disease.

4863. But that is from previous experience, and it is a point that is worth testing before we talk of the advantage of this new system?—Certainly.

4864. (*Mr. Speir.*) There is one other point I wish to mention. In connexion with either tuberculin or any other test that might at any time turn up with regard to the diagnosis of this disease; do you think the farmers in your neighbourhood would be quite agreeable to adopt that or any other thing which might be suggested if it was brought easily within their sphere?—Yes, if it were certain, and of general application.

4865. I assume that every veterinary surgeon in the neighbourhood was in an easy way carrying out any test that might be brought under his notice, and in that case, would your people employ him willingly, not compulsorily, to find out whether their stocks were suffering from disease or not?—That is a very difficult question to answer. If there was to be, as I said before, a general effort to get rid of the disease, then I think they would do so, but if you ask me whether the majority of the small farmers would go to that expense, they would probably say, "We can tell by our eyes sufficiently well."

4866. I think that would be a very general feeling, and they would say, "My stock are quite healthy; they do not require anything." But supposing we

go further, and the Government should say, "We will give, say, the veterinary surgeon of your neighbourhood power to make this examination at our expense," do you think they would then employ them to know whether their stock were healthy?—I think a much larger proportion would, but still a few would stand out.

4867. You also expressed the opinion that they would go to the expense of separating them afterwards if they knew that running against each other was dangerous?—The majority would. There is always a certain number who would stand out against any plan.

4868. Have you any knowledge of what cubic space, taken over the whole of Gloucester and Somersetshire, would be for each animal in the cow-houses?—I could not say; but, as a rule, there is a trivial amount of special ventilation; most of us, except animals fattening, keep all the animals out in the winter.

4869. You would not keep the milking animals out?—All my pure bred female shorthorns, except calves and show cattle, were out the whole of the winter, and they laid down on the snow, and many of them had not a shed.

4870. Presuming the cow calves in December or January, do you put that animal out?—That particular animal, if it is wanted for milk purposes, is kept in for the purpose of milking, but if it rears its calf it is allowed to go out.

4871. (*Dr. Thorne Thorne.*) Would you give the names of those two gentlemen who will tell us more precisely about losses?—One is Mr. Kay, who is here now, and Mr. Middleton, also Mr. Rowlandson, who, I think, is going to be examined by the Commission with the veterinary surgeon, Mr. Clement Stephenson. Our secretary, Mr. Rew, is in the next room, or was there, and he will give you more information than I have. One point I should like to ask—we do not press it from our own point of view—is, whether you would take the list of the associations which go to make up the Central and Associated Chambers, and the counties represented, and the names?

4872. (*Chairman.*) Would you like it to go upon the notes?—No, we do not press it. It might be said, "Does it represent all England?" and the answer to that is, that there are all but, I think, eight English counties, or nine—not administrative counties, but geographical counties—that are directly represented by associations, and some by several associations, but also all the others that are not so represented, are represented by individual members, being members of our Central Chamber, and taking part in our debates.

4873. (*Professor Brown.*) With reference to what I said about compensation. You were asked the question if you had not stated that I had recommended the authorities should take possession of all diseased animals and compensate the owners, and you did not recollect having said it. What I said was, at Report No. 4, to avoid this sacrifice of what the witnesses consider to be wholesome food, they suggested that a strict inspection of animals, before slaughtering, should be insisted upon, and that the authorities should take possession of all diseased animals, and compensate the owners. It was what the witnesses suggested, not what I suggested?—I think I did not state it, but if I did I accept your correction.

4874. You will have a chance of correcting it?—It certainly was not in my mind, and I still think I did not say it. I did not say it.

The witness withdrew.

Mr. THOMAS CARRINGTON SMITH called and examined.

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4875. (Chairman.) You represent the Central Chamber of Agriculture?—I am a member of it.

4876. And you come here as representing it, I understand?—Yes, but not as the chairman of the cattle diseases committee.

4877. But you come here to represent the chamber?—That is so.

4878. You have had a long experience of dairy farming in Staffordshire?—I have.

4879. Upwards of 40 years, I believe?—That is so.

4880. You are still in the dairy farming business?—That is so.

4881. What is the extent of the dairy?—Sixty milking cows.

4882. Where do you dispose of that milk?—I send it to London, to Welford and Sons.

4883. And you rear part of your dairy stock, and buy the other part. How long do you keep the cows?—It depends upon their capacity.

4884. Do you keep an average good cow more than a year?—Yes.

4885. Has she more than one calf?—Yes, we keep cows for four or five years if they are good milkers, and if they are not good milkers, and if anything happens to cast their calves, they go soon; but a good milker I should keep six or seven years, and sell her as a calving cow, as a rule.

4886. Have you been troubled with tuberculosis among your stock?—I made the calculation that during my 41 years dairy farming I have lost something like 5 per cent. annually.

4887. When you say lost them, how have you lost them?—Principally from tuberculosis.

4888. But I mean to say the animals did not die of tuberculosis?—Some of them I have shot, and some have gone out and been killed for what they were worth and passed by the inspector.

4889. So that of the 60 cows now that you have there are three which you are likely to lose?—During the coming year?

4890. Yes?—Yes, I think I may say so.

4891. You include among your losses those which are killed and sold as beef?—Well, no; if they are really animals worth up to 15*l.* or 16*l.*, I should not consider them a loss.

4892. Then it is only the really bad cases that you include?—Yes, the others I do not know of, because we have no public slaughter-house, and if an animal is sold and it afterwards proved to be tuberculous, I should not hear of it.

4893. Could you give us any typical instances of the effects of the disease?—In individual cows?

4894. Yes?—Yes, I have three at present in my mind that I have had. Last autumn I sold to a cattle dealer a lot of very good calving cows; I sold them on the Friday, and amongst the lot was an exceedingly blooming beast which I valued at 25*l.*, not a very big one, but a particularly nice one; and on the Monday following, the day before she would have been delivered to the dealer, she calved as nearly as possible to her time. Apparently she caught a chill, and she was on my hands for a fortnight or so, until it was supposed she had recovered. I was solicitous about milk fever, and she was as nearly as possible down with it. She was delivered to the dealer, and I made a reduction in price to him. Three or four months after that the buyer informed me that he was obliged to have that cow slaughtered, and he was unable to sell her, and she was badly graped—that is the local term we have for the disease. This was perfectly unsuspected by myself. In another case—I am giving the last three that occurred in my experience—I had a cow which I thought was suffering from indigestion; she had a probang used when in danger of dying from distension, and I put her in the hands of a veterinary

surgeon, whom I told to examine her as much as he could, and to tell me if she was suffering from any organic disease. I suspected liver disturbance. He could not find any organic disease, although he used auscultation, and he said he did not think that the animal would do any good. He used the probang every three days; and then I saw the animal much altered, though apparently well when not distended. She was sent to a neighbouring slaughter-house, and as she was perfectly useless, I have never received a shilling. She was tuberculous. As far as my experience goes, which is considerable, and as far as the veterinary's judgment went, there were no signs by which he could distinguish tuberculosis in the animal. Another case quite differs from that I have already given you. The animal was one I had bred; the other two animals I bought. The animal I had bred was about four years old, and I noticed a slight swelling in the thigh, which I thought of no consequence, and it did not appear to be of any consequence at all. It was not soft to the touch, but looked like a hard tumour; and I never suspected anything, but thought it abnormal, and nothing more. Some time after she had calved she dragged a little—not much—and then I noticed that there was a swelling of the udder at one side. I sent her off straight away, and afterwards saw the carcase, which was badly tubercled.

4895. Was she extensively tubercled?—She was very much diffused in the lungs and udder, and I have not a doubt that that which I thought a tumour and perfectly harmless was the first tubercle.

4896. Have you tried the tuberculin test?—I have not. But bearing upon that, I applied to the chief veterinary officer in my county, whose questions I should like later to put in, and who has had considerable experience. I consider that I had a right, as chairman of the executive of the county, and he had had previous experience—he has had the experience of 33 years as the chief veterinary adviser of the local authority—and he asked me to put down certain questions, and he would give his answers. The questions I put to him and the replies bear upon the question that you have now put to me. He has tried the tuberculin test himself.

4897. Do you think it would be of use to us if you read the questions and answers?—Yes, I should like to do it. (*Here the witness read the questions and answers referred to.*)

4898. I do not know that it is of much value to have hearsay evidence of this kind which you do not endorse?—Clearly not.

4899. We should like to have your opinion and experience very much, if you can tell us anything further. Have you any recommendations to make?—Yes.

4900. We shall be glad to get your opinions?—I think the disease is sometimes hereditary; that experience I have formed during my dairy life. But it is sometimes congenital; that I formed during my dairy life.

4901. Heredity being a tendency of the offspring of certain stock?—Yes.

4902. And congenital being the inoculation of the disease?—Yes. I should call it congenital in the calf which did not suck its mother in a few weeks or months. It is not the practice with us in Staffordshire to allow the calves to suck their mothers.

4903. I suppose they get mixed milk?—They get their mother's milk for a few days, and probably, after that, the mixed milk of the herd. It is quite true, that supposing the cow gave tuberculous milk, that the calf would have the milk of the mother for three or four days.

4904. And that, of course, you could not distinguish from congenital disease?—No.

4905. What is your opinion about the possibility of dealing with the disease?—I think it cannot be stamped out.

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4906. For what reason?—Because it is communicable from one animal to another, and from the human being to the cow.

4907. Of course that it is communicable from one animal to another does not differentiate it from other diseases that have been successfully dealt with, but the point is that it is communicable from the human being?—That is so.

4908. Do you propose to deal with it in any way at all?—Well, I have said here—but that is hypothetical entirely—that in case the use of tuberculin be satisfactorily established as a reliable means of diagnosis such test should be applied to all suspected cattle.

4909. With what object?—The object being that the animals that are capable of being fattened should be fattened, and if they are in milk that they should be taken out of the milking herd and not bred from. As I have said before, I have no opinion, neither one way nor the other, as to whether tuberculin has established itself—I have no knowledge.

4910. Then such calves as were found fit for the butchers should be sent to them, and those that were too bad should be slaughtered?—My own experience tells me that, judging from analogy, that an animal is tuberculous long before we are at all aware of the fact, and if we could have any test, I mean, or observation, clinical or otherwise, and if we could get a test that would show us the disease in an incipient stage we should use that knowledge that the test gives us for the disposal of the animal. I see no reason myself why an animal, apparently in vigour, should not be fed, but I do see a great reason why she should cease to be used as a milking cow, if she is proved by the test to have the germs of tuberculosis in her system.

4911. Are there any conclusions to which you have come on which you would found recommendations?—I have given as an opinion that isolation is impracticable. I do not know whether it is worth anything, but it is impracticable.

4912. You say isolation is impracticable, but I suppose you would admit that precautionary measures may be taken in the case of infected animals in a herd. You would not keep an animal known to be diseased?—I think you should get her out of the shed, but in the open air she could not be isolated from the others.

4913. You would fat her up and feed her?—Yes, certainly.

4914. That would be practically isolation?—That is not in the open field; that would not be isolation. I think I should consider the diseased animal in a loose box dangerous, because the box itself would become a source of mischief to other animals that succeeded her. Then I formed the opinion that winter dairying and shed-life increased the disease.

4915. Increased the disease, or the probability of disease, that it induced the disease or aggravated it?—I do not mean to say to create it.

4916. To aggravate it?—To put the animal into a susceptible position to become infected by the germs existing round her. I do not wish to use shed-life in the active sense of making the disease, but the milking during the winter and the comparative confinement in the shed puts the animal in such a condition that she would take up the germs of disease if the germs of disease were present; and the spread of milk selling seems to me to have had that effect, because when we make milk in the winter time the life of the cow is very different to what it was when she was milked simply during the summer. I should like to correct a word here that has appeared in the print of my proof. I have stated that the alluvial and marshy land is "provocative" of the disease. I see the mistake I have made, because the word "provocative" seems to carry with it activity such as to create the disease. What I meant was that the living and grazing in low situations in alluvial and marshy land put the animal in such a position that

she would take the germs of disease if they were present round her. I should like to correct the word "provocative" and insert "increase the risk of contagion." Then I have a strong opinion that poverty of blood renders an animal an easy prey to infection.

4917. Have you any recommendation founded upon that experience?—The recommendation included in paragraph No. 4 of the Cattle Diseases Committee's Report. You may possibly have had this from the previous witness; he is the chairman of the Cattle Diseases Committee, and, if so, I need not give it. It is the chamber's recommendation.

(Dr. Thorne Thorne.) We have had that.

(The witness.) I simply say I agree with it.

4918. (Chairman.) You endorse that?—The concluding part of it I do. They suggest that "the owners of milking cows visibly affected with tuberculosis, or having chronic diseases of the udder, or found to yield tuberculous milk, should be compelled to notify the fact, and that such animals should be at once slaughtered and compensation paid for them out of Imperial funds to the extent of at least three-quarters of their value." But that I do not know.

4919. (Mr. Speir.) What about it; what is your own suggestion?—If analysis will show that certain milk has germs of tubercle, then that milk should no longer be used as human food. Then there is an "if."

4920. (Chairman.) You agree first in compulsory notification of disease?—Yes.

4921. And secondly that the animals should be eliminated from the herd; that is, that they should be taken away from the milking herd?—Yes.

4922. What should be done with them in that case?—I have said before, if they can be fed, feed them.

4923. And if they are too bad to be fed, what then?—Well, if they are slaughtered by a public authority the owner must be compensated, but it would be a very small sum that would be the value of the animal—part of the value of the animal. Personally I attach a greater importance to preventive measures and simple sanitary regulations.

4924. Of what nature?—The progeny of tuberculous cattle, for instance, ought not to be reared.

4925. Under penalties?—There is the difficulty; of course, it is simply advice.

4926. Yes, but everybody is agreed that it is better not to breed from diseased parents if it were possible to avoid it?—I am afraid amongst farmers we have been rather surprised to hear every year from veterinary authorities that the disease of tuberculosis is not supposed to be hereditary, and speaking for myself and my fellow farmers we have a strong opinion to the contrary.

4927. At all events there is no doubt it may be transmitted through the milk, I suppose; is that not so?—That I do not know.

4928. Is not that admitted all round?—I should say it would be a very immediate way of transmitting, I should suppose, reasoning from analogy, because there would be the contagion, and taking the food from the diseased animal.

4929. It is your opinion that tuberculous parents should not be used in cattle breeding?—Very strongly.

4930. And what is your next suggestion?—That there should be ample space in cowsheds which we have not in many.

4931. Has there been an improvement in that respect of late years?—I think in many sanitary authorities nothing scarcely is done. The existing sheds that are there remain as they were generations ago.

4932. But the general tendency is to improve cattle sheds?—In new buildings. But even there, in my mind, there is not sufficient care taken by the sanitary inspector and sanitary authority to insist upon sufficient cubical space, efficient ventilation, or sufficient light

So I ask for ample space, ample light, and preferably from the roof; I also ask for efficient ventilation and for disconnected drainage.

4933. Is that common?—It is more common than it was, but it is not made obligatory.

4934. You want the drains effectively disconnected?—When I say disconnected I mean that the inlet into the drain should not be inside the living shed of the cow. Of course, the drainage must run somewhere, and I would let it go in an open gully to the outside, and then into the drain which faces on to wherever it should go, so that the animals should not breathe the air which comes out of the drain. It seems to me to be perfectly necessary.

4935. Well, then, what is the next point?—Wholesome and nutritious food; that is advice again, I grant.

4936. But that is more abundant than it used to be—stuff is cheaper, is it not?—Yes, but it bears upon the point that animals short of natural nutrition are more liable to get infection from tuberculosis especially than if well fed. Then I ask the more efficient enforcement by sanitary authorities of the Dairy, Cowsheds, and Milk-shops Order.

4937. That arises out of your local experience, that they are not efficiently administered?—That is so.

4938. Is there not sufficient uniformity in the regulation?—As administered by the local authority?

4939. Yes?—Certainly not.

4940. Would it be an improvement if there was?—It occurred to my mind that the Local Government Board might lay down a certain minimum. They might lay down a minimum of cubical space, an absolute necessity for ventilation and light. The difficulty with the old sheds would be the cubical space, as many of the old sheds might have light introduced from the side walls, and might have ventilation also introduced, even if short of cubical space, so that my recommendation with respect to cubical space should be confined to the building of new sheds, because I could see the difficulty there would be with the old sheds.

4941. Then you would have all the orders and regulations consolidated and made uniform?—Yes, and issued to the local authorities.

4942. Throughout all districts?—Yes, I find on examination that there are certain Acts and orders which you must consult before you know quite what the law is, and if the law dealing with cowsheds was put into a handy form in one order or Act, whatever it might be, and distributed to the local authorities, it would be a guide to the local authorities. I may say this, that as the sanitary authorities are now being, as you may say, reorganised under the various rural and urban district councils, it seems to me a fit time to send the fresh orders down from the head-quarters.

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Adjourned till to-morrow at 12 o'clock.

FIFTEENTH DAY.

No. 7, Whitehall Place, Westminster, S.W.

Friday, 2nd April 1897.

PRESENT:

SIR HERBERT E. MAXWELL, BART, M.P. (CHAIRMAN).

Dr. R. THORNE THORNE, C.B., F.R.S.

Professor G. T. BROWN, C.B.

SHIRLEY F. MURPHY, Esq.

T. COOKE-TRENCH, Esq.

JOHN SPEIR, Esq.

T. M. LEGGE, Esq., Secretary.

Mr. THOMAS CARRINGTON SMITH recalled and further examined.

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4943. (*Professor Brown.*) You mentioned yesterday that you would look upon a calf which gave indications of tuberculosis about a month after birth as indicating congenital tuberculosis; is not that rather a long time?—A month.

4944. Would it not be quite easy to inoculate an animal accidentally or intentionally and get the disease developed in that time?—Of course I can only give an opinion, but I should say that if the calf did not suck from its tuberculous mother the fact that it showed a month after birth the presence of tuberculosis was perhaps not absolute proof, but the strongest possible evidence that the disease was congenital.

4945. But you would not quote it as a case of congenital tuberculosis?—Not absolutely established.

4946. If you got an absolute case you would get the animal at birth?—Precisely.

4947. Or, as it happens in some cases, taken before birth, taken from the returns?—I am arguing from the human race, as we think we see with the children of tuberculous parents, the presence of tuberculosis immediately after birth and the consequence is that looking at the disease as being identical in the human

being and in cattle we naturally conclude that congenital tuberculosis in the cattle would follow what we think is the case of the disease in human beings.

4948. In fact it amounts to this: that if you found tuberculosis in the human being immediately after birth you would call it congenital?—That is so.

4949. If you found it in the calf immediately after birth you would also call it congenital?—That is so.

4950. We had before us yesterday the question of warranty; it comes rather as a threat from the butchers as an alternative to compensation. They say if nothing is done in that direction to avoid loss they will refuse to buy cattle unless they are warranted; do you consider that a system of that kind would increase the loss to the farmer or would it be an advantage to him?—The practice of warranty has not been commenced in the Midland counties, and I take it there is a difference between the action of the inspecting officers in the markets of the Midland counties to that which I hear of in the Northern counties, and especially in Lancashire. I am under the impression—though I have no practical knowledge—that the carcasses of animals sent to Birmingham—

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which is the centre of my neighbourhood—are seldom condemned because they are tuberculous.

4951. You have not quite taken my question?—The net result is this: that consequently no warranty is asked for by the butchers in my neighbourhood, but if the warranty was asked for, then it would decrease the selling value of the animal to the farmer. That we have a strong opinion upon.

4952. That is the important point; I wanted your opinion as a practical man. You think instead of increasing the price as a demand in the case of a horse—you would pay more in the case of a horse warranty than not—you think that it decreases the price?—I feel certain that the butcher would never give more than the selling value per pound if sound, and if he demanded from the farmer who sold him a warranty with the animal then it would decrease the selling price of the value whether sound or unsound.

4953. Have you any particular views on the subject of compensation to butchers whose meat is condemned in consequence of being found to be tuberculous or in consequence of the animal being found to be tuberculous after slaughter when it has been purchased under the impression that it was perfectly healthy?

(Chairman.) When the animal was condemned.

4954. (Professor Brown.) Yes, when the animal was condemned?—In that case the inspection, or rather in the case of the local authority who condemns the carcass of an animal which was sold during life apparently healthy, and the butcher or the farmer suffered loss by the fact of that condemnation, then I hold that the party who suffers the loss should be compensated to the extent of the value that he gave for the animal.

4955. Have you thought at all as to the authority which should pay the compensation?—Well, perhaps I may answer the question by making a remark that I think some of the authorities are *ultra vires* morally, if not legally, in condemning the carcass of an animal slightly affected with tuberculosis. If the local rates were to be charged with the loss consequent upon the action of their officer, I am fairly convinced in my own mind that the local authority would cease to condemn as they do, slight causes.

4956. That is the authority which condemns the animal, or the carcass should pay the loss?—Under the present Act. But in case the legislature should decide, as I trust it will not do, that slaughter universally should be adopted to stamp out tuberculosis, then it would be the act of the legislature, and I think compensation should come out of the Imperial funds.

4957. That is to say, if they treated the disease like they treat pleuro-pneumonia, they should compensate on exactly the same principle?—Precisely so.

4958. But you stated you hoped that that would not happen?—I hope so.

4959. What is the particular objection to dealing with tuberculosis from a purely practical farmers point of view as you deal with foot-and-mouth disease or pleuro-pneumonia?—If you ask me, an owner of cattle, I do not think as an owner of cattle I should have any objection, but it strikes me the expense would be so stupendous that the legislature would not do it.

4960. Do you think that the cost would be entirely out of proportion to the benefit that you gain?—Yes. Now of course I am with no scientific knowledge, but it appears to me, from what I read and hear, that we could not destroy all the germs of tuberculosis that are around us even if we destroy the whole of the animals that suffer from tuberculosis, and that is quite irrespective of the fact that the disease is communicable from the man to the beast.

4961. Have you thought anything of the value to the stock owner of the use of tuberculin?—Part of my recommendation here is dependent upon the fact whether the use of tuberculin is established satisfactorily, but since I put down my recommendation, I

read that letter in the "Times" of yesterday, which has really caused me to pause very much.

4962. But you know as a matter of experimental fact that the injection of tuberculin at short intervals does very quickly render the animal quite refractory for a certain time. You are aware of that?—I have no knowledge; I have read of it.

4963. It is as a matter of fact?—Did you use the word "refractory?"

4964. Yes?—I quite understand now.

4965. But after a certain period, say a month, the animal which is tuberculous would react again; do you think it practicable that people could make purchases on that basis, that the animals should be kept by them for a month tested with tuberculin and then if found to be susceptible to be returned. Do you think that system would be possible in practice?—I think not.

4966. Are you aware that that is the system which has been just suggested to the Central Veterinary Society of France?—No, I was not aware of that.

4967. But in any case you do not believe that English breeders of high stock would be likely to sell them on those terms?—Well, the question is a novel one to me; but it seems to me that the complication between the vendor and the vendee would be so great that in practice there would be very great objection and difficulty in carrying it out.

4968. You as a practical man would not be very ready to accept any such system of business?—No, I should not. Of course I am assuming that tuberculin is an infallible test, but I am bound to say I must assume it from your questions.

4969. You may assume that?—Well, then it occurs to me as a practical man that during life there might be a difference of opinion whether some other disease might not be taken for tuberculosis, but if you say that tuberculosis is infallibly—

4970. I want you to assume that it is so, and go on that basis; if you would willingly sell an animal to an expert on the understanding that he should keep it for a month in case you had by previous injections rendered it quite immune, and at the end of that month he should apply his test and then return the animal if it reacted?—Then I must put another question; who must apply the test?

4971. I am afraid that I cannot answer any question as a matter of evidence?—Precisely so—then I may say provisionally, with all due respect, I do not think with respect to an animal condemned by a local veterinary inspector as reacting for the tuberculin test, I do not think the decision of the local veterinary officer would be accepted by the party who suffered the loss.

4972. That answer suggests a still further degree of complication to which you referred, does it not?—As to who is to be the judge as to whether it is to be the officer of the Board or the rural authority.

4973. Which suggests a further degree of complication?—Yes, it does.

4974. And it is against the idea of any deferred test of that kind?—I think so. I have answered that question without having had other than the present time to consider it, but I think it would be objectionable and impracticable.

4975. You object, I believe, to the use of tuberculous animals for breeding purposes?—I do.

4976. And your view of heredity is that animals born of tuberculous parents are likely to take disease more readily than those born from perfectly healthy parents?—Certainly.

4977. Have you any idea of the prevalence of disease among pedigree stock rather than ordinary stock?—I am not a breeder of pedigree stock myself, but what I have heard from some breeders is that the inbred, closely bred stock of the milking herds are more liable to tuberculosis than those that are not closely inbred.

4978. Would you think it was likely to be the result of the temptation which the stock owner has, to breed from high-class animals, and of keeping the

same strain, without caring or thinking whether the animals are tuberculous or not?—I think even among the breeders themselves this question of tuberculosis has made such rapid changes in public opinion that the danger of tuberculosis from inbreeding has not been present to them long.

4979. But in reference to the system of inbreeding, is not the risk greater with pedigree animals on account of the fact that the animals are so much more valuable, that even when the owner discovers tuberculosis he would be tempted to go on using them?—I can see that, but if the result of inbreeding should be shown as it is shown, with the combination of animals like these, we hear of in the letter in yesterday's "Times," then I could see that breeders would immediately alter their system, and no longer run that risk which is made patent to them.

4980. You are probably aware that at one time it was a common thing to breed from valuable heifers known to be tuberculous?—No, I did not know that.

4981. (*Mr. Speir.*) You said you lost about 5 per cent.; now I want to understand what you mean by that loss; were those animals that really died, or to all intents and purposes did die?—No, I meant to include in the 5 per cent. simply my dairy cows, and I meant to include as a loss those that I only made a trifling sum out of. In some cases I have shot them, and often buried the skin, and others have gone for a small value.

4982. For 1*l.* or 2*l.*?—For 1*l.* or 2*l.*

4983. Besides that loss, I presume you would have another loss, namely, that a considerable proportion of your animals did not feed well, and which probably were sold in what you might call a half-fed, or less than a half-fed condition?—But I will not say that. I have no proof that those animals were tuberculous.

4984. Then you also expressed an opinion that winter dairying was a good deal the cause of the prevalence of disease—how do you account for it in winter dairying?—The condition under which the animals live, a shed life, and they are consequently in a confined space. During the period, when under the old dairying conditions of making cheese and butter, they were not in milk, and consequently were not exposed to so large a drain upon their system.

4985. Then in the shed life, which you say is very confined, what regulations have you for cubic space, or any other space?—As far as I know in my district, which is a rural one, they have not laid down any conditions as to cubical space; they have sent an inspector round, but I do not think that he has any rules to go by; he simply reports on each case as to what his idea of the merits of the case are.

4986. So that anyone in your rural district may, if he thinks fit, keep cows in any space, provided he can get them under cover?—Not quite so, because as you are aware, there is a discretion in the action of the inspector of the sanitary authority upon which he can report without giving particulars, and can, if he so likes, make certain recommendations as to the alteration of the buildings, but practically he does not do it in cases of old buildings, where structural alterations, even to the extent of pulling down would be necessary.

4987. But in the case of old buildings, presuming that your local authority decide upon a certain cubic space, could not this be utilised by having a smaller number of animals in them without the necessity of pulling them down?—Certainly it could. If you gave a bigger space with ground floor between each animal, you may get the increased space which is not possible so long as they are kept nearer to each other.

4988. Might I ask what you consider, roughly speaking, is the cubic space which is generally in use in Staffordshire?—I cannot answer that question, because I have no doubt that in all the new buildings there is a fair amount of cubical space.

4989. What would you call a fair amount?—I have been considering the point here in connection

with the expression of opinion that I thought it desirable that the Local Government Board should lay down a minimum.

4990. But presuming the Local Government Board did so, do you think that a minimum that would be sufficient, say in the south of England or the south of Ireland, would be equally sufficient for the north of Scotland, or for a town or a city, or would you demand the same for a country district?—Clearly not, and I will point out that if the Local Government Board laid down a minimum under which animals should not be kept anywhere, there would still be the optional action of the local sanitary authority to go much higher than the minimum, as I hope they would do, in proportion to the conditions under which the buildings were.

4991. Have not English county councils power under the Dairies Act to make regulations in regard to cubic space for themselves?—They have, and as far as I can see, there is no maximum; they can make any arrangement they like.

4992. Then take any of the neighbouring counties to Staffordshire, would the regulations be accepted if Staffordshire has not done so?—I do not think they have in the rural districts.

4993. And you can give me no rough estimate as to the cubic space you usually have?—No, I cannot; I can give you my own opinion.

4994. If I tell you that in Scotland we have spaces ranging from 400 cubic feet in some counties in the old buildings to 1,000 in the new, would that in a way half meet your views, or where would you come in with these figures to suit your own district?—Do I understand that the local authority has laid down as compulsory 1,000 feet of cubical space?

4995. In Midlothian, I think, I am almost certain they have laid down 1,000 cubic feet or somewhere very near it?—That appears to me an unnecessarily large space.

4996. I am not exactly here to give an opinion, but I have an opinion about it. I want to know from you, as near as possible, what you think, as a practical farmer, would be necessary to keep stock in reasonable health?—The ordinary space that I have arrived at in my own mind is the minimum that the central authority should allow of 400 cubical feet—I use the word minimum. The result of the Local Government Board enacting that 400 feet space should be the least space under which a full grown dairy cow should be kept, would not prevent the enlargement of that space by the local authority.

4997. Then would you like to have any provision, say for ventilation?—Certainly.

4998. How do you think that could be carried out?—I would insist upon cool air coming in near the ground floor freely, and warm air going out freely somewhere near the roof.

4999. Presuming that you have such a regulation as that, would that do away in great part with what might otherwise be comparatively speaking small cubic space, if you had through ventilation?—I think the 400 cubic space is sufficiently healthy under the open conditions of the country.

5000. Then in speaking about your own animals, you expressed the opinion that well fed animals were not so liable to take disease as others. Have you any real ground for basing your opinion upon that?—Speaking generally, I think I am justified in saying that an animal well fed has a greater immunity against any disease than an animal badly fed. But here I am met with a difficulty with respect to tuberculosis—we do not know during life whether an animal doing badly is affected with tuberculosis or with some other disease or weakness.

5001. Why I have put that question is that we have a large number of persons who believe that the ordinary way of producing milk is forcing animals and not feeding them well, and they say that has been the cause of the spread of tuberculosis—what is your opinion about that?—Well, I have an opinion that feeding with brewers' refuse, grains has a depleting

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effect upon the general health of the animal. That being so, I have held that milking cows fed largely from brewers' refuse were in a condition to receive the contagion of tuberculosis more easily than if they were fed with foods that did not drain their system so largely.

5002. But I presume you are aware that there are hundreds of stocks badly infected with tuberculosis where the animals never tasted brewers' grains?—That is so.

5003. When you find such, I do not think it is any proof that the use of brewers' grains is really detrimental?—It is no proof.

5004. Then with reference to the tuberculin test, provided that it is all that is expected of it, as I believe it is, would it not be an advantage to you in the way of working just now, if you got a hint from the use of it, that a certain animal was infected, we cannot say how much or how little, but you would get a hint that this animal was infected; could you not put her for feeding purposes on the market as a beef animal before there was likely to be any loss?—Certainly, one of my recommendations there is that when the existence of disease has been ascertained in any dairy cows, means should be taken to dry her and fatten her. That is one of my recommendations. In that way you might dispose of almost every animal that was infected without running the risk of many getting into a thin condition, if you do discover the disease in the early stage.

5005. And that is, therefore, one of the great uses to which tuberculin might be put in conditions similar to your own, would not that be so?—That would be so; if there were two previous provisions, namely, that the tuberculin itself is an infallible test and a harmless test.

5006. Then, presuming that the Government authority or the county authority, or the parish authority, gave you the use of a veterinary surgeon to make this test, do you think your people would take advantage of it?—I should not accept a parish authority; I should be loath to accept the county authority; but if there be any authority to be accepted I think I would accept the central authority, that is the Board of Agriculture.

5007. Presuming that a central authority did give you the use of this, either at a small rate or at a free rate, would you as a farmer, and do you think your neighbours as farmers, would use it for ordinary herds?—Well, until quite lately, I have said plainly that I should object to the use of the tuberculin test in my herd, but I freely grant that I am learning.

5008. We are all doing so. Might I ask you what were your objections to the use of it being made in your own herd?—I daresay I shall be laughed at, but I thought that the use of tuberculin would be accompanied with danger of giving disease to the herd itself.

5009. But now, since you have learnt different from that, what do you say?—I am learning.

5010. You have, of course, changed your opinion, is that so?—I can see that I am likely to change my opinion, but at present I am not quite convinced.

5011. Then Professor Brown was giving you some good cross-questioning with regard to stocks being guaranteed. Now, I think I am nearly safe—if not absolutely safe—when I say that pure-bred stocks were sold during the past year, with the animals guaranteed for a month?—Were they short-horned pedigree cattle?

5012. One was a polled Angus and the others were Ayrshires. Where that has been done might it not be followed?—May I ask when they were guaranteed for a month, whether before the sale they were subjected to the tuberculin test, or whether it was after the sale.

5013. They had been tested some months previously, and each animal was guaranteed to stand the test for at least one month, or if otherwise, to be returned?—The effect of that being, of course—I am asking this for information—that the parties buying,

could, if they so pleased, use tuberculin for a limit of one month, and if the animal reacted, return the animal.

5014. That is so. Besides that, the Swedish Government and the Government of Canada, at least in the latter, several gentlemen in Canada have, to my knowledge, bought a large number of animals on the footing that they were allowed to make the test immediately they had made the purchase. Do you think that your people would work amongst pure bred heifers of Staffordshire in something like the same way when they get full opportunity of doing so?—May I allude to the letter in the "Times" of yesterday? (Thursday, April 1). The writer of the letter uses the phrase "tous les pays," and the meaning of his letter if literally correct is that all countries other than Great Britain have adopted the tuberculin test with respect to their trade with other countries.

5015. No, I think that is a little piece strong. I know that several have; Canada has; she allows no animal in unless it stands the tuberculin test; Sweden test the same way, and France does the same, and I do not know whether Germany and the others do it?—So that in dealing with this question, if that is true, if it is a fact that all the countries have adopted the tuberculin test, except Great Britain, I can answer at once that the breeders in Staffordshire would adopt it too.

5016. Necessity would compel them to do it?—That is so.

5017. (Mr. Cooke-Trench.) I want to know a little more about this 5 per cent. loss that you have spoken of; that applies exclusively, as I understand, to tuberculous animals?—Yes, and the dairy cows.

5018. It was exclusively applied to tuberculous animals?—For the dairy cows. The 5 per cent. did not apply to the whole of the stock upon the farm—the 5 per cent. applied to the dairy cows, and applied to tuberculosis in the dairy cows.

5019. What became of those dairy cows as a rule; did some of them die?—None of them actually died. Some of them I shot and buried without skinning them, and some I sold to a small buyer.

5020. That has been going on for the last 20 years or so?—I believe I have had tuberculosis for 40 years.

5021. In your experience this loss of about 5 per cent. has been going on steadily during that period?—Yes. But you see the doubt in my mind.

5022. You have looked upon it, up to the present at all events as a trade risk?—That is so.

5023. Would you look upon it as a trade risk if you purchased an apparently perfectly healthy animal which you had no power of testing, and if forthwith the authority stepped in and confiscated that animal—would you look upon that as a legitimate trade risk?—No, clearly unjust. I hold as a principle that where an outside power interferes and slaughters an animal for the public advantage then the outside power must compensate.

5024. But then there is no analogy between the cases I have just mentioned and the losses that you have been experiencing?—No.

5025. Might I ask are you an owner of horses?—Only farm horses and one or two riding horses; I am not a breeder.

5026. But you have bought and sold horses?—Certainly.

5027. Have you usually had or always had a guarantee with those horses?—Sometimes so and sometimes not.

5028. It is a matter of bargain?—It is a matter of bargain. Frequently a farmer will object to give a warranty. It does not follow that the horse will not pass an examination.

5029. Supposing you have a warranty and the horse turns out to be unsound, what is your remedy?—There is none without a warranty.

5030. If you have one?—You can bring an action.

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5031. You return the horse?—You can return the horse if the warranty covers the disease.

5032. If the warranty covers the disease you return the horse and recover the money?—You recover the money.

5033. I suppose if in the meantime you cut the horse's throat you have no remedy?—Certainly not.

5034. You must return the horse in the same condition that you got it?—With all due care and no contributory negligence.

5035. Therefore there is no possible analogy between buying a horse which turns out afterwards not to be up to warranty and buying a bullock which you cannot know anything about until after you have destroyed him?—Unless a warranty was given with the bullock.

5036. Unless a special warranty is given covering that particular case?—Quite so.

5037. As regards warranty, did I rightly understand what you said—I was not quite sure whether I took in your answer to Professor Brown; but if I understood you rightly you meant to imply that the margin for profit would not allow of butchers giving an increased price where they get a warranty?—Certainly not.

5038. But that they would give a decreased price if there was not a warranty?—I quite understand that they must for their own protection, if they are liable to have the carcass of the animal confiscated, give a less price in the open market for any animal whether sound or unsound.

5039. I was talking about the case of warranty, how it affects the seller—he will not get an increased price, because the margin of profit does not allow of a butcher to give an increased price if he gets a warranty; but if a warranty is asked for and refused, if it becomes customary to give a warranty in the case of sound animals it will probably be inferred that if he refuses a warranty that an animal is unsound, and, therefore, he will get a less price?—Certainly.

5040. Therefore, on the whole, the farmer may lose by the system of warranty, but cannot gain?—That is so. I quite understand that the sale of fat animals by warranty might raise the price on animals that were warranted, if we were depending upon the whole of our food from what we produce inside this country.

5041. In the case of high-class breeding cattle—pedigree cattle—at the auctions of these cattle where no warranty is given, the competition is keen, is it not?—Yes, this subject of tuberculosis has never affected the sale of the animals until quite lately.

5042. Do you think—it is a matter of opinion—that the foreign competition very materially affects the price of pedigree cattle?—Yes.

5043. It does?—And I can understand that this action of foreign governments insisting upon the tuberculin test will have for a short time at least a very depressing influence upon the sale of pedigree stock in this country.

5044. So that it would be probably for the interest of sellers to give the warranty on the whole?—As I said before, I see nothing for it but for the breeders of pedigree stock to adopt the tuberculin test if they mean to have the open market in foreign countries.

5045. If any animal reacts I suppose he could fat it and sell it for beef?—You are speaking now as to what we shall have to do here. I am not able to decide in my own mind what the effect of the tuberculin test is in France. I do not clearly understand from that letter in the "Times" whether the animal was ordered to be destroyed.

5046. I think the letter very distinctly says that the bulls should be destroyed?—Is that the fact?

5047. It mentions two bulls had been destroyed?—That was a syndicate—

5048. I want to elicit your opinion as to whether it would be to the financial advantage of breeders when putting their pedigree stock up to auction to

say: "These cattle are all warranted to stand the tuberculin test for a month?—I have not a doubt that it would be to the advantage of the breeders.

5049. Though it would lead to a very large proportion of their stock being totally unsaleable?—I told you what I think would happen: that the public would ask, for their own protection, for a certificate of the tuberculin test having been applied before cattle were sold.

5050. But you are aware that a very considerable proportion of this pedigree stock do suffer from tuberculosis?—Well then I should not buy them, and I think that the public would not buy them.

5051. But if you adopt that system the sellers and breeders of this pedigree stock will have to withdraw a very considerable portion of their stock from sale—all that reacted?—If it is a fact that a large proportion of pedigree stock would react.

5052. But still you are of opinion that the increased price of the remainder would more than make up for the loss of those that could not be sold?—I cannot say that that would be a necessary effect. I think at first the tuberculin test if applied, and found to prove that a considerable proportion of pedigree stock were affected, it would have a very depressing effect on the sale of the whole stock.

5053. Upon those that did not react and were proved to be sound?—No; but taking it on the average, it would have a depressing effect on the whole. I think at present there is no enhanced price.

5054. The question of giving a warranty, which is very much raised by that letter in yesterday's "Times," is in the main a financial question. If breeders find that it is to their advantage to give that warranty they will give it; if they find that they get very nearly as much for the whole of their stock without it, I presume they would not give it; and I wanted to elicit your opinion whether it would be to their advantage or not. I rather understood you to say that you think it would?—They may be obliged to give it unless they shut out the whole outside buyers. They cannot afford to shut out the foreign buyer.

5055. You expressed an opinion that tuberculous animals should not be bred from?—I have.

5056. And you would not breed from them yourself?—No.

5057. Do you think that people ought to be prevented from breeding from tuberculous animals?—I have been considering that since yesterday, and I have come to the conclusion that if the tuberculin test is made generally applicable in cases of suspected animals, that any suspected animal must be marked in some way. I see no objection myself. I should not hold that there would be any objection to have an animal branded, and the effect of the brand would be that it must not be bred from, and it must be dried and taken from its milking purposes as soon as possible.

5058. Would you advocate the application of the test by public authority to every breeding animal in the country, is that it?—No, I have not at present got so far as that.

5059. But you talk of branding those that do react. How are you to ascertain which react if you do not apply the test?—The test need not necessarily be applied to the whole of a herd, and not applied to any herd unless there is a case of suspicion. In the case of suspicion—

5060. On whom would you throw the duty of suspecting?—Well, as in other diseases the suspicion would arise locally; but the absolute conclusion as to whether it was the case of disease of tuberculosis, I should leave to an officer to be appointed by the Board of Agriculture who probably would be a local veterinary surgeon.

5061. But I want to know—this is a practical question—how you would arrive at a decision what animals were to be tested, and how we are to prevent tuberculous animals from being bred from?—You

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could only do it, I think, without the universal application of the tuberculin test, by applying it to the suspected animals only. If in the future it should happen that the legislature should decide that the whole of the breeding animals should be subjected to the tuberculin test, we should be obliged to submit to it. At present I do not see my way to agree to the proposition that the whole of the breeding animals of this country should be submitted to the tuberculin test.

5062. As I understand you are not prepared to say who is to decide, what are to be submitted to it or not?—Not with respect to the first suspicion; it must be the officer of the Board of Agriculture to decide it ultimately.

5063. But you have not made up your mind who should inspect these cattle to see which are to be submitted to the test or not?—No.

(Chairman.) In order to clear up that point of the regulations in France as to imported animals, I might as well read the regulations so far as it applied to those bulls mentioned in the letter of M. de Clercq, the President of the Shorthorn Society of France, which were referred to. Cattle coming from abroad and intended for importation to France, are to be submitted to the tuberculin test, and placed on observation on the frontier at the expense of the importers for 48 hours at least, and animals reacting are to be sent back after being marked unless the importer consents to their immediate slaughter. In the case of slaughter being determined upon, it is to take place at once under the supervision of the veterinary inspector attached to the Custom House. Those are the regulations applying to cattle intended for breeding. Such cattle as are intended for the meat market are not to be tested; they are subsequently tested. That is the decree of the 15th March 1896. You have referred to M. de Clercq's letter, in which you expressed some doubt whether the animals had been slaughtered or not. He distinctly mentions two bulls, the one "Daisy Connaught Duke," bred by Mr. Mills, and the "Duke of York," bred by Lord Feversham. The first did not react, but the second reacted strongly, and on being slaughtered was found highly tuberculous. Further, "Nonsuch," bred by Lord Polwarth, and purchased last year, also reacted, and had to be slaughtered.

(The Witness.) I notice that the syndicate give those bulls, but I see that the French Government allow them the option to return.

5064. (Dr. Thorne Thorne.) Do I rightly understand you that you do not give evidence before us as to the question of tuberculosis in carcasses, but restrict it to dairy-farming?—That is so, I have no knowledge because my own impression is that the medical officers in the Midland Counties do not condemn tuberculous carcasses if the carcass is in a good condition otherwise.

5065. Do you sell any animals directly for slaughter?—Not except alive in the open market.

5066. And you do not know the result as to those animals, whether they were condemned or not?—I have never heard of them being condemned.

5067. Should you know if they had been condemned do you think?—Yes.

5068. How many animals do you sell for slaughter in that way, and in the year generally?—No large quantity, because I do not graze independently of my dairy.

5069. Can you give us roughly the number?—Thirty.

5070. Thirty a year. You have been selling 30 animals for slaughter in the year?—During the whole of my farming life for 40 years, because when I dairied less I grazed more.

5071. That is over 1,000 animals, and you have not heard of one animal being condemned as meat on account of tuberculosis?—I have heard of tuberculosis being found present in the carcass.

5072. I am speaking of condemning on account of tuberculosis?—No, I have not.

5073. We now come to the dairy-farming business; I hope you will not think it pressing you too hard to come back to the 5 per cent. You told us that you had lost some 5 per cent. on an average of 60 dairy cows owing to tuberculosis?—Yes, the 5 per cent. covered a smaller number whatever I had at the time; I now have 60.

5074. What is the average upon which the 5 per cent. is reckoned?—The whole of my farming period.

5075. Would it be an average of 60 cows?—It would be from 30 up to 60—a gradual increase.

5076. I understood you to say that your cows will bear being milked, on bearing successive calves, for a period of some four or five years on an average?—Yes, if the cow is essentially a good milker. But perhaps I may amplify my answer. I am gradually coming to the conclusion that it does not answer my purpose to keep my cows so old as formerly, for two reasons in connection with disease. One is the greater increase of risk in milk fever, and the other is the greater increase of risk in tuberculosis.

5077. But up to the present did I understand you rightly that some four or five years is about the average time you have kept them?—Yes, I think I might reduce it to four, because I have many young beasts.

5078. (Chairman.) A good milker would be kept longer?—Yes, I might keep it eight or nine years.

5079. (Dr. Thorne Thorne.) Allowing for a moment that you keep 60 cows for four years, the 5 per cent. loss is not an annual 5 per cent.?—Yes, it is annually, three in each 60 every year.

5080. On what ground would these animals be condemned for tuberculosis. Who affects the condemnation?—Only the owner.

5081. My reason for asking you is that you told me that you supplied milk to Messrs. Welford's, and they have the reputation of taking great care that the cows are healthy on the farms from which they get their milk?—That is so.

5082. Do they send an inspector to see those cows?—They do in a sense; I may as well say that I am a shareholder, and I agree with their regulations. Not only are my premises subjected to the medical officer of health for the district, but they are also subjected to the inspection of the veterinary surgeon whom I employ, but as far as I know Messrs. Welford's have never brought the veterinary surgeon, and they have never directed the veterinary surgeon to examine any animal, but the man comes to my premises.

5083. All this loss of 5 per cent. per annum is borne on your own judgment?—Of course that is so.

5084. Then you sometimes shoot one?—Yes.

5085. What condition can a cow come to under such careful control, that it wants shooting?—I may say at once that we are in doubt as to what is the matter with the beast. You see an animal that a short time ago was quite a good beast and it becomes affected with lassitude, and you wonder what is the matter with it; she grows daily worse and worse without, as far as I know, any clinical observation, even your own veterinary surgeon being unable to tell you what is the matter with the animal. Gradually the conviction comes upon you that she will do no good, and very rapidly it happens in milking cows that they waste away so as to become, even if their meat was good, practically, of very little value; and rather go on and see the animal in doubt; in my own farming I have three times done it, walked up to the animal with the gun, shot the animal where she was, and had her buried where she was, skin and all.

5086. But there cannot be any great advance of tuberculosis if the veterinary surgeon cannot even find it out. If it was in the lungs he has only to put his ears to the chest-wall; if in the udder, he would feel it?—I gave a case yesterday, where the animal was under the treatment of my veterinary surgeon. What I thought was that it was stomachic disturbance, and the animal was repeatedly distended, and I used the probang to relieve her. I asked the veterinary

surgeon to examine her with respect to organic disease, not expecting tuberculosis, but expecting liver disease. He auscultated her and made an outside examination, and he said there was nothing the matter. I thought the animal was doing no good, and she was badly tuberculous.

5087. What organs were tuberculous?—I did not see the animal, but the butcher sent to us, and a young gentleman, who was a pupil of mine, went and saw her, and she was a wet carcase and would have been condemned otherwise than being tuberculous, but the butcher said she was tuberculous all over.

5088. What did he do with that?—He would bury it, or sell it for pigs. I never received a shilling.

5089. You do know whether, if it was not condemned judicially, it was condemned as a meat supply?—He would not have sent it away from his premises, because he would be subject to a penalty.

5090. You do not remember one of those cows being condemned on the ground of tuberculosis for meat purposes; this was practically condemned by the butcher himself?—My answer to your question was confined to animals perfectly healthy and fat; this was a waster.

5091. Taking all your animals together that you have sent to market for meat, how many of these have been condemned, or if not condemned, have been found so unfit for use as to be practically condemned for tuberculosis?—Is your question confined to animals as fat?

5092. Any animals you deem it right to send to the butcher, or to be sold for meat?—I must draw a distinction. We have "slink" butchers, if you understand what that means—bushers to whom we send those animals.

5093. You need not describe "slink" butchers to me?—We do not know what is the matter with the animal; we do not sell the beast to the butcher; it goes, and if in his judgment the beef is meat, because, of course, they are poor and they can be subjected to the test of the market inspector, who passes the carcase if it is all right.

5094. That does not answer my question. Including all the beasts or cows that you have sent for the purpose of meat supply, believing them to be fit for it, how many of those have been found to be so unfit for human food, whether by your own condemnation or otherwise?—I am not aware of any animals that have been condemned.

5095. I call it condemned where the butcher could not use it. Do you remember any others of the same sort?—Yes.

5096. Can you give any idea as to the number—it is an experience extending over some 1,000 or 1,200 animals that you have so sent?

(Chairman.) Not to mislead the witness—the regulations of inspection have not been the same during these 40 years.

(Dr. Thorne Thorne.) That is correct.

I expect the purport of the question is how many animals I have sent away that have proved to be valueless to myself.

5097-8. No, valueless as a meat supply, and could not be possibly used as a meat supply?—You would ask for the percentage of the animals sent away. That would be difficult to answer.

5099. Have you had in your experience 20 of your animals which have been proved to be utterly unfit for human food?—I do not think so.

5100. Have you had 10?—During the 40 years?

5101. Yes, of all that you sent away?—Those that I sent away, whatever may be the end of them, I should think was probably that.

5102. That is a little less than 1 per cent. then?—Well, it would be 1 per cent over the 40 years.

5103. Now the Chairman reminds me that I ought, in order to put this quite fairly before you, to state that this system of condemnation during the 40 years has varied very much, and there is more stringency now than formerly?—Yes, and most properly so.

5104. Amongst those condemned, have they been subject to recent restrictions or have they been extending over the 40 years?—Of course your condemnation, as I understand it, applies to the voluntary condemnation.

5105. The voluntary or official condemnation. If you do not know, it is not a matter which we need go into?—I will give an opinion that inasmuch as the authorities of the centre of our markets are more stringent in condemning carcasses the larger proportion of the 10 would apply to recent years.

5106. Could you tell me whether those have been cows mostly?—Yes.

5107. Would you agree with the committee on pleuro-pneumonia and tuberculosis that one of the principal causes of phthisis—of tuberculosis in cows—is prolonged lactation?—One of the causes.

5108. They say that the conditions which cause a predisposition to contract the disease and to receive the infection are so and so, and amongst these is prolonged lactation?—Yes, the cause of predisposition I grant, but not the cause of the disease.

5109. But take for granted the occurrence of the disease?—I agree with that thoroughly.

5110. I suppose you would not be surprised to hear that some cows that have been for a long time milked are more liable to contract the disease than other animals of the bovine race?—Yes, I dread a cow if a very deep milker, because of the liability to disease.

5111. Now you have put before us a number of recommendations, which I must say I was very much pleased to see, until you made a qualification concerning one. I should like to ask you about that. One of the recommendations is—ample space in cow-sheds; and if I understand you, you would be content with a minimum of 400 feet enforced by some government authority?—I am conscious now that the district sanitary authorities have it left entirely to themselves to decide whether cow-sheds are healthy or not, quite irrespective of the cubical space. I am now asking that the Local Government Board should lay down a minimum, which minimum does not exist now.

5112. I ask you whether you really mean that the minimum should be 400 cubic feet?—Yes, the minimum, always reserving to the district authority power to make anything above that minimum, but not leaving them the power to go below that 400 feet. They can go below it now.

5113. Do you know that 400 cubic feet is 112 cubic feet less than a box which is only 8 feet square?—I cannot work it out.

5114. Would you leave a cow in the box only 8 feet square, and would you put cows in such a place?—No. I have made an entire mistake.

5115. The Local Government Board have no power to enforce a space, but they never take the responsibility for anything less than 800 feet if the authorities select less than 800 feet?—They are not obliged to report to them, are they?

5116. Whenever they send regulations up for approval the Board can approve of them, but they cannot enforce the space, but they will never take the responsibility for less than 800 feet. I am, therefore, anxious to give you an opportunity of determining whether you would be satisfied with 400 cubic feet?—I should like to withdraw that. I believe I have simply taken other peoples' recommendations and never checked them.

5117. You would now leave the recommendation as calling for ample space in cow-sheds, and everything relating to such space. There is one thing you said very little about, and that is the question of compensation, and for that reason I am more desirous of hearing your view than that of most others. In the first place you told us that tuberculosis cannot be stamped out—you feel that?—I feel that.

5118. Well, then, compensation given for tuberculous animals would be compensation in perpetuity?—You mean if condemned for any reason.

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5119. If you condemned a cow for tuberculosis?—Either alive or dead.

5120. Yes?—Yes.

5121. Then if people ask for compensation they must understand that the Government would have to take it that it is compensation in perpetuity?—From the time of the enactment.

5122. But you have had no compensation for any of your losses of 5 per cent. on your animals?—Oh no.

5123. Do you feel yourself very much aggrieved, when you have got four or five years' milk out of a cow, if she does not turn out a good carcase for selling to the butcher?—You mean that her productive powers compensate me for the ultimate loss.

5124. I am asking you whether, having had her as a good milker for four or five years, and when worn out she gets tuberculosis, if you do not get compensation for her in case of sending her to market, do you feel yourself a very aggrieved person?—Not if she has been a productive cow for many years; but a cow that milks deeply for two or three years as she may do, and become tuberculous, has not compensated me, speaking in my own individual interest, for her there is a loss. If she is a very productive cow for half a dozen years, I may rightly say she owes me nothing.

5125. You gain on some and lose on others, would that be an explanation of the matter?—We do not like to lose from the disease.

5126. I do not like to lose; no one likes to lose. Anyhow, I think that you have sufficiently answered my question. As a rule, if you find a cow in this tuberculous state and you find it out pretty early, you say, "I would fatten her off and kill her"?—Yes.

5127. "I would fatten her off and kill her." If you elected to fatten a cow which has some tuberculosis, which you have found out, and put her to fatten for the butcher, and if by any possible chance that cow should turn out not to be a proper food supply, do you think that the public should compensate you?—I knowing that I fattened the cow diseased?

5128. At your own risk?—Then I must answer that question conditionally. If the sanitary authority should have decided that tuberculous animals should never be allowed to pass into the market as human food, then I should say my claim to compensation should cease, but so long as a tuberculous carcase may or may not pass the sanitary authority's inspector, I should be right in asking for compensation for an animal, which, during life, appeared to be fit for human food.

5129. You knowing the cow to be tuberculous?—I knowing the cow to be tuberculous when I started.

5130. You are to run no risk; it is the public who run all the risk; is that so?—In case of condemnation.

5131. In case the meat is found to be so bad that it cannot be used for human food, you are to take all the advantage if it turns out to be good human food, and the public is to pay for it if it is not?—If the animal had the apparent sign of health during life.

5132. But it could not if you found it to be tuberculous?—She might appear to be healthy.

5133. But a tuberculous cow is not a healthy cow?—For practical purposes, I have known cows to be quite efficient.

5134. Efficient for what?—Either as feeders or milkers.

5135. But I am talking of you sending her to market to make more money for the purpose of meat. You are to run no risk; if it turns out badly you are to be compensated, and if it turns out to be good you get the money, is that what you mean?—That is what I mean.

5135. Is not it a very one-sided piece of business. Do you know any other business which is transacted on similar lines?—No.

5137. I want to come to another point, in which I am very much interested. You have a cow which is producing good milk and is a good milker; you

believe her honestly to be perfectly healthy, and your local inspector, or one or another authority steps in, finds a nodule, we will say, of tuberculous material in the udder, and says at once, "This animal cannot be allowed to supply milk any longer." If you had then the choice of getting compensation for that animal or of fattening it and running the risk as to its turning out good for meat, would that content you?—The choice given to me would be compulsory slaughter immediately after the discovery of disease and compensation.

5138. Yes, unless you elected to fatten that animal up and sell her for meat at your own risk?—If the choice was put, I should say slaughter the animal at once.

5139. Should you be satisfied with that alternative if you might elect to take one or the other method?—Compensation to what extent?

5140. That I cannot enter into now, compensation is generally a question of arbitration?—Yes.

5141. We will assume a reasonable compensation. If you had the right to reasonable compensation on slaughter, and had also the right to fatten the animal and to sell it to the butcher at your own risk, would that be a reasonable solution?—I should take the immediate slaughter.

5142. Would the giving to you of those two methods to choose from be a reasonable one towards the dairy farming interest?—I think so. Of course the answer would depend upon the meaning of the word reasonable.

5143. I put it quite as a general question?—As a stock owner I shall say; let me have the diseased animal away as soon as possible; I should say that.

5144. Have you formed any opinion as to the restrictions that dairy farmers would be willing to accept in order to protect the consumer through the risk of having tuberculous milk?—Well, I should like to know in the first instance whether any dependable means have been discovered for detecting the presence or absence of tuberculous infection in the milk.

5145. Your answer, I assume, is that you have not formed an opinion?—I have not. But supposing that any dependable means should be fixed upon whereby the presence or absence of tuberculous matter in milk can be tested, I should say that the milk should not be used for human food if tubercle was present.

5146. Allow me to put another question. Supposing the udder is found to be diseased, would the dairy farmers willingly allow that cow to be excluded from dairy purposes until it is ascertained whether it is tuberculous or not, on the assumption always that the thing can be ascertained without unreasonable delay?—I think they would; but I may say this: that the presence of the tuberculous udder is only exceptional, as far as my own experience goes; it is not common.

5147. I have only one more question to ask you. It is more for my own information than anything else. I understand you to say that in Staffordshire a calf is never allowed to have its own mother's milk?—Not "never," but not often.

5148. On what ground is that; why do you do it?—My answer has been rather misunderstood; the calf is not often suckled by its mother.

5149. Is that because you want the cow for dairy purposes?—It is only that.

5150. (Chairman.) After the first few days?—Yes.

5151. (Dr. Thorne Thorne.) Do you deem mixed milk more safe than that from one cow as regards tuberculosis, or had you no thoughts of that sort?—We had not.

5152. (Mr. Cooke Trench.) You did it for reasons of finance?—For two reasons; in the summer time when the weather is warm, calves having milk from new milch cows are more subjected to diarrhoea than if they had the milk from other cows; but that is a matter of opinion.

5153. (Chairman.) You come here in a double capacity, representing the Central Chamber of Agri-

culture, and also to give us your experience as a dairy farmer?—That is so.

5154. Excuse me if in one point in your evidence it has struck me that it is hardly reconcilable with both capacities. There was handed to us yesterday a series of resolutions from the Central Chamber of Agriculture, and one of them is so important, coming from such a body of such high repute, that I am glad to find it is not quite identical with yours. I want to know if you endorse that recommendation in the fourth paragraph of the resolutions in that report of February 1897, in which it is suggested that the owners of milking cows visibly affected with tuberculosis, or having chronic disease of the udder or found to yield tuberculous milk should be compelled to notify the fact and that such animals should at once be slaughtered and compensation paid for them out of the Imperial funds to the extent of at least three fourths of their value?—May I ask—in the sense of compensation—is that what you mean.

5155. I ask you if you endorse the recommendation that all tuberculous cows should be slaughtered at once, and compensation paid to the extent of three fourths of their value out of Imperial funds?—I have two difficulties there. I remember when the clause was passed; we had not got present the means of ascertaining what "visibly affected" means. I take it that supposing we got the tuberculin test, and it is accepted as infallible, by applying a wide meaning to "visibly," I should be satisfied.

5156. "Sensibly affected"?—Yes. And then again—and I expect this is in your mind—three fourths of their value. I should not have accepted that if I had held that a tuberculous cow was of the same value as a non-tuberculous cow (which it is not) for any purpose, so that three fourths of the value of the tuberculous cow is not equal to three fourths of the value of the same cow if the cow is not tuberculous.

5157. Assuming the cows to be tuberculous, to be sensibly or visibly tuberculous, this resolution if carried into effect would prevent any of those cows being sent to the butcher for slaughter, would it not?—If they are milking cows?

5158. It would prevent them being fattened for slaughter?—Yes, I am afraid it would.

5159. That would be a very sweeping measure, would it not?—It would.

5160. And was that resolution really carried unanimously?—I think it was.

5161. On reflection, as a practical man, do you think it a practical recommendation?—Well, it depends upon whether eventually it is decided that the central authority shall endeavour to stamp out tuberculosis, and I grant that it is not on all fours with the recommendation I myself made here to-day. But I should agree with it if in the interests of the public health the conclusion was come to that the public authority should step in and endeavour to stamp out tuberculosis.

5162. You have already, speaking as a practical man, expressed an opinion?—That the other is a better way?

5163. That it is impossible to stamp it out?—I have done so.

5164. This resolution, I understand, was endorsed by a very large number of agricultural societies all over the country?—I do not know to what extent.

5165. Well, you may take it from me that the witness yesterday who handed in these papers also handed in a very large number of societies affiliated to the Central Associated Chamber, all of whom, he told us, had passed this and other resolutions unanimously?—My own chamber has passed a resolution to the effect that in case the carcass of a fat animal, apparently healthy, was condemned as food not fit for the public, then in that case the owner, whether the butcher or the seller, should be compensated, and that is the extent to which my own chamber has gone.

5166. Have your own chamber passed these resolutions?—We have not discussed them, we have not had a meeting since.

5167. Looking to the extent to which it may be assumed tuberculosis does prevail in dairy stock in this country, it is a very serious recommendation, is it not?—I think I may say, speaking for myself, I do so, that at the time when this resolution was passed the prevalence of tuberculosis was not present to our minds to the extent that it is now.

5168. And this resolution was passed in February last?—That is so; and on the evidence that has since come to me, I am prepared to grant that tuberculosis is more prevalent than at that time I thought.

5169. In short, you would not be surprised if all milch cows, visibly affected with tuberculosis, or having chronic diseases of the udder, or found to be yielding tuberculous milk, were slaughtered at once, as here recommended, and that compensation to the extent of 25 or 30 millions was involved?—I never formed any estimate, but I must say from what I have heard of the prevalence of tuberculosis, that it would be too large an order to expect the Government to carry out.

5170. Would it satisfy your sense of fairness for compensation supposing it to be undertaken by the Legislature, if it were restricted to animals reared for slaughter, or if any cows were admitted as subjects for compensation, that only those should be so admitted which had calved only once?—That the claim should cease if the cows have a second calf?

5171. Yes?—And slaughtered by direction of the public authority?

5172. No, slaughtered by the direction of the public authority, but condemned on inspection?—The carcasses condemned?

5173. Yes. Perhaps I might explain what I have in my mind. It is admitted that a large amount of excellent beef finds its way into the market consisting of cows which, being found to be bad milkers, are fatted for slaughter?—That is the ultimate end of most of them, whether bad milkers or not.

5174. In the end; but they cease to be the best class of beef after they have been long milkers?—After they have had a calf, I think.

5175. And they do not owe the owners so much?—Not after they have been large milkers. I do not think myself that justice is met if an apparently healthy animal is sold and bought in the public market, at its full selling value, if afterwards the public officer steps in and condemns the carcass because of the existence of a disease which is not demonstrated before the sale.

5176. But you are aware, are you not, that even the butchers in making their claim for compensation, which they have done very strongly on very forcible grounds, have limited that claim to animals worth not less than 8*l.*?—Yes, if I had been asked to form in my own mind an estimate of the proper limit I should have gone rather higher than the 8*l.*; I think so; it does not represent an animal to be called a fat cow.

5177. But you admit perhaps that milch cows sent for slaughter are not such fitting subjects for compensation as animals that are reared and fattened for slaughter?—I sent four the other day for sale by public auction; they averaged 17*l.* 10*s.* a piece; all of them had had calves.

5178. More than one calf?—Only one had only had one calf, the other three had had three or four calves; they were good cows. Supposing one of these carcasses had been condemned by the sanitary authority after slaughter, I should have considered that the butcher had been subjected to a loss that he ought not justly to be subjected to.

5179. Would you fix a minimum price below which no compensation would be due?—I had not considered that point; but when you mentioned 8*l.* as the minimum, I thought it was a low minimum, and if I was asked off-hand to give a minimum I should go rather higher, certain to 10*l.*

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5180. But I suppose you think there is a class of animals in which the risk of tuberculosis is known to be so great that the claim for compensation is not so strong?—Yes, certainly; but there the large number of animals that go into the market at a low price, varying from 2*l.* to 7*l.* or 8*l.*, which are killed simply because they are not worth keeping for any other purpose—worn out cows that would not feed from age or had met with an accident, or that had garget, the garget being a disease of the udder, not necessarily tuberculosis—there is a very large number of those animals that go.

5181. Would you advocate a claim for compensation in those cases?—No, certainly not.

5182. Then the money limit would be the most practical way of fixing it?—At first sight it appears to me to be reasonable.

5183. (Mr. Murphy.) Will you kindly tell me if the Central Chamber of Agriculture has considered how far any system of insurance might meet those difficulties, instead of compensation out of Imperial funds or not?—I believe they have not considered that point—not to my knowledge.

5184. Have you any view about it yourself; would you be able to express any opinion upon it?—No, it hardly looks to me likely to be carried out—you mean insurance against tuberculosis?

5185. Yes, for the loss the farmer suffers and would suffer, owing to any new machinery for preventing the supply of tuberculous milk or the sale of carcasses that are diseased?—Insurance for farming stock has not been successful, I have known it tried and have had something to do with it myself, but that meant insurances for all loss; it has not been successful. I think the reason it is not successful is this: that the good manager and the good keeper has come to the conclusion that he was paying for the bad management and the bad keeping of others, and

he preferred to insure his own property, if I may put it so.

5186. It would be difficult for any system of insurance you think to decide how far the owner of the animal had not contributed to this condition by his own negligence?—I am an individualist and I should prefer as an owner of farm stock, to run my own affair, and to take my own risk.

5187. It is because of the difficulty of determining whether the owner had not contributed by negligence or in some other way to the condition of the cattle?—Yes, and the expense of management must be considerable; I consider that I manage stock on the average better than those who would insure with me.

5188. Would that not create a difficulty in determining the amount of compensation, if it were given in the manner you were speaking of; if you had no system of insurance and were to give the compensation in the ordinary way as has been suggested. Would not difficulties in determining how much compensation he would deserve be created by the fact that the owner might by negligence or otherwise of proper precautions have contributed to the condition of the animal?—That is, whatever authority might have to decide the amount of compensation there would be difficulty in deciding that the owner is guilty of contributory negligence?

5189. Yes, taking precautions?—We are dealing with a contagious disease, and I do not see how far contributory negligence can be proved.

5190-92. I suppose a question of breeding is concerned in the amount of tubercle that is produced in stock; some cows produce more than others, is it not so?—I think that the milking produce do suffer more than the grazing produce. The Hereford and the Scotch Angus, I take it, would be less liable to tuberculosis than the short-horn, the Ayrshire or Jersey.

The witness withdrew.

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Mr. JAMES KAY called and examined

5193. (Chairman.) You are the president of the Lancashire Farmers' Association?—Yes.

5194. Is that a large body?—It has varied in its constitution from 600 to 1,000; sometimes a society withdraws and joins some other society, or because it has not received local support it retires, and other societies come in; but on the whole the membership has been from 600 to 1,000.

5195. You have been for six years the chairman of the Blackburn District Farmers' Association?—Yes.

5196. What is the strength of that?—At least 300 members, mostly dairy farmers.

5197. You also serve on the Cattle Diseases Committee of the Central Chamber?—Yes.

5198. And in the discharge of your various duties the question of tuberculosis has been brought prominently before you?—Yes; I may say for 13 years I have been a somewhat extensive dairy farmer myself too.

5199. You took part in the national conference in St. James' Hall on the subject?—I did.

5200. In fact you took part in the initiative of that conference?—I did on this particular subject.

5201. What was the upshot of that conference?—I moved a resolution. I think I ought to say that the Central Chamber of Agriculture invited all those affiliated bodies to consider what were in their opinion the most important matters that ought to be brought before a national conference, and although in Lancashire there were other matters of great importance, they were matters which were of national importance and applied to every county, but we in Lancashire felt that the one local question of more importance than of all others was this question of tuberculosis, and, therefore, I was deputed to bring the matter specially before the conference, and my resolution is somewhat in equal terms with the recommendation of

the Central Chamber, which has been recently passed. I moved, and that resolution was seconded by a Lancashire member and supported by Sir Mark Stewart and passed unanimously without a single dissentient voice in an audience of more than six thousand agriculturists.

5202. Have you a copy of the resolution?—I have not. But briefly stated, it was taken from the report of the departmental committee which sat on this subject in 1888. That having regard to the danger of communicating tuberculosis from animal to man, with a view to stamp out or rendering less prevalent the disease it was duty of the Government to deal with it either by scheduling the disease or some other way, and by giving compensation to the owners of stock which were seized in the operation.

5203. There was also a reference, was there not, to the unsatisfactory results of the present system of inspection and combination?—Yes. I had to bring forward before the meeting the way that the subject was being treated in Lancashire, which we felt to be a great injustice, and until quite recently it seemed to be a county isolated in its action; but I find since that time other counties and other countries are taking the stringent action of Lancashire, notably in Ireland and parts of Scotland.

5204. Does the whole question resolve itself into one of compensation?—I think from whatever point of view the question is regarded it does hardly resolve itself into one of compensation. But I ought to say that that question of compensation depends largely upon the more serious question of whether, and if so, how far the carcasses of animals suffering from tuberculosis are really prejudicial to the interests of the public and not fit for use as food.

5205. Have you formed any opinion as to what regulation ought to be adopted?—I have, I consider

in the first place that that initial question of whether the carcass of a tuberculous animal is fit or is not fit for food, is a scientific matter which ought entirely to be dealt with by medical men; it is a professional matter. I do not think that it is a question which agriculturists are in a position to answer. I may say that I have read the verdict of many medical men, and I have listened to the evidence in police courts of medical men; and I have never yet read or listened to any medical man who says that if properly treated the flesh of tuberculous animals is bad for food, and yet in spite of that the animals in Lancashire are being condemned in a wholesale manner without regard to either value or any other consideration, simply because they are tainted and proved to be tainted with tuberculosis.

5206. Can you give us any figures as to the seizures?—Yes. Of course these are not authenticated figures, they are figures formed in my official capacity as chairman of the very various districts in Lancashire, and where cases are reported to us from time to time of hardships arising to our members from the seizure of those animals; and in the whole of Lancashire I have no hesitation in saying that from 35 to 40 beasts are condemned weekly, some better and some worse than others, but all animals which have been sent in with the idea of being sold and used for food. I consider that at a low computation those animals that are condemned are worth 12*l.* 10*s.* each, and that results in the surprising figures of 25,000 pounds worth confiscated in the year in Lancashire alone for which no farthing of compensation is paid.

5207. Does that apply to any particular class of stock?—It applies mostly to cows which have been fed after milking. As a rule a dairy farmer, if a cow happens to lose a quarter, or if a cow is deficient in its udder in any way, feeds it for the butcher; and, of course, there is a greater proportion of tuberculosis proved to exist amongst dairy cows; and I have most striking evidence of the state of things existing in the Blackburn district, but not referring exclusively to dairy cows at all. I may say that I have a full report of one of the most important actions which have been tried in Lancashire in October of 1892. On that occasion one of the best fat animals which was slaughtered in Blackburn during the week, and an animal which had left its owner a profit margin of 6*l.* for grass and cake feeding during the summer, and a case in which the attention of the veterinary surgeon employed by the corporation and acting under the Board of Agriculture was casually and accidentally drawn in my presence to that particular animal when it was leaving. The remark was made by the vendor of the animal that if farmers could depend upon all animals paying anything like the amount that that animal had paid for summering and feeding we should hear very much less about agricultural depression.

5208. What price was that beast sold for?—14*l.* In passing, I may say that I took particular care to ascertain that in the whole of Blackburn, a town with a population of 130,000 inhabitants, and having butchers numbering at least 100. I ascertained that in that week there was no cow sold in the whole of Blackburn for more than 14*l.*; there were bullocks and heifers which were sold for considerably more, but, of course, cow beef is not worth the same price per pound as heifers and bullocks, and I ascertained that no single cow sold in that town for the week produced more than 14*l.* The following morning I was knocked up before 6 o'clock by the vendor of the cow to say, that to his surprise that animal had been reported to the medical officer of Blackburn, and that he had condemned the carcass, and that it had to be destroyed. I, along with the committee went and inspected the cow, and was bound to admit at once the presence of tuberculosis. But at the same time the carcass was an extremely well-fed one; the cow was well nourished, and any butcher in the world would have given the price, from 13*l.* to 14*l.* anywhere, and would never have suspected anything of the kind as tuberculosis being present.

5209. Were the tubercles generally distributed?—They were generally distributed. They, of course, presented themselves in the first place in the lungs; that was indisputable, and I think I ought in fairness to say, that I myself felt that some day this matter would be of a very great deal more public interest than it was even at that time, and that we must fight the thing out in our court and have every point of evidence brought forward, and with that end in view we declined to consent to the carcass being destroyed. We put ourselves in communication with the Butchers' Federation of Great Britain; the Liverpool, Manchester and Bolton branches came over and examined it, and on their advice we sent for the head authority in Manchester, Dr. Dreschfeld, who came over and saw the carcass, and in my presence he said these words: "A splendid carcass of beef, gentlemen, but I am extremely sorry; there is no question about the presence of tuberculosis, and the medical officer has supreme power." Up to that point I may state that the Butchers' Federation generally with ourselves had decided that we should fight the case before the magistrates, and that we should take it to the very highest court in the land, and we were prepared to spend no less than 1,000*l.* in the fees of the case if we had received any encouragement from Dr. Dreschfeld as a pathologist to do so. In the face of his advice we could not take any further action after this.

5210. Why do you say "as a pathologist," because you yourself had recognised the presence of tuberculosis?—Because we wanted Dr. Dreschfeld's opinion on the question as to whether it was fit or not fit for food; but he at once told us that that was not a question for him to determine, it was a question for the local medical officer who had supreme power.

5211. Then the case was this: that you acknowledged the presence of tubercle, you, and your committee,—but were of opinion that it was perfectly good for food?—Most decidedly, and was of the same class of animal as has from time immemorial been allowed to be sold in the town of Blackburn, and in other towns of Lancashire. This was the first case of the kind where we were prepared to say that undoubtedly the meat was absolutely good, and it was absolutely impossible for the owner of that animal or the butcher who bought it to know that it was suffering until it was slaughtered. I think I should follow that up there and say why, knowing this, we allowed the case to go before the magistrates. It was within our knowledge as a local committee that in the previous year, in 1891, we had on the outside of Blackburn an outbreak of pleuro-pneumonia, and under the Order of the Board of Agriculture not only was the herd slaughtered in which the outbreak had occurred, but all the animals which had either been on the adjoining farms or were at all suspected of being within reasonable distance of that farm were ordered to be slaughtered. The result was that no less than 451 animals were slaughtered, and I happened to know that out of these 451 animals slaughtered by order of the Board of Agriculture the local veterinary surgeon, Mr. Buckley, who also represented the corporation of Blackburn, a man of great experience, was instructed to examine every single carcass as it was killed and make a report to the Board of Agriculture as to the state he found the carcasses in. I knew that he had found one out of every five of these animals was suffering more or less from tuberculosis, and I was anxious that this should not be palmed off upon the public as a mere expression of opinion, but I was anxious that this should be authenticated, and that the matter should be noted down as a fact, and so for that reason, and that reason alone, knowing that we had no case to go before the magistrates, on the point of this seizure alone, except that of fair play and justice, we subpoenaed the veterinary surgeon; and I have the report of the case and his evidence here. This is the evidence of the veterinary surgeon, and if it is the wish of the Commission I shall read it. There were three witnesses cross-examined by the solicitor and barrister, and then Mr. Buckley the

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veterinary surgeon was examined. The report says, "Mr. Buckley, veterinary surgeon, Blackburn, was next called, and in answer to Mr. Backhouse"—that is our solicitor—(he was not examined by Mr. Taylor) that was the barrister representing the corporation, Mr. Taylor of Liverpool—"said he examined the carcass whilst it was in the slaughter-house, and agreed with Dr. Wheatley"—that is the medical officer—"as to what was the matter with it. Witness added that he had 30 years experience in Blackburn as a veterinary surgeon, and was the inspector of this district appointed by the Commissioners under the Contagious Diseases Act. (Mr. Backhouse.) Was the cow pretty fat and in good condition? (A.) Yes, it was in good condition. (Q.) Was it possible for the butcher or the farmer to have found out what was the matter with it before it was killed?—(A.) I do not think they would know. (Q.) Would it not be probable, from the condition of the carcass, and the amount of fat on the animal that it would appear to them in good health?—(Witness.) Yes, judging from the appearance of the carcass. (Q.) Without the opportunity of seeing any of the internal organs, you say they would not know it was unfit for food?—(Witness.) The carcass was a good one in appearance. (Q.) Suppose these people state in evidence that the cow showed every symptom of not having any disease of that sort, would you believe it to be a truthful statement?—(Witness.) I believe that during life they might not notice anything wrong with the cow. (Q.) I understand that there has been in this district an outbreak of pleuro-pneumonia?—(A.) Yes, there was in July last. (Q.) Is my information correct, that during that time about 451 head of cattle were ordered to be slaughtered?—(A.) Yes, that is so. Witness (continuing) said an inspection showed that the outbreak had occurred on two or three farms, and a number of cattle were killed because the fences were not considered sufficiently safe so that the beasts would be prevented from contact. About 85 more or less of the 451 were afflicted with tuberculosis or about 20 per cent. The percentage was greater in cows. Some were growing cattle, and did not have the appearance of being diseased. As far as he could see the majority were apparently healthy. The 451—and this is the point we wanted to bring out—"were fairly representative of the cattle in the district; there were milking cows, heifers, and growing stock, a thoroughly mixed lot, from both sides of Blackburn."

5212. Is compensation the only amelioration that suggests itself to you?—No, I think there is a very much higher question; but I do not think that the corporations of either Blackburn or any other corporation seem to realise it. In my mind the question of milk is a far greater one, and a question of greater importance, and a more serious question than the question of meat from the public point of view. My reason for stating that is this: That it is principally adults who use the meat of the animal, and that it is cooked before it is used; on the other hand it is the milk which is largely used by the children, and that is largely used in an uncooked state. Therefore I contend that the question of the milk from the national or from the public point of view is a more serious one than the question of meat.

5213. Then of course cooking the milk before using would be a perfectly effective precaution?—That would be so, but it is not universally followed by any means; and the cooking of meat is of course a necessity.

5214. There is a considerable prejudice against boiled milk, is there not?—There is. I think I ought also to mention so as to emphasise the hardship under which the farmers of Lancashire, and I am told the farmers of Dublin, and in some parts of Scotland, the extreme hardships under which they are called upon to suffer, that one of our objects—we have two objects in view—

5215. Are not you leaving the subject from which we began, the milk supply. I asked you whether you could suggest any amelioration besides that of compensation?—I beg pardon. I do think this that from every point of view everybody will admit that it is desirable when the question of tuberculosis has been discovered in a milking herd, that it is not desirable that that milk should be sold in the towns; and in my opinion the farmer is the first man to have his attention drawn to the probability of certain cows suffering from tuberculosis; and if some system of compensation were decided upon I believe that that farmer would prefer to notify his suspicion to the recognised authorities if he had reason to believe that he would be suitably compensated for the animal so taken out of his milking herd.

5216. That is the case referred to in the report of 7th February last by the Cattle Diseases Committee of the Central Chamber?—That is so.

5217. That points to compulsory notification?—Yes, when accompanied by compensation.

5218. And the slaughter of infected animals?—Not necessarily.

5219. Does not it say so in the report?—I do not think that it says anything about—

5220. It says that such animals should be at once slaughtered?—Oh, yes. Not with regard to animals which have been in contact with them.

5221. Is not that practically rather more than could be carried out?—I do not think so. I may say that I am a member of this council, and I think the Committee ought to remember or ought to know from me and other witnesses the difference that this question occupies now as compared to the position it occupied some 20 years ago, and even so recently as within the last 10 or 12 years. Twenty years ago animals which were called wasters or screws were systematically sold for a fair price, and were allowed to be used particularly by the army. I knew a great trade in that particular kind of stuff was carried on at Preston where of course they have barracks. Gradually the question has come before the public with the result that that trade has been completely stopped; the attention of the military authorities and the medical authorities having been called to it, public opinion seems to have influenced them in the direction of greater restrictions, and they no longer deal with that class of meat. Another reason which has tended to influence that decision—

5222. I am unwilling to interrupt you, but it is hardly an answer to my question; I asked you if the recommendations contained in this report were carried out, whether as a practical man, you think it a practical recommendation?—I do.

5223. That all milch cows found to be suffering from tuberculosis should be at once slaughtered?—I do think that is the only means of protecting the public from tuberculous milk.

5224. Then I asked you this further question. Have you as a member of the Cattle Disease Committee formed any estimate of the proportion of tuberculous milk cows in the country?—I have myself as representing Lancashire, which is perhaps one of the worst counties that can be represented in this matter.

5225. Allow me to point out that this recommendation is not confined to Lancashire?—No, but I think the question was, had I formed any opinion as to what it would mean?

5226. Precisely, because this resolution applies to the United Kingdom?—In answer to that, I wish to say that I have given careful consideration to what it means in Lancashire, which is at all events admitted to be one of the worst counties, and we have it, as I have just explained, in the evidence in this case, that one animal out of every five is suffering more or less from tuberculosis, but those animals were not exclusively milk cows. At all events it was adopted, and it is admitted by all who know anything about the subject, that the percentage is higher in the case of milk cows. But the resolution of the Central Chamber

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referring to milking cows "visibly affected with tuberculosis?"

5227. "Or with diseased udders or giving tuberculous milk?"—I may say at once that I quite agree with the previous witness with regard to the number of cases in which tuberculous milk is found, or in which animals are found with chronic diseases of the udder. Though tuberculosis in animals slaughtered is the rule rather than the exception, in Lancashire diseased tuberculous udders is the exception rather than the rule. I very seldom come across one.

5228. Yes, chronic diseases of the udder may be other than tuberculous?—We frequently have the garget in the udder, and that is peculiarly liable to certain districts as against others.

5229. Then I may repeat my question. I do not want to get you into a difficulty, it is a very important recommendation coming from such a large chamber, and I want to get at the real meaning of it; so I repeat my question: Have you formed any estimate of what the cost of this sudden destruction of tuberculous milk cows will be, if three-fourths of their value is to be paid in compensation?—I cannot say that I have formed any estimate as to the amount of money that would be involved in the country, but I may say that I have formed a very strong opinion on the matter, and that my answer to that is this: That I do not care what the amount is, however great the amount may be, the manifest benefit to the public who consume the milk will outweigh any compensation that can be paid or any cost that may be involved.

5230. As a practical man you are satisfied with recommending that a charge be laid on the Imperial funds without having the slightest idea what that charge would amount to?—As a practical man, and as a member of the public, and as one whose family has suffered from the use of tuberculous milk, I do not care what it means. I think that the public health ought to be paramount, and that it is the duty of the Government whatever the cost may be.

5231. You think that that is a simpler remedy than that involved in the case of meat, namely, that of thoroughly cooking the meat?—Unfortunately, in the one case the public have no option, in the other case you have no means of compelling the milk to be boiled.

5232. In what way?—In eating the meat of an animal the public do not eat it raw.

5233. They have the option of eating it raw if they like; they have the same option with the milk of taking it raw?—But I think that the two cases are hardly analogous. Meat of course must be cooked for eating purposes; milk must not, necessarily, be boiled for drinking purposes, and as a matter of fact, it often is not.

5234. But you admit that the remedy is in the hands of the people themselves?—Exactly.

5235. However, I interrupted you when you were going on with a rather interesting statement; you were saying something about the County Asylum Farm?—Yes.

5236. And the proportion of the disease in the milch cows there?—Of course I am only able to speak from hearsay. I presume that the Commission do not want me to give evidence of what I have heard or think. Therefore I must confine myself to what I absolutely know.

5237. It will carry more weight?—Within the last fortnight the County Council of Lancashire, who are the owners of Whittingham Asylum, and who milk a dairy of some 150 to 180 animals.—I may say that they are so impressed with the importance of this subject, and its prevalence in Lancashire, that they do two most unpopular things: in the first place they decline to purchase beef which is known to be fed in Lancashire for the purpose of the inmates; and, in the second place, they decline to purchase the dairy cows from Lancashire; they prefer to go to Cumberland and Westmoreland and the higher counties for them. But notwithstanding that, and notwithstanding the fact that they do apply the tuberculin

test, about the results of which I am not prepared to speak;—within the last three weeks they have slaughtered for beef for their own consumption 15 animals, which were something like 3*l.* per head better in money value than the majority of animals we find slaughtered in public markets.

5238. Where did those come from?—They are their own feeding.

5239. Were they milch cows?—They were milch cows fed for the butcher.

5240. You did not say that?—Well, out of those 15, though all apparently healthy and worth some 16*l.* or 17*l.* each, no less than seven were condemned by the medical officer of the asylum and were buried in one day.

5241. Pointing to the prevalence of tuberculosis to the extent of 50 per cent. in the herd, if that recommendation which we were talking about just now were carried into effect, these would have to be slaughtered and destroyed?—No, not exactly. I differ altogether with the action of the medical authorities in Lancashire.

5242. I see; you think that that was too rigid a system?—I think that the meat is perfectly good for food, and that these animals are superior in every way to the large bulk of animals slaughtered for the last 40 years in Lancashire. That brings me to a suggestion which I have to make before this Commission. The medical officer of Blackburn, who is a comparatively young man, and I very much doubt whether he had seen the inside of a single beast in his life before he saw the case that I read out to you, came with preconceived ideas of his position, and was determined, as he has told me himself, that he will not have tuberculous meat killed and will not have it consumed in Blackburn; and yet he admits, and another doctor of considerable eminence I have also heard admit, Dr. Niven, formerly of Oldham and now of Manchester, I believe, and several other eminent men all admit that the meat can be so treated as to be rendered perfectly innocuous to the public. I wish to point out that if there is one place in the world more than any other where that meat could be so treated, it is at the county asylum where the medical officer who condemns the meat is or ought to be himself responsible for the proper cooking of that meat. I am certain of this, that the evidence I have given now with regard to 15 animals can be multiplied by cases occurring at the same place every time that animals are slaughtered of their feeding; and I believe if this Commission had to call evidence from that asylum, it would produce most startling information, because these animals are carefully selected when they are bought, and they employ the tuberculin test, and they take a careful record of the state of the animals, and I know that they are anxious and willing to give evidence.

5243. (Dr. Thorne Thorne.) You were saying that Lancashire is one of the worst counties in this matter; do you mean merely as to the amount of tuberculosis or the severity with which meat is condemned?—In both respects.

5244. We have a Parliamentary Return of the 27th of August 1895 before us here in which the number of carcasses seized during the two years ending March 25th, 1894 and 1895, shows that out of 17,092 carcasses which were officially seized only 279 were condemned on account of tuberculosis. That makes 1·6, or under 2 per cent. of them only. Whilst you have been giving your evidence I have been taking the towns of Lancashire in that respect, and I find that with the one exception of Salford, where there is an excess, the number of carcasses seized for all purposes in the same two years was 3,532, and only 66 condemned as regards tuberculosis, which is much the same figure, namely 1·9. Including Salford, the Lancashire rate runs up to 3 per cent. So that upon the face of this Parliamentary Return with the exception of the one single town of Salford, Lancashire stands on precisely the same footing as the whole of the United Kingdom?—But I may say that

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those figures do not in all cases embrace animals which are not officially seized.

5245. No, but they are both comparable, because they both deal with the same set of animals?—But since this case has been tried before the magistrates, both the farmers and butchers, knowing what is the law, and that they have not a legal leg to stand upon, give way at once, and they do not give the medical officer the necessity of seizing the carcass.

5246. But that applies to those others also, because over 17,000 were surrendered without any proceedings?—Well, I may say that Blackburn buys more from Salford Market than from Liverpool, Salford being the more convenient market.

5247. Take Blackburn, of which you have been speaking so very prominently; the Parliamentary Return shows that 154 carcasses were seized in those two years, and only five of those were seized on account of tuberculosis in the whole of the two years ending March 1895? Does that amount to a very great grievance? Here are the actual figures: Blackburn, 72 in 1894, 82 in 1895, and on account of tuberculosis, three in one year and two in another, making five; that is, 154 carcasses seized and only five were condemned on account of tuberculosis?—I may say that those figures must be most misleading. I know more cases myself in the town of Blackburn.

5248. This is given on the authority of the local authorities in Blackburn?—That may be; I know of more cases myself.

5249. On account of tuberculosis that were condemned?—Yes, I am not prepared to say the exact year, but I do know this, that after this case was decided, there was a great amount of indignation raised amongst the butchers and the farmers, and we applied to every candidate for Parliament when he presented himself for election.

5250. Will you give your dates; I have given you mine, and it is of no value without the dates?—You have given me the year 1895.

5251. I have given you the two years ending March 25th, 1894 and 1895?—I am afraid I cannot give you the year.

5252. (Chairman.) Perhaps the best way would be if Mr. Kay were to take that return and compare it with the figures that he has, and let us know the result afterwards. Would you undertake that?—I shall try to refresh my memory with the thing.

5253. Try and verify or disprove the figures in this Return?—I may state that I am not at all prepared to admit that these cases do include—in fact, I will not go the length of saying it, but I am under the strong impression that the meat inspectors told me that they do not include all cases.

5254. Well, you see the importance of getting at the truth in this matter, then?—Quite so.

5255. (Dr. Thorne Thorne.) Will you look into it?—I might qualify that, and show you exactly what I do know. Immediately outside the Borough of Blackburn there are no less than three or four inferior butchers whose premises the Medical Officer of Blackburn has nothing whatever to do with, and a large number of inferior animals are slaughtered there, and if on the opening of those animals they present themselves to the eye of practical butchers as being fairly presentable, then they are taken to Blackburn, and in many cases they are passed, but if they were slaughtered in Blackburn they would not be.

5256. That diminishes the severity in Blackburn, it does not increase it. I am speaking of the carcasses condemned?—I am speaking of those cases where they have been dealt with by consent.

5257. By far the great majority of the animals are seized by consent?—But in Blackburn the hardship is really in this respect; consent is given because of the decision in this case. I did not show you the severity with which the owner of the animal was treated in this case, but the result of the case was that the magistrates not only seized and condemned the carcass, but they fined the owner 2*l.* and costs, and it

cost the farmers and the butchers in taking the case up to that point nearly 50*l.*

5258. What date was that?—The case was reported on November 2nd, 1892, and the case was heard the preceding Saturday.

5259. Then, of course, the years that I am referring to—ending March 1894 and 1895—would cover the period of the increased severity, and the increased willingness to give them up, but notwithstanding that only 36 were destroyed with the owners' consent in the whole of the two years?—But there were above 36 condemned.

5260. Thirteen of the carcasses seized in 1894, and 23 of those seized in 1895 were destroyed with the owners' consent, they being cases of tuberculosis, so that they were first seized, and having been seized they are condemned with the owners' consent without going before the magistrates, and they are only 36 in number in two whole years?—The number is twice that; I should say all animals slaughtered outside the borough and which are only brought in to the public slaughter-house in their dead state when the second-rate butchers who have slaughtered them are satisfied that they have a reasonable chance of passing the inspector.

5261. But all those cases seized in Blackburn are down on this return?—But the cattle are drawn from the outskirts of Blackburn.

5262. It matters not for this purpose whether they come from any one of the four corners of the globe?—But these cattle which I am speaking of immediately outside the boundaries of Blackburn were formerly slaughtered in Blackburn itself, and it is in order to avoid the restrictions that they are slaughtered outside of Blackburn now.

5263. Blackburn is not peculiar in that sense; it is a very common thing to have "slink" butchers where there is no proper inspection?—But the carcasses are not allowed to come in unless the men think that they will pass the meat inspector; there was a large number dealt with outside the borough.

5264. Do you mean that they are destroyed?—Destroyed, or sold for dogs or pigs, or disposed of in various other ways.

5265. Then it is outside of Blackburn that the severity tells, not inside?—No, no. The farmers surrounding Blackburn are in the habit of selling their meat to the butchers in Blackburn, and therefore any action which is taken in Blackburn itself reacts upon the farmers outside, and it is those farmers who are in the habit of selling this outside of Blackburn to come into Blackburn, that have a grievance.

5266. Do you think that they are improperly destroyed outside Blackburn?—They are improperly destroyed as opposed to the action of 20 years ago. Now, the animals are voluntarily surrendered outside Blackburn which for the last 20 years were allowed to be consumed for food.

5267. Another matter I want to ask you about: you said just now that 35 to 40 beasts are condemned weekly, some better and some worse, in Lancashire?—Yes, I believe so.

5268. Are these mostly milch cows?—Yes.

5269. Who condemns them?—The medical officers of the various boroughs.

5270. Are these the ones that are seized by them?—Yes.

5271. How is it that this return only gives 122 seizures in 29 towns of Lancashire for tuberculosis during two years? Amongst the 122 seized, this Parliamentary return includes those towns, Blackburn, Bolton, Liverpool, Manchester, Oldham, Preston, St. Helens, Wigan, Darwen, Lancaster, Warrington, Blackpool, Clitheroe, Accrington, Southport, Bootle, and Farnworth and Salford which alone accounts for 56 out of the 122?—Last week I had the report of three animals seized and condemned—apparently healthy animals—in East Lancashire, Warrington, Darwen, and Accrington:

5272. But you say there were 35 to 40 beasts a week?—I am forming the estimate for the whole of Lancashire from what is done in my own immediate district.

5273. That is getting on for 2,000 a year?—I quite believe it. For my own district I have the means of ascertaining, but for other districts I am simply speaking from what I see of police court cases reported in the papers.

5274. Can you bring evidence confirming that, it seems so entirely different from the Parliamentary return?—There is scarcely a week passes without an animal being seized.

5275. You have been 13 years in practice as a dairy farmer?—I have.

5276. How many of your cows sent to the butcher have been condemned and destroyed by reason of tuberculosis?—Prior to this case being tried I had none. I do not know that I had any condemned, but I had voluntarily surrendered several to which the butcher had called my attention after slaughter.

5277. And since 1892?—Since 1892. In 1892 I had two cases; in 1890 I had five cases; and since then, having regard to the restrictions which are imposed, I have altered my system of dairy-farming altogether, and I am using a different kind of cow altogether.

5278. With what result?—With the result that I seldom do feed a cow unless it is a case of turning out to be not a breeder or having lost a quarter.

5279. Then since 1892 you have had seven?—Yes.

5280. How many cows do you keep?—I keep less now, in fact I may say at the present moment I retired from it a fortnight ago.

5281. But the average since 1892?—From 1892 to 1894 I had about 80, and was milking over 60. Since that time I removed from that farm and went to a smaller farm, and I have been milking on the average 30.

5282. In these 13 years you remember seven cases?—It is hardly correct to say that, because my attention was never drawn to the case at all until within the last three or four years. I do not know how many cases I might have had before.

5283. Were they all condemned?—No.

5284. I am speaking of the animals condemned on account of tuberculosis?—But you asked in 13 years. It is not correct, because the authorities did not condemn them.

5285. Up to 1892 there was very little condemnation, and you do not remember any; since 1892 you have had seven?—Yes.

5286. Therefore you remember seven in the 13 years with the different stringency or the want of stringency?—I ought fairly to say this, that these seven cows were carcasses of cows visibly superior to many that I had sold before about which I had heard nothing.

5287. You have spoken to us of different stringency on the part of medical officers of health, and we know there has been very different stringency. I want to ask you this question: If by any chance this Commission or any other body were to lay down a rule that medical officers of health ought not to condemn for the purpose of meat supply a carcass, unless it gave evidence of either advanced or generalised tuberculosis, or of tubercle in a considerable number of internal organs, or a considerable number of glands being infected, would that greatly remove the grievance to which you refer, and which is the same, I suppose, for others?—It would reduce us to the position that we occupied prior to the last five or six years, a position with which we were perfectly satisfied.

5288. (Mr. Murphy.) I think you estimated how much the monetary loss was in Lancashire in the year?—Yes, I consider that it is at least a quarter of a million.

5289. Are you quite sure you have not got the figures incorrect?—They are given from my own

estimate spreading over Lancashire from what I know of what is being done in my own part of the county.

5290. That I understand, and I think that was based upon an estimate of from 35 to 40 animals condemned weekly?—Yes, throughout the whole county.

5291. And that the value of each you estimated at 12*l.* 10*s.* a-piece?—Yes.

5292. That is 25,000*l.*, and not 250,000*l.*?—Yes, I have made a mistake, that estimate does not include such cases as the county asylum.

5293. But I understood that the animals of the county asylum were not killed on account of any requirement of a medical officer of health, but because the medical officer of the asylum, or whoever is concerned in the matter, thought they were unfit for the use of the patients?—I am certain that that action at the asylum is consequent upon and subsequent to this trial that we had in Blackburn, because I know from persons in the council who have said that they felt that if the medical officer of Blackburn could seize animals of this kind in Blackburn and the magistrates would sustain him and fine the farmer, they could not let such meat be used in the Whittingham Asylum.

5294. That was their anticipation of what the medical officer would require; it was not that the medical officer had required it?—They felt that they must be consistent, and set an example to the county, that if the animals were not fit for food in Blackburn, the beef condemned by the medical officer and magistrates could not be fit for the place under their jurisdiction.

5295. Have you any places besides Blackburn where the pressure would be very great with regard to condemnation and seizure?—In Bolton, in Darwen, in Accrington, and in Rishton—it is a local board district—in Fleetwood and in Blackpool, cases of more or less public importance have been prominently brought before the magistrates in those places.

5296. In all those places the meat has been condemned on the demand or requirement of the medical officer of health or the sanitary authority?—The medical officer in all instances.

5297. And in the last year or two?—Yes, within the last week or two in East Lancashire.

5298. Perhaps it would be possible to get returns from those places to bring the Parliamentary returns up to date?—Yes.

5299. I have no doubt the sanitary authorities would be willing to supply the information?—I think so.

5300. (Mr. Cooke-Trench.) You have already stated that you have had considerable experience as a dairy farmer yourself?—Yes.

5301. Will you tell me whether in case a dairy farmer is obliged to shoot and bury every cow as she goes out of milk, he would be able to make a profit on his cow?—If he was to shoot his cow, do you mean?

5302. If every cow as she went out of milk were shot, I mean?—Yes, most decidedly he would have a very big loss.

5303. Then I may take it that, taking an average, every cow that has to be destroyed at the end of her milking period, is, on the whole, a dead loss to the dairyman?—Yes.

5304. (Mr. Speir.) You said that the local medical officer had the power of condemning those carcasses; are you correct in making that statement?—I am afraid I am.

5305. Is not the judge the person who has the power, and not the medical officer?—The medical officer has simply to give a certificate to the magistrate, and the magistrate issues the authority to condemn the animal.

5306. Take your own case here, where you objected to it; was it not the judge there who did it?—It was the magistrate who gave the order.

5307. But the medical officer has to convince the magistrate that he is right?—Yes.

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5308. But it might happen that you, the owner of the carcass, might convince the magistrate that the medical officer was wrong; what would happen in that case?—In that case the carcass would not be destroyed till the owner had been summoned. But this case that I have mentioned is the very best case that we have had spreading over a period of several years, and we selected it as a test case.

5309. I admit so; but in that way you can still admit that it is not the medical officer who is the judge, it is the magistrates; it is they who carry out the law, and not the medical officer?—I think that in all cases the magistrates are guided by the advice of the medical officer.

5310. Whether it be right or wrong?—Yes. The certificate is granted by the magistrate without even interviewing the owner of the carcass.

5311. Your chamber, amongst other recommendations, have suggested that three-quarters compensation should be paid "for all animals visibly affected"; I think those are the words?—That is so.

5312. I can quite easily understand why any body of farmers should claim compensation in a case such as you have drawn our attention to, where no one has any suspicion of it; but is it not probably too strong to claim compensation for an animal which everybody sees and knows to be a danger, not only to the farmer but to the public; what is your opinion?—My opinion is this: that such cows as are visibly affected with tuberculosis are invariably heavy milkers, and I am going to put before you the position of the average farmer who is guided mostly by the consideration of money. Such a cow as is "visibly affected" will, in all probability, be giving from 12 to 18 quarts per day. At 3d. per quart, taking the medium at 15 quarts per day—that is 3s. 9d. per day—and that multiplied by seven would give you about 28s. per week. She would maintain that in spite of her disease for several weeks, and the farmer mixes the milk all together, and he would naturally say to himself, well, if I keep this cow—it costs me 7s. per week to keep her—she is giving me 27s. per week in milk; if I keep her six or seven weeks I shall gain more in milk than I should get for the carcass; and then at the finish he would sell her to a knacker for a pound or two, according to the condition of the animal.

5313. That is all correct as far as the figures are concerned; but as to the morality or advisability of anyone in that position to sell food which he knowingly admits is dangerous, what have you to say?—Well, his reply to that would be, that if you can render milk harmless by boiling it, it is your own look out if you do not boil it.

5314. Do you consider it judicious as a member of the public, not as a farmer at all, that any one should be allowed to make a living out of such a class of traffic?—I do not.

5315. Then the law already stands with regard to infectious diseases, that if you, say, have small-pox, you are a danger to the general public, and you know that you are not allowed to mix with the general public and cause a loss, why should you be allowed to do so with milk when the animal is visibly affected so that you know it?—The two cases are scarcely parallel. In the one case the infectious disease about a human being is almost bound to be contracted by anyone moving about them; in the case of the milk it is not so.

5316. According to the evidence which we have had from our experts, if it was a case of an animal visibly affected in the udder?—But I am not speaking of the udder.

5317. But it would be as dangerous as the other?—But I am not speaking of the udder; we have comparatively few cases of diseases of the udder.

5318. Well, then, supposing a case of your own dairy, what was the average length of the life of a cow with you?—Prior to this case—of course the Commission must excuse my referring to it, because it exercised such a terrible impression upon my mind

and the minds of other dairy farmers in the district—prior to that case being tried, I used to buy my cows from the point of view of the quantity of milk I got from them. I used to buy cows which had had three calves, cows of five or six years old, but having regard to the importance which has attached to this question since, I have bought younger cows altogether. I have bought largely heifers, and in no case will I exceed a cow with a second calf.

5319. How many years have you been going on that plan?—From one year to a year and a half.

5320. Say a year and a half. In selling those after being dry, what is the difference between the buying and selling price?—I make more than I gave for them.

5321. That is the three year olds. Take the case of a four year or upwards, when you are selling them what do you generally lose?—I take stock every year, and I average over the whole of my stock, and I make a profit on the whole of my herd between the buying and the selling.

5322. That is rather unusual?—It is so, and I ought to give the reason. It is not usually so in my district; but since this case was tried I have bought my own farm and put up my own buildings and put up such an excess of buildings as will enable me to run cows round. If my space were contracted, and I had so much to produce from so many stalls, whenever an animal ceased to give a certain quantity I was bound to exchange her for another.

5323. What cubic space have you for these byres which you think up to the mark?—About 650 cubic feet.

5324. Have you any ventilation?—Yes.

5325. Presuming now that you are a breeder, not exactly just a feeder, and that it was possible to separate the animals that were infected from those that were not; do you think with the buildings you have already had put up you could economically carry on your work and still separate your animals?—I could not.

5326. Why not?—Because the shippon—what you call byres, we call shippons—is built for 32 cows; it is all open; the cattle are all in the same open shippon; and supposing I had two of those animals which were suffering from tuberculosis, I might put them into a loose box, but if I had another case occur I should be fast, I could not isolate them.

5327. But would there be any excessive expense in dividing your shippon, say, into two divisions?—No, I cannot say; if it was done in the original building I do not know that it would be excessive, nothing to speak of.

5328. Would there be any excessive hardship provided that you put the two lots of cows into certain fields in the summer or the winter season?—Yes, in many cases it would be impossible.

5329. It would be a little trouble, but would it be an excessive hardship?—It would be in many cases an impossibility where they have only one large field.

5330. But in others it might be done?—Yes, it might be done.

5331. Presuming that the stocks that you were carrying on—previous to the last year or two that you have kept your cows—say an average of three years, which would probably be the very most, do you think that if you had been losing a good many at the end of that time you would still be having a profit?—I do not think so.

5332. Whether, in other words, the milk of a cow for three or four years would not in any way recompense you for the original price of the cow and the attendance upon her?—It would not.

5333. It would not unless you drew at least some considerable sum out of the animal as a carcass?—Yes, for the simple reason that we have to allow the cow to be dry for some three months before she calves again.

5334. In your evidence you mentioned that you thought a compulsory notification of the disease was

necessary?—Only when accompanied by compensation.

5335. Supposing such was to be brought into force just now after the evidence with regard to the asylum, and the state of affairs round Blackburn where you have 20 or 30 per cent., that would necessitate every stock owner in the country having to give notification when he had the disease?—It would mean that, but that would be less of a hardship than the present state of things. I base my statement on this case, because those were including grazing cattle from Ireland, they were not all milk beasts; they were young and old beasts, bullocks, and grazing cattle, and all descriptions, and I think we consider that that is fairly representative of the cattle of the entire kingdom.

5336. I think it would. Would it not meet the case if, say you had provision made for you that you might have those animals tested as to whether they were infected with the disease or not, and that you at once made tracks for feeding off those that were found to be wrong, could that be carried out?—That could not be carried on. If you call the medical officer for Blackburn he will tell them that he will not allow any carcass suffering, however little, from tuberculosis to be used for food.

5337. Then we may act upon our own information irrespective of the medical officer for Blackburn?—Unfortunately we cannot.

5338. Assuming that means were brought within your power for cattle to be tested, and also assuming that the animals were slightly infected and their flesh suitable for food, would it not be judicious to feed off all those infected animals and pass them into consumption before the disease had made any progress?—Most decidedly, but you would not proceed in Blackburn and Lancashire unless this commission, or the Local Government Board or some authority had come to some definite pronouncement as to the hardships we have to bear at present—that is, all animals to be condemned.

5339. (*Professor Brown.*) With reference to the hardship you speak of, does that fall upon the farmer?—Yes, not invariably, but generally.

5340. When an animal is seized and subsequently condemned would the loss fall generally on the farmer?—It did in this case.

5341. In that one case you say, but taking the whole country through, is that really the case?—No; taking the country through, I should say that the loss falls in the first place upon the butcher, but that reacts upon the farmer.

5342. In what way?—Because if a butcher comes to me and buys an animal from me for 15*l.* and I honestly think it to be a right animal and the butcher who buys it believes it to be the same, and he finds on slaughtering that the carcass is condemned, that means this, that he comes to me, and if I refuse a pound or two towards his loss, when he pays his next visit for the purpose of purchasing, he would either insist on buying the next animal from me subject to a right when slaughtered to reject, or otherwise he would buy it at a very bad price.

5343. In that way you experience the loss of custom or you incur the responsibility of a warranty?—Yes.

5344. I gather from your evidence generally that you are in favour of the central authority taking action with a view to either stamping out or diminishing the amount of tuberculosis in the country?—Yes.

5345. And under those circumstances you would consider it desirable that where animals were taken possession of and slaughtered the owner should be compensated?—I do.

5346. That would be just in the ordinary course, would it not?—Yes.

5347. But that does not include cases where an individual owner sends an animal to the butcher not suspecting, or it may be suspecting it to be tuberculous, the animal is slaughtered and the carcass is condemned, and the loss falls upon the person who has sent it to the slaughter-house?—Yes.

5348. That is not a parallel case where the animal is seized by the local authority, slaughtered in the interests of the public, and necessarily paid for?—Those cases are very rare indeed in which the farmer does send anything.

5349. I said the owner, not the farmer?—I understood you to say that.

5350. In any case where the carcass is seized that the owner of the carcass should be compensated, is that your view?—Yes.

5351. Should you say that, even although the animal is slaughtered at the request of the owner in the ordinary course of his business, and not by the direction of any authority at all?—If the animal is slaughtered with the idea of being sold for public food in the ordinary course of business, and that animal is condemned after slaughter, when it could not be reasonably suspected before slaughter, I certainly do hold that the owner ought to be compensated if it is deemed necessary in the interests of the public.

5352. Have you formed any idea of the source from which the compensation should come?—Well, I think, as a matter of fact, that it ought to come from the local funds, but I happen to know that that would raise such a storm of opposition to any measure before Parliament that we might as well talk about something very impossible, because I have a case in point: I was particularly anxious that I should not come here to speak in the name of the Corporation of Blackburn without their authority, and I have the authority of the corporation for stating that whilst they are determined to uncompromisingly condemn the carcasses of tuberculous animals, at the same time they believe that the result is a great hardship to the butchers and farmers, and that compensation ought to be paid for them out of Imperial funds.

5353. That is to say that an enormous expenditure ought to be incurred by the authority which has no voice whatever in condemning the animal, or in condemning the carcass?—I think they would recognise this, that if the funds had to come out of the Imperial Exchequer, that the officer who had the spending of that money would have to be amenable to the Board of Agriculture, or the Local Government Board.

5354. You see the difficulty in the two cases; your proposition that an animal which is seized by a central authority, slaughtered, and subsequently destroyed should be paid for is perfectly intelligible; the proposition that an animal which is not seized by any central authority and slaughtered, but is sent by the owner in the ordinary way of his trade, and presumably with the ordinary trade risk, proving to be unfit for food and being condemned accordingly is nevertheless to be paid for, although the authority condemning it had nothing whatever to do with the order of the slaughter?—That, of course, is a point—entirely a Government point. The point that the farmer has to consider is this: it does not matter whether the compensation comes locally or nationally so long as he gets the compensation. But I quite feel this, that if that compensation had to be paid locally, we should hear very much less of local severity.

5355. Then it would be an advantage in that case, that the people who condemn the carcass should also be called upon to pay for it?—The only difficulty against that is this: that I find in many respects where the Board of Agriculture undertake certain work it is more effectually done than where it is left to the local authority.

5356. But you would not propose to charge the Board of Agriculture with the meat inspection of the county—the Board of Agriculture having absolutely nothing whatever to do with the question of public health?—It would become a question of the Local Government Board.

5357. But as a matter of fact, from your point of view it is simply that the person who loses in consequence of the sacrifice of his goods in the interests of the public should be paid, and you have no par-

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ticular notion as to the authority who should pay it?—As a matter of fairness I quite recognise that it is the condemning authority who ought to pay the result of its condemnation.

5358. (Dr. Thorne Thorne.) You were good enough to tell us of two different practices that you followed: you used to buy cows about three years old—in full heavy milk—and now you buy young heifers; what is the difference in price between the original purchase under the two systems—which costs the most?—The heifer.

5359. The young one costs the most?—Yes.

5360. You admit that you made more of the carcass when you sell that three-year old than a cow which you milk for two years and keep till she is five or six years old?—Yes.

5361. Could you give us any idea of the total result of the two transactions financially to yourself?—I can to a few pounds from memory.

5362. Do you mean on the new system there was a loss?—No, a gain.

5363. Therefore the system which you have now adopted and which, practically, prevents tuberculosis, is money in your own pocket?—Yes.

5364. Is not that a little against compensation for those who follow the bad practice?—Not necessarily. I think there is a practical side to it which I ought to explain. Since I have altered my system I have been on my own farm and using buildings which I have put up myself.

5365. That I gathered?—My position has been a better one in that respect than the general bulk of farmers in the neighbourhood, because I have had more accommodation made, with the express intention of meeting this case, than is absolutely needed for the purpose of the milk which I require. I have always had three or four stalls at liberty.

5366. But what I meant was this, on the whole financial transaction are you a gainer or a loser?—A gainer, decidedly.

5367. One other point: You were referring to Blackburn; for whose benefit do the Blackburn Corporation condemn these carcasses?—Presumably in the interests of the public.

5368. Of their own population?—Certainly.

5369. Can you give us any instance in which the public health of Blackburn is paid for out of Imperial cost?—Yes; the medical officer, the sanitary officer, and all the officers.

5370. You are perfectly correct. That is of course done with a view of encouraging good salaries, and efficiency of work?—Yes.

5371. Can you give me anything apart from officers' salaries in which it is done?—I cannot for the moment.

Adjourned till Thursday next, at 12 o'clock.

5372. (Mr. Speir.) Did I understand you to represent that the heifers cost you more than four or five year old cows?—Yes.

5373. Is that the case in your market?—Yes.

5374. How does that come about?—Because, generally speaking, the old cow has only one future before it, and that is milking it, what we call it—one note; and then it is going to the butcher, and it is an inferior carcass of beef, which would only fetch, say, 4½d. per pound. On the other hand, the heifer has got a future before it; if it has to go for beef it is worth 1d. or 1½d. a pound more than the old cow for beef; and if it is going for breeding purposes it is worth, at all events, what it costs, or a little bit more.

5375. But I did not say heifers *versus* old cows. I said heifers *versus* the cows of four or five years old?—The heifer is three years old, and I sell it at four and five years.

5376. What is the relative value of the heifer of three years old and cows of four and five years old in your own market?—The cow of four years old is worth practically as much as the heifer of three years old.

5377. Not worth more?—A good deal depends upon the carcass, and upon the condition of the udder.

5378. I am meaning not when they come to carcass; it is when they are both calving, at the time when you would be purchasing them for use?—I could hardly give a correct answer to that, for the simple reason that cows in Scotland sometimes eight and nine and 10 years old have the appearance of youth, which cows in our county have lost when they are six years old.

5379. I think you are wrong there too. A great many of your cows in North Lancashire and Westmoreland and Cumberland come into the Edinburgh district, and are sold at four, five, and six years old. Now, would you expect that cows at four and five years old would sell at less than heifers under those conditions?—No; that is not what I said. The comparison I am drawing is between the cow seven and eight years old and the heifer of two and three years old. Those old cows that I used to buy were in some cases cows that had come down from Scotland.

5380. You are quite correct if you compare the heifer and the seven and eight years old cow?—That is so.

5381. You admit now that I am correct when I say that the heifer ought to cost you a little less than a cow of four or five years old?—Certainly it will; it is very much more developed as a cow.

SIXTEENTH DAY.

No. 7, Whitehall Place, Westminster, S.W.

Thursday, 8th April 1897.

PRESENT:

SIR HERBERT E. MAXWELL, BART., M.P. (CHAIRMAN).

DR. R. THORNE THORNE, C.B., F.R.S.
Professor G. T. BROWN, C.B.
SHIRLEY F. MURPHY, Esq.

T. COOKE-TRENCH, Esq.
JOHN SPEIR, Esq.

T. M. LEGGE, Esq., Secretary.

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Dr. JOSEPH SMYTH, called and examined.

5382. (Chairman.) You are Doctor of Medicine Queen's, now Royal, University, Ireland?—Yes.

5383. And you have been medical officer of Naas Dispensary District, and medical officer of health for 22 years?—Yes.

5384. You have also been physician to Clongoweswood College for some time?—Yes, 20 years.

5385. What is that?—It is the leading college in Ireland—the leading educational establishment in

Ireland—for 250 boys. The community will number between 300 and 400.

5386. Then you are the coroner of North Kildare?—Yes.

5387. Has your attention been directed to the subject of our inquiry?—Yes, recently.

5388. Can you give us anything that has occurred to you as bearing especially upon Irish interests?—They are especially Irish interests—the questions of protection of meat and milk.

5389. We shall be glad to hear anything you have to say upon the subject?—I have read the report of the previous Commission and with it I agree that the danger from meat is not anything like so great as the danger from milk. The danger from infection of milk is, of course, very great. It affects Ireland in an especial manner, because of the enormous proportion of milch cows to the population. I should say, as compared with England, the proportion is at least five times as great, and as compared with England and Wales it is about four times as great.

5390. Do you gather that from any return?—Yes; from the Returns of the Registrar-General showing the number of milch cows and the population of Ireland. The number of milch cows in Ireland in the year 1896 was 1,429,735.

5391. And that is a larger proportion to the population than in England?—In relation to the population it is as 1 to about 3½.

5392. And in England the proportion is much less?—In England and Wales the number of milch cows is 2,083,419, of which 274,537 belong to Wales; the population of England and Wales being in 1891, 29,002,525, making a proportion of 1 to 14.

5393. In agricultural districts there would not be the same discrepancy in proportion; if you take the large centres of population in England, for instance?—I do not know about England. But looking pretty well over Ireland that is the proportion which prevails throughout; I mean the distribution of milch cows is pretty uniform.

5394. But the distribution of population is much more uniform in Ireland than in England?—That is true.

5395. I do not quite perceive the bearing of your observation; do you mean that the risk to the population from infection is greater, or that any restrictions which might be imposed would be more severely felt?—Its importance is greater to the country; for instance, restrictions that affect the material interests of the country. Therefore, it is a matter very closely affecting Ireland—that is to the producer.

5396. The farmers of Ireland would naturally look with some apprehension to any restriction that might be placed on the production of milk?—Yes.

5397. Have you formed any opinion as to what these restrictions should be? We will take milk as you seem to indicate that it is the principal part of it?—I do advocate that there should be a machinery of administration; there is practically none at present for protecting milk for food.

5398. Can you indicate the nature of those restrictions?—The administration could comprise a systematic inspection of the animals; and a systematic inspection of the cowsheds and dairies and places for the sale of the milk. It is a mixed question. The reference to this Commission is strictly limited to tuberculosis, but the machinery would necessarily apply to other protective measures as well.

5399. The cost in connexion with the inspection would be very great, would it not?—It would be very great; that is if the inspection were by experts. I have put in the scheme which suggested itself to me, a combination of inspection, of notification, and of compensation. Inspection would be prohibitive as to its cost.

5400. Is it of any practical use discussing it then?—You say you advocate inspection, but you express the opinion that it would be prohibitive on account of the cost?—Yes, alone.

5401. By alone you mean directed solely to tuberculosis?—No, directed solely to inspection; that is that the only means of protection should be by the discovery by officers appointed under the scheme.

5402. But we have not got the scheme before us. Will you kindly explain what is in your mind?—I have put it down in my proof. I said the cost of the inspection, if done by experts, would be absolutely prohibitive. There must, therefore, be unskilled men employed for the rough work. They should, however, be intelligent and reliable, and if they received clear instruction, they could be entrusted to make selections of suspicious cases for expert diagnosis. But systematic inspection of sufficient frequency, even by these would be prohibitive in cost. I would, therefore, make notification of all diseases of the udder in milking-cows compulsory under penalties of fine as well as of confiscation if found to be tuberculous. This would reduce the frequency of inspection to practicable limits.

5403. May I ask if the object of this scheme is protection, or complete elimination of the disease?—Complete elimination is practically impossible—protection to the public, and the reduction of the disease. Although we cannot eliminate it, we can reduce it. We can do as we are told to do with the poor—the poor we have always with us, and we can make them fewer and better; and so we can reduce tuberculosis. I say that unless accompanied by the provision of compensation in case of confiscation, this notification would probably be a dead letter. If the farmers thought that they would lose by giving intimation to the authorities, they would risk the chance of the discovery. Men would certainly take the risk of discovery. Compensation (and I would give the compensation in full), by taking away the temptation to conceal, would thus make notification operative and inspection economical. Compensation should only be given if the notification were promptly made, and the cows were kept under proper conditions of health. This is practically the principle of the scheme in as condensed a way as I can state it.

5404. Have you made a calculation, or have you the means of making a calculation, to the extent to which diseases of the udder prevail?—It is almost an unknown subject in Ireland, this question of tuberculosis, outside two or three of the cities of Ireland. In England this is a burning question evidently, and it is only from those who have dealings with England that I come to hear of any practical comment on the question. Of course there is a large trade between Ireland and England. I have stated, in my *précis*, the result of my inquiry. One man, who passes 1,500 to 2,000 milch cows through his hands every year, and has been in that trade for the last 30 or 40 years, says that he has never seen, what I should diagnose from his description, anything like a tuberculous udder—nothing but acute inflammatory affection of the udder at calving time. I have given a further illustration, in my *précis*, of a very intelligent man who passes 500 milch cows through his hands, and keeps 50 dairy cows all the year round, and only in one or two cases has he seen what I have interpreted as tuberculous disease of the udder—a small lump or tumour breaking, and running, and not healing.

5405. You would not anticipate that the question of compensation would be a very serious one, then?—Not a very serious one, but I do not take that as a test, or the measure of disease in Ireland; I take it, rather, as a measure of the ignorance of the subject—it is quite new to them.

5406. What machinery would you employ to carry out the inspection?—I have taken the Poor Law Union as the unity of area. I consider it the most convenient for many reasons; it is the unit of area for Contagious Diseases and other Acts. In many of those unions there is at present a veterinary surgeon employed. I would start with that as a nucleus. The inspection by the veterinary surgeon as an expert, with any sufficient degree of frequency,

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would be impossible, not only from the cost of travelling, but if the officials were increased in number the authorities would not appoint them, for the cost would be prohibitive. I would have under the veterinary surgeon a lay staff to do the rough work of inspection, and in a very short time intelligent laymen would come to recognise that a cow's udder was diseased somehow or other, and that disease of the udder should be reported to the veterinary surgeon, and then an inspection should be made by him, and in the meanwhile the cow with the diseased udder should be isolated for protection to the public, as well as to establish the certainty of the diagnosis.

5407. Would you take any means of disseminating information among the owners of milch cows?—I think that of the greatest importance.

5408. That would be done by the same staff?—Yes. But the information, I think, should be prepared by this Commission in a condensed and intelligent and reliable form for distribution by that staff.

5409. (*Mr. Cooke-Trench.*) You have been dispensary doctor near Naas for 22 years?—Yes.

5410. I suppose during those 22 years there is hardly a habitation of the lower orders that you have not been in?—Hardly.

5411. And you are, therefore, thoroughly acquainted with the customs and habits of the people?—I am.

5412. Will you tell the Commission whether in your experience nearly every one of the small holders keeps a cow?—That is my own experience, and my own personal knowledge among owners of two or three acres of land; of course it is more so amongst the larger owners.

5413. I am talking at present of the smaller owners; can you tell the Commission what proportion of the holdings in Ireland are under 15 acres in extent?—Yes, there are in Ireland 486,865 agricultural holdings; of these 212,992 do not exceed 15 acres.

5414. What proportion is that roughly?—Nearly one-half.

5415. Pretty nearly every one of those is the owner of a cow if he can compass it?—That is his aim and object.

5416. For what purpose does he keep that cow?—Mainly for the support of his family; partly as a savings bank; and it is generally practised by the most deserving of the agricultural labourers.

5417. The agricultural labourers, in addition to the small holders, strive to keep a cow?—Yes.

5418. For which they hire grazing in the summer?—They get it sometimes as a term of agreement with their employer, who gives the grazing as an inducement for them to remain a sort of permanency in the employment.

5419. Do the small owners eat much butchers' meat?—They do not get it to eat.

5420. Is the milk the chief part of the animal food that they consume in the year?—For the children that is undoubtedly so—the small members of the family.

5421. Is it so with the adults?—I would not say with the adults that it is to that extent.

5422. What is your experience with the milk that is not consumed in the family?—They either use it rearing a calf, another nest egg for themselves, or they sell the milk to one or two of their neighbours, or they make butter and sell it in the market.

5423. Therefore all of them are to some extent public dairies; that is, they sell part of their produce?—Yes, to that extent.

5424. I am asking merely for your general experience about it, and from your very great experience and knowledge of the people I ask this: is what they sell laid by for the purpose of enabling them to buy a new cow when the old one is worn out?—To a large extent it is so.

5425. When they have to replace a cow, I suppose they sell the old one?—They sell the old one.

5426. Would it make an enormous difference to them if they were unable to sell the old one?—Yes, an enormous difference.

5427. Would it in many cases make it practically impossible for them to buy a fresh cow?—It would mean almost bankruptcy in most cases—the loss of a cow. They would be only able to replace it after a very long period of privation and self-denial.

5428. Would that in your opinion materially affect the health of the family if neither the children nor the adults could get any milk?—In the country districts there is extreme difficulty in obtaining milk. I have found it especially in the case of disease that unless they had a cow of their own the obtaining of milk was a matter of extreme difficulty, and that is one reason which obliges them to keep a cow in country districts; and, of course, in that sense it would.

5429. Would it in many cases—supposing the cow were to be confiscated as tuberculous and no compensation given—involve the ruin of the family?—When it would be worked out it would certainly; it would not be felt when the application of the measure would be first put in force—it would not be first felt by the producer; it would be first felt by the butcher; it would very soon come to be felt through the grazier by the small producer.

5430. That is, that it would become very difficult, if not impossible, for them to sell their cows at all?—He would not have the market for his cow.

5431. But I was asking this case: supposing that one of those cows was found to be tuberculous and confiscated in consequence while still in milk without compensation given, would that in many cases involve the ruin of the family?—Certainly, as much ruin as in the previous case, because it would mean almost bankruptcy in a very large number of cases.

5432. Well, you have spoken of this subject: you propose to make the Poor Law Union in Ireland the unit?—Yes.

5433. Have you any particular reason for fixing that?—None, except convenience and habit.

5434. Do you think that the poor law guardians who are sanitary authorities would be a desirable body in whom to place the administration of any Act of this kind?—I consider them very far from a perfect administrative body.

5435. You have had a great deal of experience of their action in other sanitary matters?—Yes.

5436. Have you found that they are intelligent and open-minded, and ready to meet necessary expenses in that sort of way?—I have found that they are not willing to meet necessary expenses by any means.

5437. Or to adopt sanitary reforms?—Or to adopt sanitary reforms.

5438. There is, I believe, in every union already a veterinary surgeon?—There is certainly in Celbridge and in Naas the adjoining unions, and, as far as I know, nearly everywhere.

5439. And the Royal Irish Constabulary are scattered all over the country in small bodies?—They are in very conveniently sized districts.

5440. What is your experience of them as men of intelligence?—I think they would be an admirable body for the purpose of carrying out any administration under this Act.

5441. Have they had any experience of kindred work?—They have all experience of the Contagious Diseases (Animals) Act.

5442. It has been mainly carried out through them?—Yes. They have also the experience of collecting the Agricultural Returns once a year for the Registrar-General, and they have to visit the farmsteads; and they have experience of the Food and Drugs Act; in fact, whatever is done is done mainly through the constabulary in the country districts under the Food and Drugs Act.

5443. Can you define at all what a public dairy is, or what a private dairy is?—The Public Health Act defines it; that is not to include milk sold to a person's neighbours, or what is used by his workmen.

5444. Is it your opinion that a person should be allowed to sell diseased milk to his neighbours and labourers but not to the public?—Most certainly not.

5445. Would you, therefore, extend this inspection to private dairies?—Undoubtedly.

5446. And you do not see any difficulty in the police visiting periodically all dairies, and all places, where a cow is kept?—I do not; and as far as I have been able to gather, they do not themselves. I have discussed the matter with a police officer, and the head constable and they seem to be not only not unwilling, but they think very favourably of the idea. The District Inspector says:—"In the present happy condition of things in this part of the United Kingdom no doubt the Royal Irish Constabulary could be profitably employed in doing the rough work of inspection as they do under the Contagious Diseases (Animals) Act, and the Food and Drugs Act, and I see no reason why their early training (for they are nearly all farmers sons) would not be of considerable benefit in the matter of tuberculosis."

5447. Then your proposal would be that the constabulary should inspect, I think you say, once a month, or at short intervals?—Well, I said once a month just to give a rough idea as to the working cost.

5448. That they should report anything wrong either in the houses or in the cowsheds, or in the dairies, or in the persons attending the cattle that they found?—Yes.

5449. (Chairman.) Or in the persons attending?—

(Mr. Cooke-Trench.) I believe that is a very important matter.

(The Witness.) This is outside the reference to the Commission, but it is a very important matter for the protection of health—the persons attending—and it is provided against in the Public Health Act.

5450. (Chairman.) Would be within the powers of an ordinary constable?—For instance, it would be within the powers of an ordinary constable if he knew a person was suffering from consumption and attending the cows; he would have the evidence of his senses of suspicion at least, and he could report the matter.

5451. (Mr. Cooke-Trench.) You cannot look upon his report as an absolutely reliable thing requiring no further inquiry?—No, it is only doing the rough work.

5452. But you think it would be very valuable to have that inspection for want of better, and that he should report whatever he perceives to be wrong?—Quite so.

5453. That then the veterinary surgeon attached to the Union should inspect the premises and report?—Well, it would come to be a question as to the medical officer of health or the veterinary surgeon or both. I think the scheme should contemplate both working together; but the sanitary administration in Ireland is extremely imperfect and unsatisfactory.

5454. Do you, considering the constituency who elected the poor law guardians, and the position of many of those guardians, think that it is desirable that they should have any control whatever over the veterinary surgeon who has to determine these matters?—I think it is most undesirable.

5455. Would you make him an officer then of the Veterinary Department of the Privy Council?—I would or some such.

5456. Will you describe the condition that a great many, if not the majority, of the cowsheds belonging to these small men, are in?—I would not limit it to the small men, because I find that the big men are probably as bad; and since this question was brought before me, and within my reach, I made an inspection of a number of cowsheds and I took the dimensions, and I found that they were far within the requirements which had been laid down by expert authorities who recommend, as a good allowance, 800 cubic feet

or 600 cubic feet, but would condemn 400 cubic feet. I found that they range between 210 to 270, and one to 436 cubic feet; but worse than all, most of these had absolutely no ventilation.

5457. (Chairman.) Are you talking of the great towns or the country?—I am talking of the small towns and country districts.

5458. (Mr. Cooke-Trench.) I suppose the police would be perfectly competent to say what the cubical contents of those cowsheds were?—Perfectly.

5459. They would be perfectly competent to say whether there was any ventilation?—Perfectly.

5460. And whether the dungheap was kept just outside the door?—Yes.

5461. All these things they would be perfectly competent to give an opinion about; also they would be able to give an opinion as to whether the milk was kept in the bedroom?—Yes, I have known the milk not only to be kept in the bedroom, but in the bedroom I have found patients suffering from scarlatina. That is outside the reference to the Commission, but it would come within the machinery of protection certainly.

5462. You say in your *précis* that a tuberculous cow should not be permitted to breed?—Yes.

5463. Have you considered at all how that would be practically carried out?—The cow, of course, should be diagnosed to see whether it was tubercular, and once that is done there should be no place for it in a dairy.

5464. (Chairman.) You said, I think, you have formed no opinion as to what extent tubercular disease prevails?—Yes.

5465. (Mr. Cooke-Trench.) How would you go about discovering whether the cows were tubercular or not?—Are you speaking with reference to milch cows.

5466. Of course?—Supposing in the process of development of this question we would come to a time when the tuberculin test would be put in force, if there were any grounds for suspicion of any particular cow brought before the notice of the inspector he might then feel called upon to apply a particular test, and if he found that that test indicated positive results, why that cow should find no longer a place in the farmstead.

5467. If I understand, you would not take measures to ascertain whether cows were tuberculous or not?—I do not see my way indiscriminately; there is the question of cost, it is simply enormous.

5468. What hygienic measures would you propose?—I should like really that an official guidance were placed before the public. If they once established the machinery of administration by which cowsheds ought to be inspected. I consider the most important of all the requirements is ventilation. The want of light and want of air are the two characteristics of cowsheds within my experience—there is a selfish object in doing without both these things. There is a selfish object in having cowsheds unventilated because it keeps them warm and the cows are expected to give more milk, and to keep in better condition when in a place like a hothouse, and they are also expected to milk better when deprived of light. The light and air are two very important requirements to get rid of the bacillus of tubercle.

5469. In your experience within country districts do farmers fatten and milk at the same time?—It is a practice with some; rather with those on a large scale, what you might call the big men, and in my opinion it is a very objectionable practice, so that they are enabled to sell their cow when done milking for about the same price as they gave for her as a springer.

5470. Is that the case in your district?—Yes, I am speaking from my personal knowledge in my own district.

5471. Would you eliminate cowsheds from cities or large towns?—I should aim at that, I should aim at discouraging them.

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5472. It would be rather an expensive thing to do at once?—Expense on whom?

5473. I suppose if a person built a good cowshed in the middle of a city, and if you required that it should be removed it would hardly be without compensation?—I should do it indirectly; I should make the requirements so exacting that he would find it not a profitable proceeding.

5474. Now please give the Commission your experience of slaughter-houses in the town of Naas?—I do not know how to go about it.

5475. Are they well drained?—They are not drained at all.

5476. Are they kept clean?—If it were known that I was going to inspect them, there would be a sweeping out, but they cannot be properly cleaned, and they are not kept properly cleaned.

5477. Are they capable of being proper slaughter-houses?—I think they are incapable of making slaughter-houses where they have neither water supply nor drainage system.

5478. Do you know what becomes of the blood?—It soaks into the ground or finds its way into the manure heap and evokes some strong language from the neighbours, especially in the summer time, and in point of fact the slaughter-house in a country town is an abominable nuisance under the circumstances of Naas.

5479. Are they well lighted?—They are not lighted; they are very ill-lighted. It would be very unsatisfactory, even if you had a proper system of inspection of these slaughter-houses.

5480. (Chairman.) Do you know the average number of animals slaughtered in the year in Naas?—No.

5481. (Mr. Cooke-Trench.) Would you propose to put the inspection of the slaughter-houses under the same authority as the other?—I would, and I think there would be even less difficulty than in the case of milch cows, because in the case of slaughter-houses, there is hardly a slaughter-house within my knowledge which is not within a very reasonable distance of a police barracks, mostly a few hundred yards.

5482. Where meat is confiscated in the interest of the public health would you propose to give the butcher compensation?—I propose to give the butcher compensation if the inspector had found on inquiring into the case that it was a *bona fide* case; if the butcher had bought in good faith and had given a proper price; and if the scheme were in operation requiring the notification of any disease—if that could not have been complied with.

5483. Might that compensation of butchers be made a very powerful engine to make them improve their slaughter-houses?—I do not exactly know how it would be a powerful instrument for improving slaughter-houses.

5484. I shall put it in another way; if a butcher knows that compensation would only be given in the case of a slaughter-house being in a satisfactory condition, will that not be a strong inducement to put it in a satisfactory condition?—Certainly it would; it should be.

5485. Is it your opinion that if no compensation is given, every effort will be made by the butchers to conceal a case of tuberculosis?—Undoubtedly.

5486. In case a butcher buys a spent cow at a very low price and she turns out to be tuberculous, would you consider that a trade risk or a case for compensation?—I would be inclined to consider it a trade risk unless there was something exceptional. The cow may be in poor condition and be healthy, and, of course, being in poor condition, it might be purchased at a low price, and the fact of being able to purchase meat at a low price is a matter to be considered, on account of the poor.

5487. You would confine cases of compensation to where a butcher had apparently bought with every idea and supposition that he was buying healthy meat?—Yes, I would.

5488. And where the seller had no apparent reason to suppose that it was otherwise?—I would.

5489. In that case would you look upon it as a matter of justice to compensate him for what is confiscated for the public good?—Well, the first consideration would be that it would facilitate the operation of the protection administration—that is I would consider it from the point of view of expediency; and, secondly, from the point of equity; and for those reasons I am strongly of opinion that the compensation ought to be given; I mean expediency in the sense of making the machinery workable. There is one point about the milk which I think is a very important one; I paid a visit the other day to the leading dairy in Ireland which advertises a system of sterilisation of its milk. I think that that is not advertised in many places, and I asked the proprietor what temperature he subjected his milk to, and he said 165°, and that he then reduced it to a temperature of 65°. I asked him how long he maintained it at a temperature of 165°, and he said, a few minutes. Now I consider that, undoubtedly, a danger to the public, because it does not afford a protection which experts have said ought to be afforded if sterilisation is at all put before the public as a means of protection; and that the public would be better and safer without any system of sterilisation than an imperfect or inefficient system.

5490. You do not consider that practically milk up to 165 degrees is sterilisation?—I am not capable—I do not come here to give expert evidence, but I am merely drawing attention to the matter of fact that came under my own observation, and reading that by the light of the expert evidence before the previous Royal Commission, and I daresay before the present Royal Commission, that unless there is temperature of 185 rising to 192 for 10 minutes, the last Commission did not consider it a satisfactory security. When the proprietor said "a few minutes," I interpreted that as two or three minutes.

5491. (Mr. Speir.) You have given us the space here of a great many cow byres where the cubic area is very small; might I ask you if you could say, roughly, whether many exist all over the country somewhat similar to that, or whether those are isolated cases?—I did not select them and I take it for granted from my general knowledge, but I do not say that that is absolutely so, but it is approximately a fair condition of the cowsheds.

5492. One or two you have mentioned as having ventilation bad; what ventilation was provided?—The ventilation would be; this place, one of those that I spoke of, was formerly a coach-house for an old stage coach, and when the door was closed there was no air-flue except four or five inches square for the drainage and a little bit blocked up at the top.

5493. What roofs had they?—Slate.

5494. What would you consider suitable ventilation; you have already spoken of cubic space, what about the ventilation?—I should have a free opening at each end of the fore stall, freely open to the air.

5495. What size would you have, because people's ideas differ?—The size of the doorway that is used for feeding purposes; I do not say that would be the exclusive.

5496. But the ideas of different districts vary very greatly as to what even the style of a cow byre should be. How much access of fresh air would there be—how many square inches of air would you have to keep an animal going in good health?—I do not think it would be fair to the Commission if I said that, for I do not feel that I am an authority on the subject.

5497. For instance now if you had for each animal what is pretty common in various districts all over the country, a circular space of three inches diameter, or six inches diameter, would you consider that sufficient?—No, no; I should have it free, very free.

5498. But the word "free" admits of a great many interpretations?—I give the illustration of a doorway.

5499. You could not have that for every animal?—Yes.

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5500. Even at each end, if the byre is 10 or 100 feet long, that does away with the advantage of it. I want the general principle of how you would gauge the ventilation—how many square inches for each animal?—I am not competent to go into the case of inches; it is only the question of principle that I am speaking of.

5501. If an ordinary door way were sufficient for half a dozen stalls, would that be sufficient?—Not exclusively; I should have an opening at the back, so that the cowsheds could be flushed with air.

5502. Even in the coldest of weather?—Yes, not during the night time.

5503. Have you formed any idea as to what would be the proper temperature at these houses you mentioned, somewhere where the farmers kept them warm under the idea that they are getting more milk; what do you consider warm? How hot do they get them?—Even there I cannot give you a figure; but it is a matter of the thermometer. My personal experience of my own cow during the winter is this; she was kept under a corrugated shed, with two sides open, with no door whatever, calf and all.

5504. But then the conditions that would be suitable for your cow in the latitude of Dublin, would not be suitable to further north, and probably a more exposed situation, so that the two cases would not be applicable?—It was only the principle I wished to express, the principle of free ventilation.

5505. Then you have said that these people appear to be altogether ignorant of the prevalence of this disease?—Yes.

5506. Do you think that they are more ignorant of its prevalence than the other nationalities?—Judging from the row, I was going to say, but the stir made in England I certainly gather that.

5507. You have also said that you are very much in favour of compulsory notification, and further you said that you would not give any compensation unless notification was promptly made. How would you do with a case where it may have existed for a long time without the owner being cognisant of it?—Certainly, you do not propose to punish a man for ignorance, but I certainly would not contemplate that diseased udder, which is a very objectionable thing, should exist unknown to the milker.

5508. Would you not make in all cases of disease of the udder notification compulsory?—All diseases of the udder compulsory.

5509. And then let your inspectors decide whether it is that or the other thing?—Quite so.

5510. Then you mentioned that your local authorities—you give them a different name—were very unwilling to meet sanitary reforms—for what reason?—Expense.

5511. Simply as a matter of expense?—Mainly as a matter of expense. Of course, they are not educated in many cases up to the point of appreciating the importance of the matter.

5512. Then you consider also that you would compel the owner of a single cow where the milk was used to give all these notifications or to be registered, or something of the kind?—I certainly should subject him to the requirements of the law for the sake of those people to whom he sells the milk, and even of his own household.

5513. Is not it as necessary that he should be prevented from giving milk to his own household, and poisoning them, as that he should be prevented from giving it to his neighbours?—Quite as necessary. Perhaps this might illustrate the point—this is a list of those people who have cows in and around the town of Naas. That is a very formidable list for a small town—about 80 people selling milk in ones, twos, threes, and fours.

5514. Are all those registered?—No, there is no machinery for anything of the kind.

5515. (Mr. Cooke-Trench.) There is registration, is there not?—On paper there may be, but nothing else.

5516. (Mr. Speir.) Then in the compensation you propose to give to those who had cows of that class

seized, I presume you would give nothing if they kept information back?—Undoubtedly, because that would frustrate my object.

5517. Or that the officials were in no way informed until they had detected it themselves?—Yes.

5518. With regard to this milk company who sterilised the milk, I presume the word “sterilised” there is scarcely the right word; it should be Pasteurised?—It is Pasteurised.

5519. There is a prevailing opinion that milk which has been passed over a Pasteurising apparatus has been made free from all risk, not only of this disease but of every other disease?—But still the object of sterilisation is to make it so, whatever name the process goes by, and I should be satisfied with a temperature of 165 degrees if it has been sufficiently prolonged, but when it is only for a few minutes I do not consider that sufficient.

5520. What are the floors of your slaughter houses in Ireland generally composed of?—Rubble, rubbish, or earth.

5521. That is how they become such a nuisance?—That is one of the reasons; all the surroundings are very bad.

5522. (Professor Brown.) I understand you to say that you would eliminate from the dairy any cow which has a diseased udder?—Temporarily at least.

5523. That is to say, until it was ascertained that the milk was free of the infection?—Until it was diagnosed.

5524. Have you any idea of the means which would be necessary in order to prove that the milk was free?—I think it is recognised that if it be a case of acute inflammatory infection, that two or three weeks will make it almost certain as to the diagnosis, and if it is isolated for two or three weeks, the result will be known.

5525. You can only ascertain whether the milk is infected by testing the milk itself; the fact of the cow being tuberculous does not prove that the milk will be dangerous?—Do you ask me of diseases of the udder?

5526. Yes?—I would propose that a cow suffering from any disease of the udder should be eliminated, at least temporarily, from the dairy.

5527. Till you find that the milk is free from tuberculous infection?—Yes.

5528. I want to know what idea you have as to the means of ascertaining whether or not the milk is infected with tubercle?—I think that the difficulty, short of the application of the tuberculin test, is very great indeed.

5529. Would the tuberculin test tell you whether the milk was bad?—No, it would tell you whether it was a case of tuberculosis somewhere or not.

5530. But from the point of view of danger to the consumer, the real thing is to ascertain the state of the milk?—For some time you would not be able to satisfactorily ascertain that, because the veterinary surgeon appointed now would not be competent either to undertake microscopic examinations or to experiment from injection.

5531. Are you aware that the only satisfactory test which is accepted here now, is the actual test of feeding animals with the suspected milk as well as making a microscopic examination?—Yes, because by the microscopic examination you may not be able to find the bacilli in the milk.

5532. And you are also aware that milk not found to be tuberculous under the microscope, that is to say when no bacilli can be discovered, has nevertheless proved to be infective?—I am quite aware of that.

5533. Therefore the test of a suspected cow would be a matter of some little time and some expense?—If done accurately. I would not expect it accurately done in the beginning, and therefore probably some cows would be killed and compensated for that were not really tubercular.

5534. You would require that it should be perfectly done?—Quite so.

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5535. You say in certain cases you would give compensation in full; how would you value the animal in such case; as to the value at the time that you slaughter, or as to the time when she became infected?—As to her value at the time.

5536. Supposing it were ascertained that the animal was tuberculous the value would be very inconsiderable, would it not? There would be a great difference between the value of a tuberculous cow and one perfectly healthy?—I have not understood the question.

5537. You give compensation in full, do you not?—Yes.

5538. What does that full mean?—Supposing the butcher purchases a beast from a grazier—

5539. Would you give the butcher's value; what the butcher would have given if the beef were bought for food?—I would give what he had given.

5540. Have you any opinion as to the cubic space which should be allowed for each cow?—I am afraid the standard of 800 feet would make it come very hard upon poor people. I place more stress on the cheaper hygienic provision of ventilation.

5541. If the plan which you adopt with your cow, an animal which had 210 cubic feet, included sufficient ventilation there would be room enough?—Quite enough.

5542. Is it not the case that the calculation should be in each case very much dependent upon the amount of ventilation?—Undoubtedly.

5543. But in protective regulations, presumably, you are bound to take the thing as you find it generally?—I would frame those regulations for a city, to require large cubic space for the purpose of discouraging the practice of keeping cows in the city; that is what I would do. In a very short time it makes very little difference to the cows or the buyer whether there are 50, or 500, or 1,000 cubic feet of space that each has.

5544. It is a fact that cows in remote districts in Ireland kept in this way seem to do tolerably well; they do not seem to suffer much from it?—Do you mean exposed?

5545. They seem to be well whether they have ventilation or not with cubic space of 210 or 270 cubic feet?—I am afraid I cannot give an opinion.

5546. You do not know?—I do not know. When the cow gets diseased you do not hear much about it.

5547. In reference to the general ignorance of the people as to the presence of tuberculosis; it is hardly probable that a small farmer keeping one or two cows would trouble himself much about it?—That is so.

5548. If a cow dies it is skinned and the hide sent to market, and the best that can be done with the flesh is done?—Or the worst.

5549. I mean the best for the owner. He would not inquire particularly as to the nature of the disease from which the cow died; the owner would not inquire?—The owner would not inquire if he had no interest in inquiring.

5550. If he was told that it had tuberculosis he would probably not know what it meant?—Quite so, unless it were explained to him by saying that it was consumption.

5551. (*Dr. Thorne-Thorne*). With reference to this question of the cubic space for cows, are you aware that in England the suggestion of the Local Government Board is that the minimum capacity should be 800 cubic feet for a cow?—Yes.

5552. And that is subject to the fact "that every dairy and cowshed in his occupation shall be sufficiently lighted by windows or openings in the roof or walls, and to be sufficiently ventilated by ventilators, or by openings in the roof or walls," in other words, that the 800 cubic feet are only sufficient, provided there be already sufficient ventilation?—I have not known it in such detail. There is a modification as applied to Ireland.

5553. I rather gather that you mentioned two cubic feet capacities of 800 and 600 feet; do you mean

that whichever was adopted, it should include proper ventilation or not?—Ventilation, certainly, should be included.

5554. Both as to the 600 and the 800 cubic feet?—Certainly.

5555. You have spoken a good deal on the question of compensation, and I notice that you say in a memorandum, which you have been good enough to prepare for the Commission, that no compensation should be given unless there had been notification of tuberculosis and udder disease in cases where it was found to exist.

5556. Then again, you also say that there shall be no compensation given unless the cows are kept under proper conditions of health?—Yes.

5557. May I assume that you mean there such conditions of cubic capacity and ventilation as you have referred to?—Quite so.

5558. And then in Ireland there is great danger from infection, and increase of risk by reason of the filthy condition of the cowsheds?—There must be.

5559. That many of them are like a hot-house, and they are kept so for the purpose of making money?—Yes.

5560. And in your evidence you said that the object was a selfish one?—Yes.

5561. And then you have been good enough to give us a list of certain cubic capacities for cows, which vary from 210 to 436 cubic feet, and in answer to a question, you said this was a fair summary of what exists throughout the country?—As far as my knowledge goes.

5562. Then on your own test there would be very few people who would get compensation?—They would turn over a new leaf; that is one of the reasons why information should be distributed amongst people, and if information as regards milk were distributed it would be well. For instance, this Privy Council Order of August 1879, which applies to Ireland, is an absolute dead letter, and it seems a farce having it on paper.

5563. As a matter of fact, owing to these conditions in Ireland, and also—I will quote your own words—"to the very imperfect sanitary administration of Ireland, the conditions do prevail which tend to manufacture tuberculosis"?—Undoubtedly.

5564. And you would not wish to give compensation to anyone who is thus practically manufacturing tuberculosis in milch cows?—Certainly not.

5565.—Even the big men you say are guilty of those practices of milking and fattening at the same time simply to get good prices?—It is the big men who are guilty; poor men cannot afford that, as a rule.

5566. Taking one of your tests, namely, that the cow had been kept under proper conditions of health, and supposing the cow is sold to a butcher, and is found to be tuberculous and is seized, would the inspector in your country be able to trace that cow so as to know whether it had been kept under good conditions, before the question of compensation arose?—He would in rural districts.

5567. Where they do not travel far for slaughter?—Where they go to Dublin, yes; but a butcher in a country town such as mine, with a population of 3,600, buys from the neighbourhood; it is a very good district for purchasing meat.

5568. Let us take Belfast; the Belfast Butchers' Association told us, in a return which they have submitted, that 116 animals were seized in the eight years 1889 to 1896. Of these 116, as many as 114 were cows, so that the difficulty applies especially to cows?—Yes, especially to cows.

5569. How would the inspector seizing in Belfast know how those cows have been kept?—I think it would be impossible, because I am aware that in Belfast they purchase a large number in the city of Dublin market.

5570. Then your condition is a hard one to comply with?—Yes.

5571. I entirely agree with the condition, but I am speaking of the application of it?—I know.

5572. You advocate strongly that where a cow is confiscated because she is found to be tuberculous while alive and whilst producing milk, compensation should be given. I will not trouble you upon that point, because I think your ideas are quite clear as to that. But I would now come to the other condition in which the owner of the cow has used it for milk purposes, until, to use an expression which you either yourself put into words or accepted, "it was old and worn out." Supposing, I say, that when he sells such an animal to the butcher, and she is found to be tuberculous, do you think that, having submitted himself to a trade risk, which applies to an animal out of which he has been making profit for a series of years, that the public should give compensation if the animal turns out not to be fit for human food?—I think not to the butcher in that case.

5573. Who should get it?—No one in that case, but if a man were milking that cow, and had it confiscated from his dairy.

5574. I am not speaking of that?—In that case I should advocate compensation, but if a butcher knowingly purchased a diseased cow I would not.

5575. I did not put it to you in that way?—"An old worn-out cow," you said.

5576. Butchers must know perfectly well from the results of observation, that it is in those milch cows especially that tuberculosis prevails.

(*Chairman.*) But you did not put it to the witness as an old worn-out cow, and he has limited his answer to that.

5577. (*Dr. Thorne-Thorne.*) I am coming to that. We have had a number of witnesses before us who have said that they would not give any compensation for any cow the value of which did not exceed or did not reach a sum of 10*l.* or 12*l.* Do any of those cows exceed 10*l.* or 12*l.* in value when sold after they have been used for milking purposes?—10*l.* I think. 10*l.*, or 11*l.*, or 12*l.* the graziers give for store cattle to fatten.

5578. But when they are sold to the butcher?—When they are sold to the butcher, I do not think so. When sold they would be a larger price, but still, I do not consider that a 10*l.* cow would be unworthy of being compensated for.

5579. You think they ought to be?—I do. I do not think a hard and fast sum should be named.

5580. Then to come back to my question: there is a perfectly well known risk to the butcher amongst these milch cows; he knows that the largest amount of tuberculosis prevails amongst them, and they are especially the ones that are seized; he buys a cow with that knowledge, and he gives even less than 10*l.* for it, and yet you would compensate him, do I understand, if he thus happens to draw a black ball?—I do not understand the expression "black ball."

5581. If he happens to pitch upon one that is tuberculous, he, knowing that a large number of tuberculous cows are about, would you compensate him?—I should not be inclined to lay down a hard and fast line prohibiting it; but I should not be much in favour of compensating a butcher who would purchase an old worn-out cow to kill immediately.

5582. What is the usual practice of dealing with them in your country? What does happen to them? Who does buy them when they are no further use for milking?—When they mis-calf or are no further use for milking, what they do is, they bring them into the fairs and the graziers purchase these in ones and twos throughout the country about April and May and fatten them in the summer, and they take them to the rich pastures of Kildare and Meath and then send them to Dublin.

5583. I suppose they know the risk of tuberculosis?—They know very little about it in Ireland. I have spoken over and over again to them about tuberculosis, and they have heard from some of them selling cattle in England. For instance, a man has come up and said: "That animal I bought from you, the inspector did not see it; if he had I should have lost it."

5584. They are not even seized, or they would know about it?—Except in the City of Dublin there is no inspection whatever, not even of animals dying from other diseases.

5585. You admit, I see, that the complete elimination of tuberculosis is impossible?—It is almost impossible—impracticable.

5586. And therefore, if compensation were given to butchers under these circumstances the compensation would have to be in perpetuity; that is to say, for ever?—Yes.

5587. Do you know any other instance of compensation which is given for diseased animals when it is known perfectly well that they cannot stamp out the disease?—Well, I do not know that I do, but I would not agree with the contention that that should be a condition that would rule the principle of the stamping it out, because the preservation of property is really less important than the protection of human life and human health.

5588. I am speaking of meat, I have left milk?—I am speaking of meat—pleuro-pneumonia.

5589. I am speaking of tuberculous meat and the butcher?—You were asking me for an illustration.

5590. The State does compensate for certain animals which it seizes. But is not that, in every case, where the State believes it can absolutely stamp out and eliminate the disease?—Yes, I believe that is so.

5591. Well then, do not you think, or do you think, that if the State were once to begin and compensate butchers who found they had purchased a tuberculous cow, they knowing there are lots of tuberculous cows, would not the State be rather encouraging the production and sale of tuberculous cows than eliminating the disease?—Possibly taken by itself it might, but not in connection with the other conditions.

5592. But you have named no conditions for a butcher?—Yes, I have named the conditions that there shall be every measure taken to repress the disease; and also, I am unable to apply it to large places like Belfast or the City of Dublin; but in all country districts it will be within the capacity of the veterinary surgeon.

5593. Then all these conditions that you have named as regards keeping cows in proper places and notifying them diseased apply to meat as well as the live animal?—Quite so.

5594. (*Mr. Murphy.*) You refer to the employment of the constabulary for the purposes of preliminary inspection of cows; I think you said that the constabulary were employed on somewhat like duties under the Contagious Diseases (Animals) Act?—Yes.

5595. Am I right in saying that the boards of guardians are the local authorities for the administration of that Act?—Yes.

5596. Can you tell me how the constabulary are brought into relation with the boards of guardians for that purpose?—They are brought into relation in this way: that notification of the disease is compulsory in the case of pleuro-pneumonia, sheep scab, and the like, and the owners of beasts must give information to the police, and the police give information to the veterinary surgeon, who is employed by the board of guardians.

5597. (*Chairman.*) You have advocated power being given to the police to report on consumptive or tubercular persons working about a dairy; that would be rather a large power to give to the police?—If it came under their observation I think that they would be culpable in omitting it. If it is not otherwise known to the authority it is a thing which ought to be done to prevent consumptive persons milking cows.

5598. It would not make the constabulary more popular, would it?—The constabulary have undertaken far more objectionable duties than this in their time.

5599. (*Mr. Speir.*) You said in answer to one question of Professor Brown's that it did not make

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very much difference to the animals what space they had in a very short time. What did you mean by that?—I did not exactly say that. I say it did not make very much difference between 600 and 800 and 1,200 cubic feet; there is a limit, because up to a certain time the air must be renewed by the ventilation.

5600. I understand you mean that provided ventilation was given it would make very little difference to the animal whether it had 400 or 800 or 1,200 cubic feet?—I am not sure that I said 400, but there is comparatively little difference; I would qualify it that the ventilation is much more important.

5601. Than the cubic capacity?—Undoubtedly.

5602. I am pleased to hear you say so?—That is undoubtedly the case.

5603. *Mr. (Cooke-Trench.)* You spoke of excluding diseased udders temporarily. I suppose you mean by that until either they have become well and therefore shown that they were not tuberculous, or have further developed, in which case you would eliminate them altogether. That is what you meant?—Yes, I mean it would be a danger to give to the owner of a cow the power of being obliged only to know tubercular disease of the udder.

5604. That he should notify disease of the udder, and not that any particular disease should be eliminated until it was either well or declared what it was?—Until something was done by the expert.

5605. You were asked whether giving compensation might not be an encouragement to the butchers to deal in tuberculous cows; I would ask if that compensation be limited to two-thirds of the value would not the penalty of one-third be ample to prevent any carelessness on the part of the butchers in that way; that is, if they lose one-third of the value of every beast that was seized, would not that be a sufficient penalty?—I dare say it would; I think it would be a very small item in the working of the Act. The risk is not in the buying the old worn-out cows to kill immediately, but when worn-out dairy cows are fit to sell to the grazier he fattens them up to a certain limit and sells them—it is amongst those mainly that the disease comes. I do not think there are very many of the worn-out cows that are sold immediately for killing.

5606. I want to ask you as to the possibilities of providing sufficient accommodation. I believe that under the recent land Acts it is assumed, in fixing the rent, that all improvements have been made by the tenant unless it can be proved that the landlord has made them?—I am glad to say that I have very little to do with land.

5607. Are you aware of that?—I am not, exactly.

5608. Assuming that that is the case you could hardly call upon the landlord to make the improvements, his rent having been cut down on that assumption?—I should say not.

5609. He has absolutely no inducement, no interest in any improvement that he makes in Ireland. Do you think that the tenants would be able to provide money for building those houses themselves?—I think if you fixed a high standard it would require a considerable expenditure of money, and you would frustrate the object you have in view. Certainly, cheap structures, cheapness consistent with efficiency, and hence ventilation and lighting, which are the cheapest of the requirements, I would place very prominently in the way of remedies.

5610. I think you said in the case of your own cow you had no walls either at the ends or at the back?—Just the corner with a corrugated roof.

5611. So that practically she has pretty much the whole of Ireland for space?—She has up to the sky—yes.

5612. It becomes of very little importance, in such a case as that, what the amount of cubic space is contained under that roof?—In that case very little.

5613. *(Chairman.)* Have you applied the tuberculin test to that cow?—I should expect the full compensation under those circumstances.

5614. *(Mr. Cooke-Trench.)* I gathered that you would apply the conditions that you mentioned under which you would give compensation to the case of cows confiscated as such, and you were not talking of cows converted into beef?—If it were practicable, I should also like to apply those conditions for the purpose of promoting sanitary measures in farmsteads.

5615. Would that be practicable?—The difficulties are very great in tracing the cattle.

5616. A grazier buys a lot of cows from a jobber in a fair; these jobbers have bought those cows in half a dozen different fairs, is that not so?—Yes.

5617. He sells those cows in twos and threes in a market, with two or three of another lot, and it would be absolutely impossible to know where they come from?—But in that case he would sell them to the grazier.

5618. I know, the grazier has bought from the jobber?—Yes.

5619. The jobber has bought here, there, and everywhere?—Yes.

5620. It would be absolutely impossible for the butcher who has bought from the salesman, who has had them consigned from the grazier, who has bought from the jobber, who has picked them up here and there, to trace where they came from?—I do not think I should go further than the grazier.

5621. Would it be possible for the grazier himself to know anything about the antecedents of these cows. You see in the fair of Naas lots of 20 and 30 cows brought in by the jobbers; if I go into a fair at Naas and buy, is it possible to ascertain what is the sanitary condition of those cows?—It is impossible for an expert, and it would be much more likely to be impossible for a grazier.

5622. To ascertain what is their condition before?—Yes.

5623. You were asked about the value of 10*l.*—I suppose you meant the value of a cow when fat—you spoke of 10*l.* as a limit; that would not be the price of a thin cow when sold by the man who had milked her, but her value as a fat cow after being fattened.

5624. *(Chairman.)* Did the witness suggest the limit of 10*l.*? I think it was suggested to him.

(The Witness.) Yes.

5625. *(Mr. Cooke-Trench.)* Very well. You were also pressed about trade risks; has there been any trade risk hitherto in Ireland in this matter of tuberculosis?—It is absolutely unknown, as I have already stated.

5626. *(Chairman.)* Is not that a little misleading. If you limit that question to the neighbourhood of Naas that will be so, but if the evidence is taken from Belfast, how can you say there is no trade risk?—I said outside one or two cities in Ireland. I have made inquiries from men who have travelled all through the country, and this neighbourhood of Naas is very central for the purchase of beasts.

5627. *(Mr. Cooke-Trench.)* Except in Belfast and a very, very slight degree, in Dublin, this is hitherto an unknown risk?—Outside two or three of the cities in Ireland.

5628. Therefore you are introducing a new risk?—An entirely new risk.

5629. You were asked whether you know of any case in which compensation was given for the slaughter of animals where there was not an idea of stamping out. Do you know of any case in which animals are slaughtered in the interest of public health and compensation is not given; I mean food animals?—No.

5630. You spoke about the constabulary inspecting; the constabulary do not cover the Metropolitan district?—Not the Royal Irish.

5631. Would you employ the Metropolitan police in the towns in the same way as you employ the constabulary in the country?—As far as I know I would. There is nothing to the contrary.

The witness withdrew.

Mr. THOMAS NUTTALL called and examined.

5632. (*Chairman.*) You come before us representing the Central Chamber of Agriculture?—Yes.

5633. And you are Vice-Chairman of the Leicester Agricultural Society, and a member of the Cattle Diseases Committee of the British Dairy Farmers' Association?—Yes.

5634. You have had a long experience of dairy farming?—Yes, all my life.

5635. On what scale do you carry it on?—I occupy a farm of my own where I both milk and feed cattle, and I buy the milk of from 600 to 800 cows, this year probably 1,000 cows when we have completed our contracts, delivered night and morning to my dairies. I visit most of those farmers who contribute, probably the furthest is not more than 4 or 4½ miles from either one of my dairies, and I visit their cattle continually. I have one dairy at Melton Mowbray and one at Uttoxeter in Staffordshire. My chief experience of the disease that you are inquiring into has been acquired by my own connection with the dairy farms of Staffordshire and Derbyshire—the two adjoining districts. I have now for 36 or 37 years been following Stilton cheese making, at first at Elwall in Derbyshire, and then at Sudbury, near to Lord Vernon's place, and now at Uttoxeter. In all that district they have usually very large quantities of brewers' grains from Burton.

5636. Do you consider that a wholesome feeding stuff?—It produces a very large quantity of milk, and it is a very heavy drain upon the system of the cow, and if there is a weakness anywhere we always say it will find it. Ever since I was a boy I have been in business, now 37 or 38 years, and I go down to the neighbourhood of Ashbourne or Uttoxeter, and buy up what they call the draught cows or barren cows in the autumn. We use those either for feeding or to bull again, to come down in the autumn time, and they are supposed to be cows that have missed their ordinary breeding season, and we go down to buy them, and my caution has ever been, "Now mind you do not buy a cow graped." We always expect in that neighbourhood that you should get one or more amongst the cows that are graped.

5637. How do you detect the presence of the grapes?—By driving the cows along at a rapid speed for 10 yards or 20 yards if she is in the market. If she is a little suspicious we bring her out and run her along, and if the disease has begun to develop she shoots out her tongue and coughs. If I saw a cow like that I should not buy her at any price whatever. My experience in 1895 amongst my contributors that sent the milk in to my dairy at Uttoxeter is this, that I went down there on their farms and bought 56 of those draught cows; they were most of them cows that had had one calf, probably 10 of them had had two calves, but as to the rest I always want to buy a cow that only has had one calf for my purposes, either for feeding or putting to the bull again. Well each one of those I carefully tested; knowing what I have been subjected to on many occasions before, to show that they displayed any symptoms of disease, and I do not buy one that I do not believe in my own mind to be perfectly healthy. In some six or eight weeks after that they began to develop tuberculosis; I had nine of them affected out of the 56 I think, and six of them absolutely died.

5638. Died of the disease?—Of the disease. They went very rapidly, and I suppose it was a cold and wet autumn last autumn, and that gave them probably cold and developed the disease more rapidly. Three of them brought live calves. Probably out of—I do not know what—but probably out of cursed stupidity, I experimented by putting them to their mothers, and they are with their mothers to-day, a year and seven months old, and three grander beasts were never seen. They have not at present displayed any symptoms, and have not inherited the disease from the dam.

They went on very well during last summer, but 10 days since, whether the cow took a bad cold—.

5639. You are speaking of one of the dams?—I am speaking of one of the dams that I bought in the autumn of 1895—she has now developed the disease as rapidly as I can imagine, and I should not be surprised to see her dead in less than a week. Her eyes are sunken and she shoots her tongue out when moved quickly along, although during last summer she gave sufficient milk to this calf and did fairly well, and I thought fairly recovered from the disease, but in no case have I found it to be developed in the young stock, not direct from the mother after suckling the young calves, and there are very few cases in which I have seen it developed by the young stock.

5640. Then you believe that the young animals, the offspring of those cows, are perfectly healthy at this moment?—That is my experience. I have had it very seldom amongst the steers, the bullocks. These bullock calves, I have them castrated and grow them until 3 to 3½ years, and feed them, and sell them for beef, or sell them, if full of the dairy stock, to be sold into Norfolk, but I have never seen them develop anything in the bullocks all my life. We have a case that happened in Leicester three weeks since last Wednesday. A bullock brought out from Lincolnshire and sold in the auction for 21/—a small bullock but a very nice bullock—and the butcher killed him in a public slaughter-house, and the inspector in coming round said it had tuberculosis, and seized the carcase and took it away. The man had paid the auctioneer who said he was not liable, and the butcher has lost the whole carcase up to the present time, and does not seem to have any redress.

5641. Do you know whether that carcase was extensively tubercled?—They had to skin all the ribs, the grapes had grown to all the sides of the ribs.

5642. In your experience is dairy stock more liable to grapes than young feeding stock?—Very much. I grass some 70 or 80 bullocks every year, and I have probably from 60 to 70 young stock—what we call Norfolk beasts—and I cannot say that I have had a single case in my 37 years of experience of tuberculosis amongst any one of them. I have had pleuro amongst them, but not that which we know as grapes among the dairy cows; it has been always amongst the dairy cows.

5643. You would not detect it?—Except when killed. We buy most of those bullocks to feed either in the autumn or spring, and they get fat during the summer, and then they are sold to the butcher. I often hear them say that they come off very bad, and the cows that we grass in that way they say were graped, but it is all sold for meat up to now. No part of my evidence before you is as to the medical question whether it is fit for human beings or not, for that I cannot speak to; but I am speaking of the stock with which I have had to deal. I have not seen it handed down from the mother to the offspring in my experience. Nor can I believe it to be injurious either to the young cattle or to the human being, as far as my experience teaches me, because I was a boy with my father some 24 years before I left home, and during that time he milked from 95 to 100 cows always, and we kept them in sheds tied one next to the other, forming three sides of a square. I never remember a year that he did not have one or two cases of the grapes, it always happened amongst cows that gave the most milk and that were getting rather old; there was a weak place, and it gave away generally and displayed itself in these grapes, and they were mostly sold to cadge butchers at that time for 30s. or 2/., and where they went to we never searched that out, whether for pigs' meat or sausages we do not know, but they went from us. I think that if there had been any danger of the milk from these cows, either to the calves or to

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human beings, we should have been, half of us, dead men; it could not have been going on all these years and to be so violent in its ravages as it has been represented. I cannot speak as to its effects on human beings, but as a stockman and as a rearer and grazer I can speak.

5644. Have you had many complaints made to you on the part of butchers who have bought cows that have turned out badly?—Yes, a great many.

5645. To what extent do you think that the claim made by butchers for compensation is justifiable?—Well, if the animal is taken away from them—do you mean absolutely taken away from them and destroyed?

5646. In the case of the carcass being confiscated?—I think full compensation should be given.

5647. Even where they have given a trifling price?—No, but where it is sold as a good sound beast in the market, and you cannot detect it until it is killed. In many instances you cannot. If these cows calve in dry weather now, with a cow affected with it, the probability is she will get as fat as a seal, as we call it—as fat as possible during the summer; but if it came wet on her back, she would probably take cold, and the disease would run its course, and she would be absolutely good for nothing and die. When they get fat, I think that it is almost impossible for them to tell. I have been deceived in the case I spoke to you about in nine cases, where I tested them as highly as I could in the purchase of those 56 cows, and I was deceived in nine cases out of them.

5648. You think that compensation is equitable?—Certainly.

5649. In certain cases?—In certain cases; but if they have got into an emaciated condition, with their eyes sunken in their head, and you see that they are wastrels, I do not think any compensation should be given; it then becomes the ordinary risk of a man's business.

5650. But the animal is slaughtered before it is condemned, and therefore the owner has to prove that the butcher was taken in?—Yes, but I am saying that there ought not to be compensation for those that we call screws.

5651. Would you regulate the compensation in accordance with the prices paid for the animals?—No, I think not; it should be all on one uniform basis; if it is killed for the benefit of the public health, then two-thirds compensation, or something of that sort, should be the amount paid.

5652. Pardon me: this is no question of killing for the benefit of the public health; this is a question of confiscating a carcass because it is unfit for food—not of slaughtering?—Is it proposed to slaughter on visiting a dairy farm, and that these inspections should be made at the public cost wherever milk is produced, or is that outside your inquiry here? I do think that there ought to be periodical inspections made, because so many farms now either send milk for consumption in large centres, or as meat; but for whatever purpose, I think that those farms ought to be inspected. That is rather another question, however.

5653. It is not outside our inquiry; but at present I want to get your views, if you have any, on the subject of compensating butchers from whom carcasses are seized and destroyed. You will perceive the danger?—Yes, I do; if they are bought as sound animals, and on slaughtering it is discovered that they show symptoms of disease—an old-seated disease probably, that is not apparent to the outside observation, and I think that they ought to be fully compensated.

5654. But how are you to prove that they bought them *bonâ fide*?—Well, when they are bought by auction, and nine out of ten are sold by auction now, in my experience.

5655. In your neighbourhood?—I think all throughout England.

5656. And in Ireland?—No, I cannot say for Ireland. I do not suppose they have many auctions

in Ireland, but in England every market has an auction. I do not know one without.

5657. Would it not be rather difficult to follow carcasses?—Yes, undoubtedly it would, without they are slaughtered in public slaughter-houses.

5658. You perceive the risk of dishonest tradesmen having collusion with the vendor?—Certainly, that is so; there should be no compensation without an inspection by some public authority. If a man buys a cow for meat, and says "She had grapes, and she will be lost to me; I must get a certificate, and go and make a claim for her," I should give no certificate whatever. It must be on a public inspector's report that he must attain anything; it would be a very difficult thing to do.

5659. But A, a butcher, buys a cow from B, a farmer; the cow is slaughtered and seized: what security is there for the public that A, the butcher, does not receive in compensation a larger price than he paid to B, the farmer?—I suppose there would be an investigation. You mean the farmer might be in collusion with him.

5660. Yes?—I would make the punishment very great if it did happen; it should be valued by a competent person. I suppose the same thing would take place as with pigs in slaughtering for swine fever, which are valued by some authority.

5661. That, again, is a different question; that is a question of slaughtering?—That is so, seized after death would be more likely to get at the real value. If it had been good meat then it would be an estimate alive. For instance, I have known pigs valued at more than they were worth after they were killed if they were all right by the looks of them. But here you would have a carcass that would weigh, and you would know if it was all right at how much per lb., and you can easily arrive at it when it is a question of seizing a carcass. No matter what the man had given, you know it would be worth what it was per pound if it was all right. If it is dead and bad, to prevent its injuring the public, then I think the man ought to receive something—he expected to get a profit and run a sort of risk, and I think two-thirds of the risk would be a fair amount where there was a *bonâ fide* transaction.

5662. It has been suggested on behalf of the Butchers' Association that no compensation should be given for an animal for which less than 8*l.* is given, is that right?—That is quite right.

5663. Would that be an effective precaution?—I think that is too low a price, I should go to 10*l.*; I think under 10*l.* should not be bought as meat in this country.

5664. To turn to another point, it has been suggested that notification of diseases of the udder should be made compulsory, with a view to the elimination of such cows from the stock of the dairy; have you had much experience of that in tuberculous udders?—I have never had a case in my life to my knowledge. I have had what we call bags, but that is from a bruise, or bad milking, or inflammation that comes in the bag; but I have never had a case where a cow has shown symptoms of grapes to fall into the bags. She will give no milk; probably her milk will go. But I have not seen it detected as diseased milk; we should not use it.

5665. Have you seen it in other people's cows?—No, I have never known a case in my life. In purchasing the milk from these farmers, a sample is sent up, and if we find that there is any symptom that the milk has been affected either by acids or stringy milk, that is when it is changed in the bag, I have a clause in my agreement to compel that man to pay the damage that might be done to 500 gallons of milk in the vat in which the milk is put. I do that to guard against such a thing. I have frequently visited their cowsheds, and I have found them bruised and giving bloody milk, but I have never found a case of tuberculosis in the udder.

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5666. (*Professor Brown.*) Do I understand that the carcasses of the graped cows, to which you refer, were used for food?—Yes.

5667. Was there no inspection of them?—Not that I am aware of.

5668. Is that some long time ago?—Yes.

5669. You made the remark that if the milk of these graped cows was dangerous you ought to have been dead men long ago?—In all probability we should have been.

5670. Do you happen to have had any chance of tracing the effects on the health of the children who take the milk?—No, I could not exactly say. In my business it has been made into cheese, and you want to know whether that would affect them.

5671. And if it did you would not hear anything about it, the cheese would go away?—Yes, and the milk goes away from nine-tenths of those dairies.

5672. Do you take any milk at all in your house?—Personally I do not, but my family do and my servants do.

5673. They do?—Oh, dear, yes.

5674. But it is no uncommon thing in dairy farms for no milk to come into the house?—It is no uncommon thing; very frequently it is all sent away.

5675. So that if you have a cup of tea in a dairy farmer's house he apologises for the absence of the milk; have you met any of those cases?—Yes.

5676. That is a very common thing in the dairy districts, is it not?—Yes.

5677. And therefore he would not be able to judge whether the milk of his cows did harm or not?—That is so.

5678. You made a remark to the effect that you never had a case of tuberculous udder, or anything which you could suspect to be a tuberculous udder, even in graped cows?—No, generally the first thing is that it takes all their milk; as soon as they have developed disease in an acute stage the milk dries up.

5679. But they must have been bad for some time before it comes to that?—Yes.

5680. In the early stage of tuberculosis it is a common thing that the milk increases, is it not?—Well, I think it is hardly that; I should hardly look upon it as increasing; it is the forcing the milk to an undue extent that seems to develop the disease. There is no doubt that it makes them susceptible to the germs of disease in the animal, but where they give large quantities of grains or other succulent food, it brings it out very much more violently. Where they use such large quantities of brewers' grains, that is the place where they find the cows are more graped than anywhere else; they give a poor quality of milk, and a very large quantity.

5681. You know that the graped form is not characteristic of every case of tuberculosis in cows?—Yes, I do.

5682. You have seen it in the lungs without grapes?—Yes.

5683. Are you aware that the grapey form is exceedingly common in Derbyshire and the districts round?—Very.

5684. And it is really the case in those instances that disease of the udder is comparatively rare?—I am only giving you my experience, I have not met with a case.

5685. But your experience includes some hundreds of cows constantly kept?—That is so.

5686. You spoke of stringy and bloody milk?—Yes.

5687. But these stringy conditions are not in any way concerned with tuberculosis of necessity, are they?—No. It is generally from a cow being kicked or when she is bullying.

5688. And the fact of their being a stringy or bloody condition of milk would not suggest to any farmer that the cow was tuberculous?—I should look

to the symptoms, whether the eye was sunken, and she was yellow in the skin, and looked in a very unhealthy condition.

5689. But taking stringy milk, and the milk being red in colour or pink, you would not look upon that as a sign of tuberculosis?—Not without other symptoms to point me to it.

5690. (*Mr. Speir.*) How long do you keep your cows?—Some of them until they have bred six or seven calves.

5691. And you begin with the first or second calf? The second calf; I breed them generally into my own dairy. I very seldom bring them into my own dairy except for feeding purposes or rearing calves, except those that I rear myself.

5692. By driving the animals rapidly for a short distance you usually get them to cough or put out their tongues, or show some other symptom?—Yes, in buying them in the market.

5693. I presume you were aware that the disease might be somewhere else than in the udder, and not in the lungs, in which case there would be none of those symptoms. Are there others which would guide you that they are not wrong?—Only the emaciated appearance, for which no man who bought such a cow should have compensation.

5694. But even at the age in which you are purchasing in the most of cases, very little will be wrong?—Very little.

5695. With your long experience you have come to the conclusion, after at least with last year's experience, that you cannot by any means take up animals ever at four years old without having a considerable number amongst them that you cannot detect?—That is so; especially where they come from a district over-milked.

5696. If you cannot detect with an experience of nearly 50 years, those who have had much less experience will be in a worse position?—That is so.

5697. Have you any idea how many may have been condemned which came from yourself within the last four years, say?—Well, I have not heard of them being condemned. Many of them are killed in the country slaughter-houses where there are no inspections.

5698. I understood you to say to the Chairman, in answer to a question of his, that some of them had been condemned?—That is so, when they go into Leicester market and are killed; but in the town of Leicester the slaughter-houses are private houses, and they do not compel them to be inspected. Within the borough of Leicester there is inspection, whether they are killed in the private or public slaughter-houses, but in the villages where a great many are killed there is no inspection.

5699. Could you give us any sort of rough idea, and say how many you sell—that is, the first cows—as cast off each year?—Fifty to average them; sometimes more, and sometimes less—but about an average of 50.

5700. Do you think you would have one in the last three years?—More than that I think. If they had been detected they would have been more than that. I go from the evidence of the man who brings them in the market; he comes and says to me, I do not know whether it is to make a claim or not—"That cow was graped; she did not go off so well as I expected"—and generally wants to beg something.

5701. In selling 50 you have one to two diseased: that is three to five in the hundred; and in that 60 which you bought a year ago you lost six altogether, which really died?—Yes.

5702. That is 12 to the 100?—And two more that will die out of them.

5703. That makes the thing worse. How many have these got what you might call not a thriving condition?—None.

5704. And probably not dying, but realise comparatively speaking, small money?—Even others that are called drugged at all, and all got fat, they average

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11*l.* each besides the railway carriage. I shall get from 18*l.* to 24*l.*—that is what they run to—when I sell them off in the autumn, except those that die.

5705. But having lost such a very large number, of course that leaves you really no profit upon the others?—Quite so.

5706. Would you presume that a butcher buying an animal, say, at 8*l.*, to a certain extent fancied that he was at least running some risk?—We call it in our market a screw price.

5707. And he expects that at least one out of every three or four of these may be condemned?—That must be so.

5708. Consequently, if the animal was 10*l.*, a fat beast, he expects to buy it at 2*l.* less?—Yes, because the man who parts with it would be glad to get rid of it when it has got into that condition.

5709. You believe that the use of brewers' grains has added considerably to the increase of this disease; have you any definite information with regard to that?—Only that Burton-upon-Trent is situated upon this exact district where we always expect to get the grape cows from; and there you see wagon loads of grain spread on the ridges, and the cows feeding upon them. They use them to an enormous extent, and especially does it seem to me to bring them into a sour and acrid condition when they give to them that cut, dry stuff. It seems to force the milk, and to make the worst milk that can be produced. My experience is such that I put a clause in all my agreements that if they feed them with grains that I will not have the milk at any price.

5710. With even a small quantity of grains?—I bar it altogether, because of their grains causing acidity in the milk, which is fatal to my business of cheese-making.

5711. Is it not pretty well known that where you have milk largely produced by brewers' grains you usually have the cows kept more in the house than you have in other districts where that food is not used. Might not that account for it as much as the brewers' grains?—It is not so in this particular neighbourhood, because they give it all the year round. There is such an abundance of it that the Burton brewers cannot get rid of it. They send it out in truck loads at very low prices. Hence I should go 20 miles in the opposite direction and buy cows that I should not expect to run a tithe of the risk with as I would run in this Derbyshire district where a large quantity of grains exist.

5712. In the cow houses of Leicester and Northamptonshire, and your own district, what cubic space have you for each animal?—They are very much better than they used to be. But I do not know whether you are asking for what I find there now. In Derbyshire they are generally poor premises.

5713. Have the county councils or parish councils put in force any order stipulating for a certain size?—No, not in my own union; only in the town of Leicester, but no cows are kept there.

5714. Is the Dairies Order kept in the neighbourhood?—It is a dead letter; it is read over to the council and posted in the board room, but I do not believe that it gets outside the door.

5715. Presuming that by any test it was possible to find out animals such as you bought a year ago, and that these might be put aside, the good ones from the infected ones, do you think it would be possible that such premises as you have in your own district could be separated by even a slight alteration in the buildings?—I daresay.

5716. To keep the healthy ones from the unhealthy if it was possible to separate them?—Of course it is possible to do it readily, but I do not see where the advantage comes in, because in my young days when my father had three or four amongst those cows they stood one against their neighbours, and the neighbours never fell; and there 56 that I bought in 1895 came to 15 or 18 more than I had in the same sheds, and they were put into the loose stalls and one tied

against another, and all through they never spread to any other cow.

5717. Those that presume that they know best, are under the belief that the disease takes a considerable time before it makes headway?—Exactly.

5718. Presuming that it is the case, and it was possible for a veterinary surgeon to make a thorough selection of these animals and put the diseased aside and the healthy ones to the other side, if you could arrange your buildings in such a way as to do that, would it not pay to keep the healthy ones alone and feed off the other ones, and could not the neighbours do the same?—If a veterinary surgeon is certain that it is infectious, of course that would be all right, but my practical experience points that it is not.

5719. But you think that can be done without any serious inconvenience, providing that the veterinary surgeon could do it?—Yes, on every dairy farm in our Midlands it is so; we have one row of sheds *here*, and another *there*, and certain sheds could be set apart for them if he was able to discover it.

5720. You think you could put the healthy ones together?—Certainly.

5721. And keep them as permanently breeding animals, while the others that were inspected could be eliminated for the season and put out as fat animals?—Yes.

5722. In that way the animals might not be so far contaminated by the disease as to be unsuitable for human food?—Well, I cannot quite say. My experience teaches me that one cow does not set another off; one cause may give to several cows the same disease. But my veterinary knowledge is not sufficiently strong to say whether they had got it. Only my experience is that when one cow is affected with it—we have had one affected with it all winter—she has stood with one cow on each side, and neither of these has shown any development of the disease. Amongst those bad cases, where I actually had them in the shed last winter, the one before this last—all the cows are still there, and they are my breeding cows, and none of these have shown any symptoms at present.

5723. But that is a, comparatively speaking, short time. What is likely to happen next year, or the year after?—I have never found during all my lifetime that the next cow to them has taken it from them. I have heard for years that this thing was infectious, but I have never found it in my experience.

5724. Can you give me any idea as to what temperature they are at during mid-winter?—I have them always airy, always open at the top, and every tile set on the back of its neighbour, so that there is ventilation from everyone.

5725. Have you ever had a thermometer in the building?—Yes, it will run to about 56 to 60 when what we call full up.

5726. (*Mr. Cooke-Trench.*) Would it not be very easy for a person with any knowledge of meat to say from viewing a carcass, whether that animal had been in a condition in life to give a butcher buying it a fair reason to suppose that it was infected with tuberculosis?—No, I do not think it would; it would after death: they generally are wet, and they do not set and dry and look as they should do—but that is after they are slaughtered.

5727. But if an inspector found the meat well set and apparently healthy, he would be able to say with tolerable certainty that that animal had shown no signs of it in life?—Certainly, unless it had grown to the side—the grapes had grown to the sides, the lungs and the skin, and to the ribs. I do not believe from my observation that you would be able to tell whether she suffered from lung disease.

5728. You advocate giving compensation where a butcher bought in perfectly good faith an animal apparently sound?—Yes.

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5729. An inspector who sees that animal and finds a certain amount of tuberculosis in the carcass—I want to know whether he would not be able to form a very good opinion whether in life she had been a waster, or whether she was an animal the butcher could not have detected?—Certainly he would be able to tell.

5730. You have spoken of distillers' grains as being very injurious; have you any experience of desiccated grains?—I did not say that brewers' grains were injurious used judiciously, but where they are given in large quantities to promote a great flow of milk of a very bad quality, then I think they are injurious to the cow.

5731. So far injurious that you will not buy the milk from them?—Yes.

5732. Is it the case with the desiccated grains?—Those, if judiciously used, would not be injurious. You would not have in the dry grains the same quantity of water that would naturally be in the ordinary grains when they came direct from the brewers' just damp; though they are good belly-filling food.

5733. You would not condemn them in the same way as fresh grains?—But still I condemn them as being of very little use except as a belly-filler.

5734. With your very large experience you have never had to your own knowledge a case of tuberculous udder; but surely you have had cases of indurated udder?—Yes.

5735. Would it be possible to be perfectly sure that these indurated udders were not tuberculous?—Certainly not; I have not that veterinary knowledge to be able to discriminate between the one and the other.

5736. With those three cows that produced live calves, after ascertaining that they were tuberculous, how were those calves fed?—They were fed on nothing, only what they got from their mothers.

5737. You allowed them to run on the mothers?—And they are running on them to-day.

5738. The mothers were not milked?—Only what the calves sucked from them, and they are doing that to-day at a year and seven months old. They are sucking to-day, and they are as big as their mothers.

5739. (Chairman.) I understand that it is only an experiment?—It is an experiment, and I wanted to see the result.

5740. (Mr. Cooke-Trench.) Do you usually keep them on the mothers as long as that?—Only for certain purposes. I kept two of their mothers and showed them at the Royal, and took a third and was "highly commended" for them; and they are on their mothers a year and seven months old.

5741. (Mr. Murphy.) You were asked about the opportunity for separating cows: would it be acceptable, do you think, to the agricultural farmers in England, if they were given an opportunity for testing their cattle with the tuberculin test?—Well, you know they are a very conservative class, and they object very much to any experiments being tried on their stock. In the first place they will tell you that, although that is not my view. When the rinderpest was here, sometime in the fifties, I vaccinated thousands of cattle myself, and went from farm to farm, and whether it had any good effect we do not know, but we never had a case of rinderpest; but still, the farmers did not object to my trying this experiment, and I do not think they would object now; if any symptoms of disease were shown in the animal, they would be very glad to have the experiment tried. They know it is certain death to them.

5742. If they were satisfied that they could divide their cows into two lots in the way that has been recommended, as at Copenhagen, and use the healthy stock for feeding calves, and opportunities were given for that purpose, do you think they would be likely to utilise any opportunity given to them?—I question whether they would very largely. It would entail separate milkings and separate premises, and I almost

believe that a great many of them, probably, would object to it.

5743. They would have to be satisfied that they would derive advantage from it?—But if it was an advantage to the public, I say make the law strong enough to compel them—if it is any benefit to the cattle or the public.

5744. Have you ever had trichinosis amongst pigs?—I have had swine fever in all forms.

5745. Trichinosis occurs more frequently on the Continent. Assuming that pigs are brought to the slaughter-house that were found to be suffering from this disease, their flesh could not be used for human food?—So I understand.

5746. Would you propose then to compensate the owner of the animals?—Certainly, if he could not tell. If he fed it honestly and *bonâ fide*, and sold it on the same principle, I think that he ought to be compensated, and if he could not trace it. A man ought not to have compensation when he is knowingly putting a fraud upon the public, so to say, when he is putting diseased meat knowingly on the market; but if he has fed it honestly and sold it honestly, if it is for the benefit of the public, he ought to be compensated in full.

5747. But it would be within his ownership at the time that it was killed?—Yes, but for the purpose of food.

5748. And then he finds that the animals he has in his possession are unfit for the use of food?—Yes.

5749. Do you think that the public should buy them from him then?—I should think so; he ought to be induced not to send that food forward to make any mischief to any human being. I have slaughtered a great number of pigs. I feed probably 500 to 800 pigs in a year, and I have got them many times quite as badly graped as I have seen the inside of the cows, with all the lungs adhering to the ribs. I had a very big loss amongst the pigs on one occasion, and the only trace of disease I could find was a little dark spot on the lungs the size of a plum in a plum pudding, and I sent up to the Royal Veterinary College of Surgeons the insides of three pigs, and the wire I got back was, "Not swine fever, probably pneumonia"; but I kept losing the pigs, and I killed over 400 of them on the premises. It was long before there was any law, and I had to bear the loss of killing or curing them. So long as I did not send diseased meat to market that was all right, and they were accepted. I killed three nights a week and killed 20 pigs at a time, and when there were no symptoms of disease they were sent to be sold next morning.

5750. Supposing the flesh of the pig were found to be measly?—That is one phase of the swine-fever. I killed on one occasion, I remember, 21 on one night, and the third pig turned red and the eleventh pig turned all over pimples on the flanks and in the backs of the ears. I condemned, myself, both of those pigs and had them buried, and all the rest of the pigs went to market, and we saw nothing the matter with them.

5751. Would you compensate a man with a pig like that—a measly pig—when the animal did not show signs of the disease beforehand?—I would.

5752. You would compensate a man where there was any condition of the animal that rendered it unfit for food?—Not in full; I would not if he fed it knowing it was a diseased thing, but if it was fed in the ordinary way of business fairly, and *bonâ fide*, I think he is entitled, if for the benefit of the public it is lost to him, to prevent it going to the public.

5753. Supposing a man bought a horse that was a source of danger in the streets, and could not use it, would you compensate him?—No, that is another thing altogether. If they foist this meat off, either in the shape of sausages or in some way upon the public, unless they are fairly compensated; if there was a market for it they would be apt to put it on to that market if they could get anything for it. But to prevent it some compensation ought to be paid so long

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as it is a healthy looking animal, although it may be diseased internally.

5754. The object of the compensation would be rather to protect the public than to follow any general practice in your own trade?—Yes, I think that ought to be so. If you have a thing that dies and you do not know anything about it—either a pig or a beast, or anything else, you must expect to have that loss in the course of the business. I do not mean to say that he ought to be paid for anything that dies whatever the disease, but, if a man honestly and *bonâ fide* goes to the market and he could detect nothing to prevent the sale of an animal, if it is then diseased, I say, for the protection of the public he ought to be compensated to a certain extent.

5755. Supposing by some unforeseen bad weather his carcass went bad, would you compensate him then?—No, that is in the way of business.

5756. Can you distinguish between the two sets of conditions; in both cases he would have acted according to his lights, he would have bought it for the purpose of selling it for food?—Yes.

5757. Would you suggest from what fund the compensation should come, whether from Imperial or local funds?—From a general fund. Of course you cannot locate the meat; it may be sent from one part or another, and it ought to come from the same source—the Imperial fund when it is done for the general benefit of the public. I would not be extravagant in any compensation. I say a man is liable to loss, but to prevent him from making what he would call the best of it, regardless of the injury it might inflict upon the public, he ought to have some inducement by being paid something like two-thirds of the loss.

5758. (Chairman.) You are aware, are you not, that complaints have been made that inspection is much more rigid in some places than in others?—That is so.

5759. And it has been suggested that in the event of compensation being awarded it should be taken from the local rates and so act as a check upon undue severity of the inspection and condemnation?—That is manifestly unfair; it ought to come from the Imperial funds, if it is for Imperial purposes.

5760. (Dr. Thorne-Thorne.) Unfair to whom, please?—Unfair to the ratepayers of that particular district to have to pay for the protection of those who live in that part of the country. The fact cannot be disguised that the best of everything comes to London, and the worst, and the inducement is to send this stuff where nobody knows anything about it; and if the man was fairly and reasonably compensated to prevent him sending it to such places, I think that it ought to come out of the Imperial Exchequer and not out of the local rates.

5761. Assuming that it comes to London, where is the seizure effected?—It would be effected in London.

5762. What harm is there in London paying for its own protection then?—The seizure would take place in London, but the penalty would come back upon the man who sent it.

5763. But you were saying that it would be unfair to the rates of the locality if London paid for protecting itself by seizing meat which has come from Staffordshire. Why should not London bear the cost of protecting itself?—I presume the penalty would go back to the district from which it came.

5764. I am assuming, and I think we have all assumed, the two alternatives—of compensation out of Imperial funds, or out of the funds of the locality where the meat is seized?—Yes.

5765. What objection do you see—I would repeat—if London chose for its own protection to seize meat in the meat market. Why should the Imperial fund pay to protect London instead of London paying to protect itself?—But we are talking about seizing, as I understood the question, a man's stock, and whether he should be compensated.

5766. I am talking of meat; I understood you to say that if meat was seized that compensation should be

given out of the Imperial funds and not out of the local rates. I am assuming that the locality which seizes does so for the protection of its own population; why should it be unfair that that locality should pay for the protection of its own population?—I beg your pardon; I think the question goes farther than I intended to speak upon. What I say is this: That if a man's animal is slaughtered and seized—

(Chairman.) Pardon me, this is no question of slaughtering the animal.

5767. (Dr. Thorne-Thorne.) I am speaking of seizing the meat after it has got to market. You have suggested compensation, and the question is, should it come out of the Imperial fund or out of the funds of the locality that seized to protect itself against the bad meat?—My observation referred to seizing the carcass of a man whose beasts went to market. If he sends a cow to market and she is seized and condemned, the compensation to that man ought to come from the Imperial fund and not from the locality. I do not talk about the meat.

5768. But I do. I want to talk about it. If you decline to give evidence upon it, there is an end of it?—It has nothing to do with the case. I give you my opinion.

5769. It is a case in which we shall have to report to the Government?—Let each locality protect itself.

5770. That points to local funds rather than to Imperial funds?—That is so for that purpose, but not so for compensating a man who has a diseased animal unknowingly.

5771. I unfortunately was not present when you gave your evidence-in-chief. But you have given us a memorandum in which you say that you have bought barren cows at Uttoxeter, a district of Staffordshire, and that you buy them for less money in consequence of the risk of graped cows?—That is so.

5772. Is there more risk of graped cows in barren cows than milch cows?—No, but there is more risk in the districts of Burton-upon-Trent, 15 or 20 miles off, than in any other district.

5773. You buy them for less money on account of the risk?—They are cheaper because people will not go there and buy, in consequence of the risk they run.

5774. Very well then, we will take a person who buys. He knows the risk, and he knows that he will get the cows for less money because of that risk. If the cows do not turn out to be graped, and they turn out well in the market, he is to have all the profit?—Yes.

5775. But if they turn out to be graped he is not to have the risk, the public is to bear it, in part at least?—I do not think that is quite the evidence I gave.

5776. I shall put it in the form of a question. Do you think that he should have all the profit in the one case, and that the public should compensate him in the other case?—Certainly not. I say that two-thirds of the value of the animal when condemned would be fair, because he expects to get a profit, and he must run the risk of ordinary trade. You are putting it as to the purchase of these animals. Now, we pay as much for those that are healthy as we should do in any other market, but this district has a proper reputation of possessing so many graped cows, and they over-milk them, they force them and keep them in their heated sheds, and heavy milk them in order to supply the milk to the towns.

5777. I am speaking of your buying barren cows—those are not milch cows?—They have been milch cows.

5778. And will not bear again?—And will not bear again.

5779. If they are healthy you will give the full price for them?—Yes, the full market price there, but it is always a little lower there, because of the risk that these people have to run.

5780. Having bought the article cheap in the hope of getting the full price for it; if he does not get the full price, the public are to help him out of the difficulty?—It would probably make 10s. more if sold in another part of England, per head; say, if sold in Northamptonshire than down there.

5781. But he does not buy in Northamptonshire?—No, but if he lost one-third on account of the carcase

being condemned, and they would sell probably for 15*l.* or 18*l.*, he would lose 6*l.*, and that would not be an equal compensation for buying for 10*s.* less. There is not so much difference in the price as would compensate him in any shape for those who were undetectable at the time that he purchased, and nobody could tell whether the animal was diseased or not.

The Witness withdrew.

Adjourned until to-morrow at 12 o'clock.

SEVENTEENTH DAY.

No. 7, Whitehall Place, Westminster, S.W.

Friday, 9th April 1897.

PRESENT:

SIR HERBERT E. MAXWELL, BART., M.P. (CHAIRMAN).

Dr. R. THORNE THORNE, C.B., F.R.S.
Professor G. T. BROWN, C.B.
SHIRLEY F. MURPHY, Esq.

T. COOKE-TRENCH, Esq.
JOHN SPEIR, Esq.
T. M. LEGGE, Esq., *Secretary*.

Mr. JAMES SCARLETT and Mr. JOHN LANG called and examined.

5782. (*Chairman*.) Mr. John Lang, you are President of the Paisley United Fashers Society?—Yes.

5783. And sitting beside you is Mr. James Scarlett, the secretary?—Yes.

5784. (*To Mr. James Scarlett*.) You have been office bearer in this society since its formation in 1888?—Yes, I was President for the first 2½ years and am now secretary.

5785. How many members have you?—Sixty-seven.

5786. Does that comprise most of the trade in Paisley?—All the members of the trade in Paisley.

5787. You have some observations to offer on the question of inspection of meat and its condemnation or otherwise on account of tuberculosis?—Yes. Do you wish to know what the practice is in Paisley on the subject?

5788. We want to know the views you take of the present system as it affects your trade?—Well, of course, in Paisley we have a very strict system of inspection. We have a veterinary surgeon who is the inspector, and he is very strict; he has been condemning all the cattle that had general tuberculosis, that is, those that had it diffused all through the system, but he also, a considerable time ago, began to condemn cattle which were very slightly affected with tuberculosis, and had it localised.

5789. How long has the new system of inspection been going on?—Since the end of 1887—10 years nearly.

5790. About the same time that the society has been formed?—Yes.

5791. Had the formation of the society any connexion with the new system of inspection?—Yes, it had. Up to that point it was only unhealthy, emaciated animals that were condemned, and of course with that the trade were quite unanimous that it was a right thing to do. They were all anxious that no diseased meat should get into human consumption,

but when this new sanitary inspector was appointed he evidently held advanced views on the subject, and the new system was started from that point.

5792. There was an insurance scheme connected with it, was there not?—Yes.

5793. Is that the principal part of the society?—It is only one part. The society was formed for the protection of the trade generally and for benevolent purposes, and also for insurance purposes.

5794. Does the inspector condemn the carcasses in which there is any trace of tuberculosis?—Yes.

5795. Have you any figures to show the percentage of seizures?—Yes. The number of cattle that were killed in Paisley during last year, from the beginning to the end of 1896, was 4,390 cattle. Of that number there was detained by the superintendent of slaughter-houses 101 which the veterinary inspector inspected. Of these 101 he condemned right out 71; he passed 30.

5796. Do your notes show what class of cattle were condemned?—They were all cows, with the exception of one bull.

5797. (*Dr. Thorne Thorne*.) Do you mean all the 101 or the 71?—All the 101. The exact figures of those condemned are these:—37 were cows, 4 queys and 1 bull. Of those that were passed there were 26 cows, 2 heifers, and 1 ox.

5798. (*Chairman*.) Then by that time, 1896, the butchers were insured against disease?—Yes.

5799. What is the system of insurance; what is the amount of premium?—Just now the amount of premium that we charge is 3*d.* for a bullock or heifer, 6*d.* for a bull, and 1*s.* for a cow. Of course the directors of the society always reserve the right of raising or lowering the premium as circumstances require it. We have had cows as high as 2*s.* when we had a big percentage of condemnations.

5800. Have you the right to refuse insurance altogether?—Yes. All the members of the society do not take advantage of the insurance.

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5801. What amount has been paid in compensation?—I think there would be about 300*l*.

5802. In what period?—During the time that the society has been in operation. But latterly, within the last two years, we have not had so many applications for compensation, because our local auctioneers started a scheme that we shall speak of later on.

5803. I think you told us that since the formation of the society 51 claims have been paid, amounting to about 300*l*.?—Yes.

5804. That represents a very small proportion of the animals that were seized?—Yes, a very small proportion. Of course you will notice that the minimum price is 8*l*. just now; it has been as low as 6*l*. and as high as 10*l*. The directors always reserve the right to alter it to suit market values.

5805. Do the members often pay less than 8*l*. for a cow?—There will be sometimes cows at a smaller price. We are always very anxious to exclude anything with any disease about it.

5806. Are you satisfied with the work of the insurance?—As far as it has gone it has been quite successful.

5807. But it has not gone very far?—It has not been very largely taken advantage of.

5808. Can you give us a reason why?—A great many people who kill bullocks thought that they did not need to insure; there was not the same amount of danger from seizure for tuberculosis as with those who killed cows; I think that is the best answer that I can give to the question.

5809. The premium of 3*d*. is not very much for a bullock?—Not very much. When I tell you this, that last year there were no bullocks condemned at all in Paisley—they were all cows, excepting four heifers and one bull, you will understand.

5810. How do you collect the premiums?—We have a lad that goes round on Saturday afternoons to the various members who contribute to the insurance fund and he collects the money. He receives from the superintendent of the slaughterhouse a list of the cattle that have been killed by the members who contribute; he has a little book, and he marks it down, and hands the money to the treasurer, who pays the claims.

5811. I see on the note you say the auctioneer relieves the society of the trouble of collecting?—That is a new thing. It is only within the last couple of years, perhaps 18 months ago since they started that.

5812. How does that work?—It works very well.

5813. Does he do it in all cases?—Yes, he does it in all cases. He charges 1*s*. from the seller and 1*s*. from the purchaser, that is 2*s*. on each head of cattle which passes through his ring, and he pays three-fourths of the value. He limits his price to 6*l*.

5814. I do not quite understand. What does he charge 1*s*. for?—A premium.

5815. In the case of a bullock?—6*d*. for a bullock from the seller, and 6*d*. from the purchaser; on the cows 1*s*. from the seller and 1*s*. from the purchaser.

5816. And that is a totally different scheme from what you describe as the rate of payment under your insurance?—Yes, ours is different altogether from his.

5817. This is a competing scheme?—Yes; it is a compulsory scheme; the auctioneer charges it on all animals that are put through his sale. A bullock is charged 6*d*. from the seller and 6*d*. from the purchaser, and a cow is charged 1*s*. from the seller and 1*s*. from the purchaser.

5818. In the event of a carcase being seized, what does he pay?—He pays three-fourths of the purchase price; he pays that to the purchaser.

5819. And is that satisfactory?—As far as it goes it has been satisfactory.

5820. That will knock the bottom out of your scheme then?—Oh, it does.

5821. Although the payment is much higher?—Yes; but there is no help for it, for the auctioneer makes it compulsory. Ours is only voluntary.

5822. He will not sell any cattle that are not insured then?—Exactly; whether they are willing or not they have to pay the 1*s*.

5823. Is 6*d*., the price of the bullock, felt to be an appreciable sum?—It is not felt.

5824. Nobody grudges it you mean?—Nobody grudges it.

5825. What are the views of your society with regard to preventive measures?—Well, we think that something should be done in the way of compulsory visitation of byres. We have a resolution on that.

5826. I think before we go to milk we had better keep to meat. We are on the slaughter question at present?—Of course we have come to this conclusion according to this resolution for various reasons that we find that most of the claims are on cows; we have found, from the very beginning of this society, that most of the claims that are paid refer to cows, and not thin, emaciated cows, but cows of a good class, good fat cows that no one would think were suffering from tuberculosis. Of course, what we would like is that something should be done to prevent those getting into the butcher's hands at all.

5827. Do you advocate making it illegal to offer tuberculous cows for sale?—I do not know that you can put it in that way, because no one knows until they are killed, unless by a test. That is where the great difficulty comes in, as to the discovery of the existence of tuberculosis. Some of those cows I have seen myself, and they looked nice animals, good healthy animals in every way, and when they were killed they were suffering from tuberculosis.

5828. To a great extent?—To a considerable extent. You scarcely would have believed it until you saw them killed.

5829. Was it to such an extent that no reasonable butcher would offer it for meat?—Some of them were not as bad as that; some of them had localised tuberculosis, and others of them diffused.

5830. But the trade discounts the risk by giving a lower price for cow-beef, does it not?—Yes; on the other hand they have to sell at a less price.

5831. I suppose the average price of a cow is not half that of a bullock?—It would be more than half.

5832. Would it be as fat?—Yes; perhaps our cows in Scotland might be about a half. Ayrshire cows are smaller, you know.

5833. I do not understand precisely what your society recommend in the matter of cows. You are dissatisfied with the prevalence of tuberculosis now?—Yes.

5834. And all that you say is that some measure ought to be taken to check it?—Yes; what we want is to prevent those animals that are suffering from tuberculosis being put into the butcher's hands at all.

5835. Have you any idea to what extent tuberculosis prevails among dairy stock?—It must prevail to a large extent. I would not be at all surprised if it was about 12 per cent., perhaps. We have not the figures, but if it would be interesting to the Commission we might get our superintendent to supply the figures of the number of cows that were killed in Paisley during last year, and then you would see the exact proportion of the condemnations.

5836. We should like to have that?—Our superintendent keeps a note of whether it is a cow or a bullock, and he would be very pleased to make the figures up, and send them on for the information of the Commission, if they would be of any use.

5837. We should be very glad to have that?—Yes, and then you would see the exact proportion of cows, because we are positively sure that it is there that the great evil exists.

5838. And Paisley, being in the neighbourhood of a large dairy district, would naturally receive a great many cows?—A big lot of cows are sold at Paisley at the auction sale; of course they are not all killed in Paisley.

5839. Has the strict action of your inspector tended to cause owners of dairy stock to sell old cows else-

where, rather than in Paisley?—No, I do not think so.

5840. Is there a uniformity of system of inspection in the large towns with which you are acquainted?—No; and that is what we would strongly advocate, a uniformity of inspection all round; and also the establishment of public slaughter-houses in all burghs. For instance, within a radius, perhaps, of 4 miles of Paisley we have three small burghs, the burgh of Johnstone, the burgh of Renfrew, and the burgh of Barrhead. Neither of these have public slaughter-houses, and there are other urban districts as well, and for a long time in some of those places there was a considerable trade done in cattle that would not be passed in Paisley. You could have killed them in the private slaughter-houses, but not in the public slaughter-houses.

5841. Does that continue now?—It does continue, you cannot put a stop to it without having public slaughter-houses. If a carcase of tuberculous meat is nicely dressed, and is not very badly affected, and the offal is put out of sight, it would only be an expert that would know it to be diseased.

5842. In short, in public abattoirs the inspection is much more effective than in private slaughter-houses?—Yes; there is no inspection at all in private slaughter-houses.

5843. And in Paisley you have reason to suppose that it is more rigid than in other burghs?—Yes, it is very rigid in Paisley.

5844. Has your society discussed the question of compensation?—Yes, we have.

5845. And come to any conclusion?—The conclusion we have come to is, that it should be scheduled under the Contagious Diseases Act. We think that is the only way that the difficulty could be met, and any other method would be merely temporary.

5846. Do you think that every occurrence of tuberculosis should be notified?—Yes.

5847. But you said, yourself, that tuberculosis often exists without the knowledge of the owner?—Yes; that is where the great difficulty comes in, and that is where the resolution that we passed some time ago I think, perhaps, meets that view. Would you allow me to read it?

5848. Yes?—This is the resolution that was discussed for a considerable time and passed at a meeting of directors recently: "That this Society, 'realising the necessity for introducing some means of protection to the public from consuming meat and milk derived from tuberculous cattle, which latter may be regularly used for a long time before the tuberculosis is made evident, by the slaughter of the animal, recommends for this purpose a system of compulsory visitation of all dairies, &c., and the cattle producing milk subjected to periodic tests by tuberculin, and any cattle showing signs of being affected with tuberculosis be isolated and their milk withdrawn from public distribution, and if after some time they do not improve, that they be destroyed, and their owner compensated.' We think that meets the difficulty to a large extent.

5849. You said that your Society felt the present system to be a grievance?—Yes, we do.

5850. Have you calculated the extent of the grievance—the extent of the loss suffered by the butchers?—I may say that last year if it had not been for this insurance, there must have been a considerable loss to our Paisley butchers, because our local auctioneers from September 2nd, 1895, to September 2nd, 1896, paid 200*l.* in compensation to butchers for losses sustained.

5851. There were in 1896 4,390 animals slaughtered in Paisley?—Yes.

5852. I understand the insurance is compulsory? Of course you know that these were not all bought in Paisley; there would be only a small proportion of the bullocks bought in Paisley; the Paisley auction market is a local thing.

5853. Supposing that they had all been insured at 1*s.* per head, that would amount to 219*l.*, which, divided among the 67 butchers composing your Society, would have been about 3*l.* per head?—Yes. Of course to look at it that way it is very small, but then, as happened, a good deal fell upon the same butcher—misfortunes never come singly—and this butcher lost two or three cattle in the course of the year.

5854. Is that owing to the quality of the cattle that he buys?—He is dealing in cows mostly.

5855. Where the risks are greater?—The risk is more.

5856. Have you anything else you wish to state?—No, I think not.

5857. (*Dr. Thorne Thorne.*) Tell me who the inspector is who has become so stringent in Paisley, as compared with what used to be the case?—It was a Mr. Mackay, but he is now in Edinburgh; he left Paisley.

5858. Is he a medical officer?—He is a sanitary inspector.

5859. Did he act on his own judgment, without consulting the medical officer?—The medical officer has little to do with that part of the business; it is the veterinary surgeon.

5860. Now that Mr. Mackay has gone, have you still the same stringency in Paisley?—Yes.

5861. It is maintained?—It is maintained; his successor was trained under him, he was a sub-inspector.

5862. Now, I notice that both your society and the auctioneers draw a marked distinction between the price which it is necessary to pay by way of premium in the case of milch cows and other cattle?—Yes.

5863. They acknowledge there is a greater risk in regard to milch cows?—Oh yes, the biggest part of the risk, $\frac{9}{10}$, is with milch cows.

5864. You told us that in 1896 4,390 cattle were killed, of which 71 were condemned?—Yes.

5865. Would you kindly tell me out of those 71, how many of them were disused milch cows, if you can?—66 cows.

5866. Of the 71, 66 were cows?—Yes. Of course all those 66 did not belong to butchers; there were 6 sent in by cowkeepers, and 8 by dealers, and 14 by farmers—they were not all butcher's cattle.

5867. May I take it that that 4,390 killed in 1896 represents about the average of the cattle killed in a year?—Yes, about the same.

5868. That would make 43,900 in the 10 years since this severity came in—that is multiplying that 4,390 by 10?—Yes.

5869. During that time your Association has paid 300*l.* in claims?—Yes.

5870. That makes 30*l.* a year?—About that.

5871. And the claims have been 51 in number, which gives you an average of 6*l.* per claim?—Yes.

5872. We have had gentlemen before us who have maintained that it would be probably wrong to entertain any question of compensation for any animal that was not worth at least 10*l.* Would you hold that view or not?—Of course, we only pay a proportion of the loss; we do not pay all, and the auctioneer pays three-fourths.

5873. I am not speaking of the auctioneer yet. This is distinctly below 10*l.*—6*l.* even, if you pay three-fourths or two-thirds?—We just pay one-half.

5874. I beg your pardon. Then that does make your average 12*l.* animals?—Yes.

5875. Could you in any way explain to me why the butcher and purchaser combined prefer paying four times the premium to the auctioneer to what they did to you; that is to say, you used to charge 3*d.* for a bullock; he charges 6*d.* to the purchaser, and 6*d.* to the vendor; why do they prefer to pay this larger sum to the auctioneer?—Because it is compulsory—they cannot help themselves. He will not put a bullock or a cow through his ring without it—it is compulsory.

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5876. But I gather from you that they do not object to it, because you said nobody grudges the premium?—Nobody grudges the premium.

5877. Is the compensation higher than is got from your society?—Yes, it is three-quarters.

5878. That probably accounts for it?—To a considerable extent.

5879. The Chairman has asked you a question as to the amount which has been paid. It appears that the auctioneer has pocketed something out of this system?—He does not mean it.

5880. It is merely 19*l.* on 219*l.*?—He keeps a fund for the purpose; he does not lose money. Yes, and if he was to gather a big fund he would lower it. He has lowered it on bullocks; he used to charge 1*s.* on every head, but when there were no claims on bullocks he reduced it.

5881. He does not lose on the transaction?—No.

5882. And the butcher does not grudge the premium?—No.

5883. Does not that offer an absolute solution of the whole difficulty?—But all cattle are not put through auction rings.

5884. They could be?—There would be a revolution of business transactions if all cattle were put through auction rings.

5885. But if the butchers objected, would they not get another auctioneer who did not impose this condition?—That is a pretty big question. It would be pretty hard to start a new competitor against an old-established concern; the cure would be worse than the disease.

5886. From the way in which you put it to us, the thing seems to be satisfactory to the auctioneer and the butcher?—Yes, as far as it goes.

5887. Does not that seem to be a satisfactory solution of the difficulty?—As far as that goes that is quite satisfactory.

5888. What is there beyond that?—There are a larger number of cattle bought in Glasgow market, where the insurance is not in existence. Of these 4,390 cattle that were killed, there would not be more than about 500 or 600 bought in Paisley, the rest would be bought in Glasgow, where there is no such thing as premiums.

5889. And yet it is satisfactory to the Paisley butchers?—As far as it goes. I say this: Of those 4,390 cattle that were killed in Paisley there would not be 600 of them bought through the auctioneer; that is the point.

5890. That I did not follow?—The biggest proportion of cattle that are put through the auction sales are the milch cows, and it is a dairy district; and for the rest, the Paisley butchers have to go to Glasgow, which is the big centre, and there is nothing of insurance in existence there.

5891. This 200*l.* that the auctioneer has paid for tuberculous cattle is in a period of one year?—Yes.

5892. Could you give me any idea as to the number of cattle sold during that year?—No, but he stated in conversation that it would be about five per cent. of the cattle sold.

5893. Now there is a statement that you made to the effect that you want to prevent, and your society wants to prevent, diseased milch cows from getting into the butcher's hands?—Yes, if they are suffering from tuberculosis.

5894. Could you give the Commission any idea as to how that could possibly be carried out?—That resolution that I read, I think, points to one solution of the question; that is, compulsory visitation of dairies and cowsheds.

5895. And the application of the tuberculin test?—Yes.

5896. I notice from the resolution of your society that you begin by desiring to protect the public from consuming meat and milk derived from tuberculous cattle?—Yes.

5897. And that you then limit it to cattle producing milk; so that this practically means that danger applies to milch cows almost exclusively?—Almost

exclusively, and that is why I said I would get the figures to show the number of cows killed and the proportion that were condemned.

5898. Then you say tuberculosis must prevail in dairy stock to a very large extent?—Yes.

5899. And you assume that this would be to the extent of 12 per cent.?—I think so.

5900. Well now, with regard to the question of compensation. I want to ask you this: A man knowing that out of 100 cows that he buys 12 will be probably tuberculous; I suppose if they turned out all right, and not one of them were tuberculous, you would wish him to retain the whole of the profit?—It would be very natural.

5901. And is it natural when he knew he ran the risk of losing the 12 per cent. that someone else should pay it if the cows turned out badly?—Yes, but he buys them in good faith.

5902. Knowing that 12 per cent. are probably tuberculous. What I want to put is this: Is he to have all the gain and none of the loss of an ordinary transaction?—A fletcher has plenty of losses besides that.

5903. I am speaking of this one transaction?—Certainly.

5904. I do not press you to answer, as you hesitate?—You put it very strongly.

5905. I put it logically, I think?—You put it very strongly. Of course, you know there is another way of looking at that same thing. Here is a dairyman, or a farmer, that has had a cow perhaps a year, or two years, in his possession, or perhaps he bred it, and now, after he has done with it, he puts it into the market, and gets the full market price, and he pockets that money, and the butcher loses it.

5906. Does the knowledge of 12 per cent. being tuberculous in any way affect the price?—No.

5907. He knowing that 12 per cent. of the cows will turn out bad, he pays the price on the assumption that the 100 will be all right?—Yes.

5908. The butcher then appears before me in an entirely new character?—I am glad he has risen in your estimation.

5909. Your suggestion is that the compensation for tuberculosis should be scheduled in the same way as under the Contagious Diseases (Animals) Act?—Yes.

5910. How would it remedy the matter, to give compensation for 12 per cent. of all the dairy cows under the Contagious Diseases Act, because they have got tuberculosis?—That is the only way of getting it stamped out.

5911. But every witness has told us that it is impossible to stamp out tuberculosis?—Well, at least it would prevent both the meat and the milk being used for human food.

5912. Then you contemplate someone going round this country with a poleaxe and killing 12 per cent. of the dairy cows?—I do not contemplate that.

5913. I think that would be so if this disease were scheduled under the Contagious Diseases (Animals) Act?—No.

5914. How do you explain it would be otherwise?—Under the Contagious Diseases Act disease breaks out and becomes such an epidemic, but then there is certainly no killing them right out as you suggest.

5915. Do they wait for an epidemic?—When it comes into a district; but this is a matter in which you do not know whether it is tuberculosis or not.

5916. But you want a test applied according to the Society's resolution, and you admit that you find some 12 per cent. tuberculous amongst the dairy cattle, and if they are diseased and scheduled they would have to be killed?—Exactly.

5917. Would the dairy farmers like 12 per cent. of their cows killed?—I am positively sure they would.

5918. If they got compensation?—I am sure they would.

5919. And you believe that that would stamp out tuberculosis?—It would have a great effect; it would

at least with the meat and the milk prevent public consumption, and help to stamp out the disease.

5920. Now, that is as regards meat; but what I regard as a more practical expedient is your next suggestion—you want uniformity of inspection?—I do.

5921. Supposing any central authority, Government or other, were to issue regulations which were to apply generally throughout the kingdom as to the condition under which tuberculous cattle are to be seized, and that these conditions should not require the seizure of carcasses in which tuberculosis was only localised, would that very largely remove the difficulty?—It would remove it to a considerable extent; it would remove a very great hardship if that were done.

5922. A great hardship?—To a considerable extent.

5923. Do you think that the system of insurance would remove the remainder of it?—With the auctioneer or privately?

5924. Either by private societies or the auctioneer?—It helps it; there are no two ways.

5925. You have got two remedies, in the first place uniformity of inspection?—That is what I want.

5926. To prevent a larger number of carcasses being condemned; and, in the second place, compensation. Would not that practically remove the difficulty?—We as butchers hold this, if the public are to be protected, then the public should pay for the protection. We think it very hard that a butcher who buys in good faith—

5927. Does he buy in good faith when he knows 12 per cent. of the cows are tuberculous; he buys knowing that he does so subject to a very substantial risk—why should the public pay him for that risk; he is carrying out an ordinary trade transaction; he is exposing an article for sale, and he has bought it knowing that he runs a certain risk, why should he be relieved of the risk, and why should the public pay for that risk?—Because they are getting their health protected.

5928. Do you think that the public should pay for everything that protects their health when it is an ordinary trade transaction?—That is barely an ordinary transaction.

5929. You hold very strongly as to the need for public slaughterhouses?—Very strongly.

5930. Would the butchers generally in Scotland accept that?—They would agree to it.

5931. Do you know that in England the great objection has come from the butchers, and the object has been defeated by butchers?—I have heard it stated. We in Scotland for many years have had public slaughterhouses, except in small burghs, and we want them all put on the same level.

5932. (*Mr. Murphy.*) Could you tell me to whom the market at Paisley belongs?—It belongs to the auctioneers; it is a private market—Wilson and Laird's—it belongs to them themselves; they have it leased. To begin with, we have no public market in Paisley. We have been agitating on the subject and a resolution has been passed accepting the principle by our Police Commissioners, but it has not yet come into effect, and the present auction market belongs to the auctioneers themselves.

5933. Generally the market in Scotland belongs to the Commissioners?—Yes.

5934. Are there many markets in private ownership in Scotland, can you tell me?—There will be a good many; in Perth and other places.

5935. (*Chairman.*) There are a great many?—Yes, I think a great many in all those country towns.

5936. (*Mr. Spier.*) In nine-tenths of the whole of Scotland the selling is done privately, is it not?—I think so.

5937. (*Mr. Murphy.*) Would it be possible to apply the system of insurance to cattle that are bought, say, in the Glasgow market, and brought to Paisley for slaughter?—I do not see that it could be

applied, because there are a great many of them bought privately through salesmen in the Glasgow market. All the cattle are not sold through the auction market—a good many are sold privately.

5938. In Paisley, of course, where an animal is bought in the market, and is killed, and found to be tuberculous, the auctioneer is able to satisfy himself of the accuracy of the thing?—He has his own system.

5939. Do you think it would be possible for an auctioneer in Glasgow to be able equally to satisfy himself that everything was *bona fide*, as it could be done in Paisley?—It could be done much easier in Paisley.

5940. So that the system which the auctioneer controls is as widely applicable as a system of insurance in connexion with the public slaughterhouses or your own society's system?—Well, but it would be much more difficult to work than doing it from the society—much more difficult. Supposing the cattle were bought in Glasgow, and killed in Paisley, it would be much more difficult to work an insurance through the auctioneers in Glasgow than through our local society, because there would be the going to and from Glasgow and so on, that would require to be done. It can be done on the spot much easier.

5941. Those figures that you were good enough to give just now were all cattle that were seized on account of tuberculosis?—Nearly all. All the butchers' were; there might be one or two of the cow-feeders' or the farmers'.

5942. So that the 300*l.* paid in claims does include some proportion of cattle that were seized for other reasons than tuberculosis?—Oh no, it is only for tuberculosis. All the butchers' cattle were for tuberculosis, but some of the dealers' and farmers' and cow-feeders' might be for something else.

5943. You were speaking of the desire to have public slaughterhouses in Scotland. Have you thought how meat could be inspected in rural districts, villages where it would be impossible to have anything like the establishment of large public slaughterhouses?—The only way would be to centralise; to make a district, say within a radius of so many miles of a burgh, town, or village, use a public slaughterhouse; that could be done.

5944. You do not see any practical difficulty in the way of it?—No, I do not see any difficulty; it could be done quite well.

5945. In that way you would bring the slaughter of all animals under the inspection of the proper officers?—That is what we are all very anxious for.

5946. Are you at all familiar with the English conditions?—No.

5947. So that you would not be able to express an opinion?—No, I can only speak for Scotland.

5948. You told us that the auctioneer only paid compensation when the selling price was above 6*l.*?—Yes.

5949. Is that found to be a sufficient protection?—Well, he has found that it wrought out all right.

5950. And it is impossible for abuse to creep in?—It is quite a possible thing, but not very likely. Perhaps a cow might be dear enough for 5*l.* 10*s.* or 5*l.* 15*s.*, and it might run up to 6*l.* to get compensation if it was condemned—I could fancy that abuse might come in, and would come in, and, perhaps, you might say it does come in.

5951. But it is the best protection that there is?—There is nothing else.

5952. (*Dr. Thorne Thorne.*) I think I rightly understand that you are a butcher yourself?—Yes.

5953. How many cattle do you buy in the year generally for slaughter?—From 150 to 170.

5954. How long has that been going on. I have been fully 20 years in business—20 odd years.

5955. And how many of your cattle have been seized for tuberculosis?—One.

5956. Out of 3,400?—Yes.

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5957. Then may I take it that you have no particular grievance?—Of course you are to understand this. I may tell you in correction that my trade is usually bullocks, and that unfortunate beast that I bought was a cow, and I may tell you that that is my experience. It is a thing I rarely touch, but it was a customer, and I did it to oblige, and that was the result.

5958. If you buy any more cows you will go through the insurance principle?—I will not go back to the same place again.

5959. (Mr. Murphy.) I wish to ask you whether you have considered the practicability of stamping the meat after inspection, showing the purchaser that it has been inspected?—You could stamp a carcass, I do not know that you could stamp meat.

5960. On the continent it is done?—I believe it is done.

5961. It is stamped in a number of places, and the purchaser can always see that the joint or portion has been cut from the carcass examined?—Yes, I do not think it is any use to the consumer, even that, because fraud could creep in and it would not be a sufficient solution of the question.

5962. Of course, if all cattle are killed in a public slaughter-house, we may assume that all the dead meat in towns has been examined?—Exactly.

5963. But if it were found impossible to provide for them all being thus killed, and a certain proportion of dead meat were to come in, it might be done to distinguish between the two?—But if there was uniformity of inspection public slaughter-houses—which is the point that we meant to get at, this would obviate that difficulty, because they would come under the same inspection, being killed in a public slaughter-house.

5964. But if, as in many large towns, a great quantity comes in dead, there might be an advantage in enabling distinction to be made between the meat slaughtered in a public slaughter-house, and meat which had escaped examination?—We would have nothing like that; I would have a penalty for killing in any place but a public slaughter-house.

5965. Have you contemplated the introduction into the country of dead meat from abroad?—Yes.

5966. You know that it is increasingly used?—Yes.

5967. And it has been suggested that there would be an advantage in enabling a distinction to be made between home-killed meat and foreign-killed meat?—On the basis of the Meat Marking Bill?

5968. Yes; but I had in my mind the question of the inspection that could be made in this country, and which could afford some sort of guarantee to the purchaser?—Of foreign meat.

5969. No; that the English meat would be examined in this country more completely than the dead meat which comes from abroad?—Of course it is difficult. It is quite easy to distinguish the foreign killed meat from the other meat—the frozen meat—it is an easy matter.

5970. (Mr. Cooke-Trench.) I want to know something about this insurance business?—When we formed the society we suggested this very thing to the auctioneer some seven or eight years ago, and he would not have it; but he has admitted it now, and he thinks it is a good thing.

5971. When a beast is condemned which belongs to a member of your society, and which has been bought through this auctioneer, who pays the compensation in that case?—The auctioneer pays three-quarters, and we pay half of the loss after that.

5972. So that he gets seven-eighths of the price back again?—Yes.

5973. Is your society solvent?—Quite solvent. We always make a point of that.

5974. That looks as if 3*d.* per head was quite sufficient?—Yes, because last year we had no bullocks condemned.

5975. The auctioneer, as I understand it, charges 1*s.* per head?—It is 6*d.* from the purchaser and 6*d.* from the seller.

5976. And he pays 50 per cent. more than you do?—Exactly.

5977. And if he charged 50 per cent. more premium that ought to satisfy him?—Yes.

5978. How do you account for his charging 1*s.* instead of 4*d.*?—Of course it has not been long in operation; it has only been 18 months in operation, and he has had little experience on the subject.

5979. It is only experimental?—Yes, so much so that he charged 1*s.* upon all cattle, bullocks, cows, and heifers, at the beginning; that was 2*s.* in all; and he reduced the bullocks, after he had had some experience, to 6*d.*

5980. And that is quite satisfactory. You said that the medical officer of health has very little to do; that it is the veterinary inspector who acts?—Yes.

5981. Who is the veterinary inspector appointed by?—The local authority—the Police Commissioners.

5982. (Mr. Speir.) I have been looking over your rules, the Paisley United Fashers' Society, and I find some rather good things in them. Had you anyone assisting you in drawing those up?—We had the law agent, who helped us.

5983. But did you get any information which you have incorporated in these from anywhere outside, say, of Paisley?—No.

5984. I find that several of the same rules are really what are adopted in many places on the Continent, and I want to know whether you have made them on your own initiative?—We have made those rules, and never saw anybody else's. We spent a lot of time over them all the same.

5985. You said you wished to inspect the dairies, and in doing so I was led to understand that your reason for it was this: that you wanted to stop the disease practically at the fountain head?—That is correct.

5986. And by stopping it there there would be no risk to you, or to the public, is that your belief?—Yes, we stated that at the beginning of the resolution.

5987. Then you also expressed an opinion that nine-tenths of the risk was altogether with the cows?—Yes, we will submit figures later on to prove it.

5988. You also give us the figures that 71 animals were condemned with you. I happened to have a report from the legal adviser of the Local Government Board of Scotland, in which he gives a return of the different animals that have been condemned all over the country; he makes the number 98 in Paisley, a little piece more than you?—Well, I do not know. Since we came here we wired for the statistics, and these are those submitted by the Superintendent. That is all the explanation I can give of it.—Would that be for 1896?

5989. Yes. Of the 98 which Mr. McDougall gives, he says only 47 were condemned for tuberculosis, which is again rather less than yours. His figures would be made up from the inspector's reports, so that the probabilities are that you have rather over-estimated the number?—Of the cattle condemned there were 42 butchers' cattle, and all these would be condemned for tuberculosis. Then, of course, there are 28 cattle of cow-feeders, dealers, and farmers; some of them might not be tuberculous.

5990. Dr. Thorne drew your attention to the fact that other witnesses here had been fixing the limit for which an animal should have compensation paid to it at 10*l.*, and he asked you with regard to your opinion as to 6*l.* and 10*l.*; but the doctor omitted to inform you that that was in another market, whereas you were particularly dealing with Ayrshires?—Yes, small cattle.

5991. And in the other market to which the Doctor refers they were dealing with Shorthorns?—Yes.

5992. Would the 8*l.* and 10*l.* relatively give the value of the two sizes of animals?—There would be more difference.

5993. That even 6*l.* and 8*l.* might be more than 8*l.* and 10*l.*?—I think it would be 8*l.* and 12*l.*

5994. Have you ever had any dispute between your inspectors and yourselves as to whether a carcass should be condemned or not?—At the beginning we felt pretty keenly when the new stringent regulations came on and the first good beast that was condemned was a bullock that cost 15 guineas, and there was a good deal said about that. Of course it was owing to the new stringent regulations, and it was only localised; but that is the only time when there was any difference of opinion upon the subject. We acquiesced in the arrangement afterwards.

5995. You would either acquiesce in the inspector's decision, or it would be disputed and left to the Court?—That would be it; the butchers and the local authority have got on very well.

5996. You have never had anything in the shape of a jury of butchers yourselves in order to guide you?—No.

5997. Are you aware that such is done in some other large towns?—We have heard of it.

5998. Talking of the relative value of cows and bullocks, you said first that a cow's value would be two-thirds of that of the bullock, and latterly you corrected yourself to half?—The half is what I would say.

5999. Bullocks of fair age and size with you would be selling now at 18*l.*?—18*l.* to 20*l.*

6000. Would not a cow of the same fatness get 12*l.*?—It depends upon the age of the cow; I should say about 10*l.*

6001. The difference between half and two-thirds is not very great?—I think half would be the correct thing.

6002. Have you found much difference between a heifer at 2½ years old or 3 years, and a bullock of 2½ years old or three years for liability to the disease, or have you found any difference?—We have very few heifers; we have had more heifers than bullocks affected all the same, but the biggest proportion has been cows.

6003. Then would it not, as a matter of peace to yourself, be better to pay a premium and be relieved of the annoyance from condemnation, leaving the loss out of account altogether?—Of course we hold this; that as it is for the public good, and for the public health, the public should pay it; that is what we hold.

6004. Then you said that the trade in low-class carcasses could not be put a stop to unless you had public slaughter-houses?—That is the only thing that can be done.

6005. And you, as a butcher, having an experience of between 20 and 30 years, are quite prepared to say that it would be no unnecessary hardship to anybody if even rural districts were to have slaughter-houses at a moderate distance?—I do not think any harm would arise.

6006. You think that there is unnecessary grumbling about it?—There would be grumbling at the beginning; it would be a much handier thing to kill in your own back yard than to have to cart it three miles; but I think it would be worth trying.

6007. But there is very little difference in a man taking a carcass in a cart a quarter of a mile or carrying it two miles?—I have to cart a mile and a half myself.

6008. And you are inside a town where a public slaughter-house is provided?—Yes, I am a mile and a half away, and Mr. Lang is a good bit nearer.

6009. You are of opinion that if that was done in such a way as to have slaughter houses fairly central for even small villages or rural districts it could be reasonably carried out?—It could be.

6010. With the co-operation, of course, of all concerned?—Yes, it would put an end to that illicit traffic in low-class carcasses which has been going on always, and goes on still, in spite of all that can be done.

6011. In answer to a question from Mr. Murphy, relating to a scheme that might be introduced for compensation for animals bought in other markets

than Paisley, you at first said that you thought such could be carried out, and a little bit later on you were a little piece chary about saying that. Would it not be difficult for an auctioneer to identify an animal after slaughter as to whether that animal was brought from him or some other body?—Of course, in Paisley the hides are stamped and he could identify. Perhaps I misunderstood the question. I say this; that in the case of cattle coming from Glasgow to Paisley it is quite a possible thing for the auctioneer to manage that; but then it is a difficult thing for an auctioneer to manage it in a different market, because he would have to go to all the country towns 20 or 30 miles round.

6012. Unless each auctioneer stamped every animal that passes through his hands, as far as I can see, it would be almost impossible to identify them elsewhere?—That is the only way it is done in Paisley, the hides are stamped.

6013. And then the further difficulty comes in: Does the hide shown to an unauthorised person correspond with the carcass that is condemned?—The way we did in our society was this: We had to keep the hide on at the neck, and then there was no difficulty, that can be done. We did not take it off. The hide was there, and there could be no fraud.

6014. That is a direct suggestion—it gets over that difficulty?—That is what we did. We must keep the hide on to the neck, and it is seen whether it is the identical beast or not.

6015. From what you have heard farmers talking with regard to this disease, have you ever heard them express any opinion as to whether they would be agreeable or not to put up with restrictions in your neighbourhood in order to control it?—I never talked the matter much over with them, but as far as I can see, having been a cowkeeper in my earlier days, I think it would be a benefit rather than otherwise.

6016. The opinion has been expressed that if animals were separated that were really known to be infected with the disease, the other ones could be kept quite healthy?—I have heard that expressed.

6017. Assuming that the average cow-feeder and the average farmer was asked to do so, do you think that would be any great inconvenience to him in his business?—I do not think so.

6018. Taking the country, as you know it, round Renfrewshire, would you say that would be the case?—I do not think it would be.

6019. That really Renfrewshire, as far as the Scottish counties are concerned, is neither better nor worse with regard to its farm buildings, so that if it could be done there it could be done anywhere?—I think it could be arranged.

6020. (*Professor Brown.*) I gathered from your evidence that the butchers were perfectly satisfied with the system which was in force up to 1887 of condemning meat which was taken from emaciated animals?—They were quite satisfied.

6021. I suppose that meat would be what they call "wet," would it not?—It would be kind of mincers.

6022. But you approve of meat from emaciated animals being condemned?—Yes.

6023. Whether tuberculous or not?—Yes; piners.

6024. That is to say, the system which you approve of was simply the system of condemning meat which was obviously in such a state that people would not care to eat it?—Yes.

6025. And that suggests, does it not, that in your view it would not be necessary to take any notice of tuberculosis at all?—I do not see your point.

6026. If you condemned only meat which was clearly repulsive in appearance so that you would object to it, it does not matter what was the cause of that repulsive appearance; you would condemn it whether it was tuberculous or not?—Yes; I would condemn it.

6027. It comes to this, does it not, that tuberculosis might be eliminated from the question altogether

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on that system?—Not exactly, because tuberculosis is the cause of nine-tenths of those emaciated animals. 6028. Admitting that to be the case, it does not matter in the slightest degree, you would do exactly the same with the meat, whether you knew the animal to be tuberculous or not?—Yes, certainly; we would condemn it; we would have nothing to do with that at all.

6029. Since 1887 you have had a more strict system?—Yes.

6030. And I think I saw some note on the table to the effect that a man now charged with the inspection of meat will condemn an animal if there is only a few specks on the liver, or a very slight form of tuberculosis?—If localised.

6031. According to your knowledge there is a great deal of difference among inspectors as to what should be condemned on account of tuberculosis?—Yes.

6032. And you think it very desirable that something, if possible, should be done to get a more uniform system?—I do.

6033. You think that if veterinary surgeons, properly trained, were universally employed as meat inspectors, as they are in all—certainly the large towns of the continent—that would contribute towards uniformity of inspection?—It would help if they had definite instructions.

6034. That is assumed in the proposition that they should be all properly trained?—Yes, but one man might have a different opinion from another man. They would need to have enough instructions before condemnation—even trained men. Doctors differ; so would vets.

6035. Then, in addition to being properly trained, there should be something in the way of definite instructions issued?—Yes.

6036. Have you read the report of the last Commission?—Yes.

6037. Would you accept the view which they give, that in cases where tuberculosis is not generalised but confined to one or two organs that the meat might be safely used for human food?—Yes.

6038. You would adopt some system of that kind as a basis for instructions?—Exactly.

6039. You remember here—I did not hear any evidence on the subject from you—that there are obstacles to the extension of the scheme of insurance through the country?—Well, of course, that is one of the obstacles—a want of uniformity of inspection.

6040. Is there anything further that occurs to you?—The want of a public slaughter-house—those are the two things.

6041. On that point you say that the Scottish butchers and farmers do not seem to object to the extra trouble involved in sending animals to public slaughter-houses?—Certainly not.

6042. You also said that you were aware that the English butchers do?—Yes.

6043. Is it the case to your knowledge that there is any great difference as to the inconvenience in the two countries?—I do not think so. The one has had the privilege for a long time, but the other has not had it. As far as Mr. Lang and myself remember during all our time, we have always had to kill in the public slaughter-houses, and we know of nothing else, and we are quite convinced that it is a good thing.

6044. And in your view it is rather a sentimental sort of conservative tendency in the English butcher to avoid alteration?—Yes.

6045. But from practical experience you do not know of any great damage or inconvenience, which would result if the system which is spreading in Scotland were to be adopted also in England?—I do not think so.

6046. And you have no doubt whatever, in reference to the inspection of carcasses, that the improvement would be enormous?—It would be very great.

6047. And that it would tend to improve the system on which carcasses are condemned?—Yes.

6048. In reference to veterinary inspectors did you state that your inspectors at Paisley were veterinary surgeons?—Our inspector is.

6049. I ask you because it does not say so in this proof. It says: "The two senior inspectors have the diploma of the sanitary association of Scotland and the others have gained experience while assistants"?—But that is the sanitary inspector. To put in a nutshell the matter of inspection, I may say that the superintendent of the slaughter-houses retains, if he sees any cause, any animal that is suffering from tuberculosis or any other disease, and he puts it in a separate room kept for the purpose under lock and key, he sends for the veterinary inspector, who inspects it and says whether it is to pass or not. If it is to pass then the butcher gets it away with him. If it is to be condemned he hands it over to the sanitary inspector, who sees that it does not get into human food.

6050. Then it is the case in that instance that the meat which is condemned is condemned by a veterinary inspector?—That is so.

(The Witnesses withdrew.)

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Mr. JOHN BELL called and examined.

6051. (Chairman.) You are President of the Carlisle and District Butchers' and Insurance Association?—Yes.

6052. You have been good enough to come and give us some facts which have come under your experience?—Yes.

6053. Perhaps if you have a statement to make you would like to give it without being interrupted by questions?—The first question was with regard to the formation of the association, and the second was with regard to the tuberculosis question. I think that the tuberculosis question is a very difficult question. I go back for generations and I find that tuberculous cattle were slaughtered then as well as now. Cattle affected with tuberculosis were at that time called "clired"; and when they were found to be affected the slaughterman skinned the tuberculous parts from the carcass, which is very easily done, and then it was sold in the usual way and nothing more thought about it. But we are now living in more advanced times and a good deal of light has been let into this question. I find difference of opinion among medical doctors and veterinary surgeons in their

reports on this question. We have in Carlisle, Mr. Bell, who is the veterinary surgeon for the county of Cumberland, and he differs in many cases from the medical officer for Carlisle. When the medical officer in Carlisle commenced to examine the tuberculous carcasses he passed some that were slightly affected by cutting pieces away. In one case the condemned half of a heifer and passed the other half by cutting a small piece from the flank. For the past two years he has condemned, with the exception of one case, all that were affected slightly or otherwise. We went into this case in committee on Tuesday night and, on inquiry, I heard that he passed one taking 6 stone 4 lbs. from it, and that is the only case that he has passed, in the existence of the Association. The inspection of meat ought to be uniform, and I am strongly of opinion that all cattle killed and meat sold for the use of man ought to be inspected before being offered for sale, because if it can be proved that the meat so affected is injurious to man, then by all means it ought to be destroyed and compensation allowed. I am also strongly of opinion that compensation ought to come under the

same schedule as pleuro pneumonia or any other disease where it is for stamping-out purposes. On inquiry I find there is more danger in milk.

6054. How many members have you in your society?—Forty-five I think.

6055. Does that include all the butchers in Carlisle?—No, this is not altogether satisfactorily drawn out, but you can take it (*handing in document*), the Association was formed to look after our interests generally, and to try and help each other on account of the loss sustained by the beef being burned when affected with tuberculosis. We found it a great hardship when the meat was taken from us without compensation being allowed; and, what was more, we had no law to help us. Forming ourselves into an association was bringing us closer together and forming us into more brotherly connection than before. Sometimes when we had a carcass taken (before the association was formed) one farmer would return, say, 5*l.* on a beast costing 15*l.* or 20*l.*; another would not give anything, and would tell us we were not entitled to anything, and that we could not compel him to pay anything, as there was no law to make him pay. We felt it a great hardship to bear the loss ourselves. I felt more for the smaller butchers. If a small butcher had a carcass destroyed it meant a heavy loss to him before the association was formed; it was almost enough to close his shop. He might only have been in business a few weeks. By forming ourselves into an association we have so far succeeded in meeting the requests of the butchers, although the funds are getting very low in consequence of such heavy claims being made upon it. I think our medical officer has condemned cattle which ought not to have been condemned, some being only very slightly affected with tuberculosis. I do not think there is much more room for extension. That is the question you asked me about. We have four butchers in the town who have not joined the association. One butcher has three front shops and a stall in the public market, and he supplies one or two other butchers with meat. He is allowed to kill outside the city and then bring it back into the city to sell. We do not hear of him having any cattle affected with tuberculosis.

6056. I suppose you are all allowed to kill outside the city if you like?—If we like. In a great many of our market towns in Cumberland we never hear of any of the butchers having cattle affected with tuberculosis. Of course we do hear, but we have not proof to see, and there are none condemned or destroyed. I thought it might be interesting, and I have brought the medical officer's report. The public slaughter-houses were opened in November 1887, and in November 1888 there were four condemned.

6057. What for—for tuberculosis?—I do not go that far.

6058. Tell us what number were seized on account of tuberculosis?—I have a report of every animal from the medical officer's report that I got from the nuisance inspector's office before I came away.

6059. Well, if you can give us anything, let us have it?—You only want the two years.

6060. Yes, we will take the two years?—For 1895, 16; and 1896, 32, all from tuberculosis belonging to both members and non-members.

6061. Will you give us the losses of members of your association and tell us whether they have been covered by insurance or not—what is the premium?—The premium for the first year was 1*s.* 6*d.* for cows and 1*s.* for a bull and a heifer.

6062. Was that reduced in the second year?—Yes, our funds were very good at the end of the first year. I sent the Secretary of the Commission a balance sheet of both years. We found that having such a good surplus in hand we could reduce those figures down to 6*d.* and 1*s.*

6063. (*Mr. Cooke-Trench.*) Do you mean 1*s.* for the cow and 6*d.* for the others?—Yes. We went on till we closed the year's account at the beginning of February 1897, and we found that we were getting

low in the funds by having such claims made upon us, and we increased the premiums to the old price.

6064. (*Chairman.*) What was the amount paid in compensation in the two years?—94*l.* 15*s.* 6*d.* for the first year and 209*l.* 8*s.* 5*d.* in the second.

6065. Then, in addition to the premiums paid by butchers, I see in the Butcher's Insurance Association balance sheet that there is a sum under the head of "Farmers' Guarantee Money"; what is the nature of that?—We ask them to pay 6*d.* for every animal sold and bought by an association butcher, that is too clear. It is not compulsory, because you notice there it does not meet the demands. At one auction mart, Mr. Harrison's—we do a good deal at that auction mart—and a great many of the farmers will not pay us 6*d.*

6066. What does it guarantee?—Of course it is a guarantee of cattle; it is a sort of guarantee; if they pay us 6*d.*, they guarantee that the cattle are all right. That shows that they are willing to pay the 6*d.*

6067. Are they willing to repay the butcher if the cattle proves all wrong?—Certainly not, we take that as a guarantee from them.

6068. Excuse me, I do not see what is the value if you only recover 6*d.*?—That is all that we ask for; if they pay 6*d.* we tell them about it and we do not ask for anything more unless they come to the association; but no one has done it yet.

6069. What proportion of the carcasses sold in the town are killed outside, speaking roughly. I suppose there is a certain number of cattle killed in the country districts?—There might be eight to ten per week. I think there are only three butchers killing outside the town, but there is one of them in our association.

6070. Those that are killed outside the town are not so rigorously inspected as those killed within the town?—They have power to go and inspect, but they only go once or twice a year.

6071. Are there private slaughter-houses?—No, they are public slaughter-houses now. The licences were all taken away when the public slaughter-houses commenced, with the exception of one or two, and they were allowed to go on for two years. That is about eight years since, and it is now compulsory to kill at the public slaughter-houses.

6072. There is a remarkable case mentioned in your notes; you say, "instance where 20 cattle were condemned, each having cost 18*l.* 10*s.*."?—There were 20 cattle, but only one of them was condemned; they all cost 18*l.* 10*s.* each, and they were a splendid lot of cattle. One of these was found to be affected in the liver—tuberculous; there was a little on the flank that you could cover with your hand. That was all that was in the carcass. When this affected liver was noticed the man in charge of the slaughter-house said "You had better detain that till we send for the doctor." The medical officer was sent for, and after examining the animal, he called me in and said, "This liver is very bad, Mr. Bell"; and I said, "It is rather bad." He had a good deal of hesitation about it, and he inquired, "Are you not President of the Association?" and I said, "Yes." Then he said, "You will get compensation for it"; I said, "I will get three-fourths." I said it was a hard case for an animal like this to be condemned. He said, "This is 'one of the hard cases; this is a particularly hard case, but as I would not eat it myself I cannot allow others to eat it; but if you are not satisfied I will bring Mr. Bell, the veterinary surgeon for the county.'" "Well," I said, "if you have any doubt about the case, by all means let us have the end of it." He said, "There is no doubt in the case. Supposing 'Mr. Bell comes down and sees, and says 'it is not fit for human food.' 'What will be the result.'" He said, "It will have to be burnt." Then I said, "It will be a waste of time; I do not want to go against your decision"; and I informed him, "that as president of the association I did not want the thing to go into my shop against the doctor's decision; therefore I will write it out, and of course we will destroy it"; and it was destroyed. The

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butchers, naturally, wanted to make a test case of it, but I would not allow them.

6073. What was the date of that approximately?—That was on August 31st, 1896. The price of that beast was 18l. 10s. That was the twentieth in one lot. Here is a statement of the weights of it and everything, and all the parts affected—the other 19 were splendid animals.

6074. What breed were they?—Irish heifers.

6075. Have you had any pigs seized on account of tuberculosis?—No, on inquiry I find that there have been none since the slaughter-houses were opened. I may say, about that animal that was condemned, the medical officer told me that it was all owing to the blood-poisoning through this liver, and the diseased part had saturated the flesh. Now, on making inquiry, I did not hear of this blood being condemned, it has been nearly all made into black puddings. That shows the loose state of affairs; and I never knew that until after I had made inquiries.

6076. On the question of compensation, I see that your association desire to express some views as to compensation?—Yes.

6077. Is your association of opinion that you ought to be compensated?—Yes.

6078. From what source?—from the Contagious Diseases (Animals) Act—under the same as pleuro-pneumonia.

6079. Does your experience lead you to suppose that there was any chance of dealing with tuberculosis as effectively as pleuro—stamping it out?—I do not know how it is stamped out before it is killed. We are speaking about the matter after it is killed—after we have the beef taken—after it is condemned, that is the time we look for compensation.

6080. You referred to the Contagious Diseases (Animals) Act, which implies that the disease must be notified, and the animal slaughtered?—Before-hand the question comes—how to find it out?

6081. Is your association of opinion that butchers should be compensated for carcasses which are seized?—Yes.

6082. Where is that compensation to come from?—Under the same heading as pleuro-pneumonia.

6083. Although the circumstances are quite different?—It seems to be different when you explain it.

6084. In one case you slaughter the animal in order to prevent the spread of disease, and in the other case you merely condemn the carcass because it is unfit for human food; there is a difference there, is there not?—Of course, after it is killed you condemn it to prevent it spreading the disease again amongst human beings.

6085. Have you never considered the question of compensation out of local rates?—Well, we had some very good statistics at the doctors' conference in Carlisle in June last.

6086. But if it has not been under your own consideration we do not want that?—It has not been under the consideration of the full meeting of the association.

6087. You have not studied that particular branch of the subject yourself?—No.

6088. (Professor Brown.) Do you agree with the previous witnesses that meat should only be condemned when it is obviously bad?—Yes.

6089. Only under those circumstances?—Yes.

6090. And that if the meat is what you would call meat in first-class condition, or meat in good order, you would have it passed whether it came from a sick animal or a healthy one?—I would have it passed if it could not be proved that it would be injurious—if there was any doubt about the case. We do not want to have anything sold that is injurious to man.

6091. If you could not prove that, what then? My point is this: In the event of meat looking like very good meat, would you pass it?—Yes.

6092. And, before you pass it, would you inquire whether the animal was sick or not?—Yes.

6093. You would?—Yes.

6094. Of whom would you inquire?—The feeder of it.

6095. As an inspector of meat you go into the market and see the carcasses hanging up, or in the slaughter-house. You would decide that the meat looks to be perfectly good, and you would pass it. It would be no use inquiring of the butcher whether the organs were healthy or not—would he tell you?—Not if he were an untruthful man.

6096. If the lungs or udder were diseased?—Well, in the public slaughter-house he cannot escape, there is a strict eye upon him, and since our association was formed we cannot have such a man.

6097. If you saw a carcass of meat looking extremely good, and you asked the slaughterman's man if there was anything wrong in the lungs and body, and he said that they were tuberculous?—I would condemn it.

6098. You would condemn the meat?—Yes, if it were in an advanced state.

6099. If the lungs were in a bad state you would condemn the meat, although it was extremely good looking meat?—Yes.

6100. You do not concur with the previous witnesses that you would only condemn meat that is obviously bad in appearance, because you are going to condemn meat which is obviously good in appearance?—Of course, it is a very difficult question to answer. If you find out that the lungs or anything is bad, and you find that the blood is saturated through it, and it saturates the flesh, it ought to be condemned.

6101. If it were saturated with blood, would not the flesh show some signs of it?—No, you cannot detect it in the flesh.

6102. How do you know that it is saturated, then?—If your own doctor told you—

6103. I want to know what you as a practical man would do?—I would certainly use that meat if it is in a good wholesome state.

6104. Although they brought the lungs and showed you that they were tuberculous lungs?—Yes.

6105. Then you do agree with the previous witnesses that you would rather condemn the meat in accordance with its own condition. You would not deal with it as the meat of an animal suffering from disease, even though you happened to know the animal to be tuberculous at the time that it was slaughtered?—I do not quite understand you.

6106. I understood you to say just now that if the meat were in perfectly good order—perfectly good meat—that the fact of an animal having tubercle in the lungs which was shown to you would not lead you to condemn it?—Not if there were no signs on the carcass.

6107. But on its own merits without troubling yourself with the organs of the animal when alive?—Yes.

6108. But that is not the system which is adopted by all inspectors, is it?—No.

6109. Some inspectors would proceed on that basis?—Yes.

6110. And others would adopt a different view of dealing with the meat, whether it were good looking or not—on a basis of the health or disease of the animal?—Yes.

6111. And that necessarily leads to a great deal of difference of view?—Quite so.

6112. Is it your opinion that if you had properly educated veterinary surgeons as meat inspectors that that would get rid of the difficulty to a great extent?—Yes.

6113. In reference to the question of compensation, have you ever thought anything about the system of dealing with meat quite irrespective of tuberculous meat, that is obviously bad meat; would you pay a butcher who exhibited for sale meat that was obviously bad?—No.

6114. Does it not come to this, that under those circumstances, taking what you have just said—that you would not pay the butcher under any circumstances at all—because you say you would not

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condemn any meat unless the meat were obviously bad, and you would not pay the butcher who exhibited for sale meat obviously bad?—He would not be allowed to kill any obviously bad in these slaughter-houses, therefore, anything brought from outside would be killed on suspicion.

6115. But I am dealing entirely with the meat as if you were a meat inspector with meat coming under your notice, you are perfectly competent to act as a meat inspector I believe?—Yes.

6116. In a previous answer you stated that you would not condemn any meat unless the meat were bad?—Quite so.

6117. And when you condemned it, or passed it, you would not trouble yourself about the lungs of the animal; if the meat were healthy you would pass it, and if it were bad you would condemn it?—If I find the organs in a very bad state; but, of course, if it is only temporary—the lung part of it—naturally it would have to be passed. If I find all the organs in a very bad state naturally the meat would have a tendency, you do not have all the carcasses clear and the organs very bad.

6118. In such cases, where the meat is bad as the result of the excessive disease of the organs, you would condemn the carcass?—Certainly.

6119. Would you compensate the butcher then?—Of course, if it was found out that he brought the animal in good faith.

6120. Did you ever meet with a case?—If it was an animal, such as an old cow without teeth seven or eight years old, and weighed 26 to 30 stone, I would not compensate him.

6121. Do you mean that, as an instance, where the meat was obviously bad and the animal previous to slaughter was looking perfectly well?—Oh no, I have not seen cases of that kind.

6122. Then the same point arises, that you would not compensate the butcher for exhibiting bad meat because the animal from which that obviously bad meat was taken could not have been in a perfectly healthy condition?—I quite agree with you. Those kind of animals come from old cows.

6123. (Mr. Speir.) What would your association consider sufficient disease in any of the internal organs of an animal to cause it to be condemned?—I have not been largely asked on the point.

6124. How much would you say would be wrong in the lungs or the liver or any other organs before you, as an association, would be likely to complain?—Both the carcasses and the organs would have to be in an advanced state.

6125. What do you mean by being in an advanced state, if the half of the lungs was wrong and probably a small portion of the liver?—If the carcass was a good one, and clear of tuberculosis I would certainly pass it.

6126. Where do your cattle generally come from?—Mostly from Cumberland, and a few from Dumfries.

6127. Do you find any difference from the two lots coming from the two counties?—No.

6128. To all intents and purposes they are just as bad from Cumberland as from Dumfries?—Yes.

6129. Are your people, with their two years' experience of this association, quite satisfied with what you have been getting, is that a sufficient protection for you?—It is sufficient so far as the case stands at present; that is if it was going on as it has been. We have a rule that if we get low in the funds there is to be a levy on each member to meet the case.

6130. In Carlisle do your association consider that the inspection is more severe than usual over the rest of the country?—We think it is.

6131. But you have no objection to come under the same supervision as the rest of the country?—Not at all.

6132. And no objection to all the meat that is being sold in Carlisle being slaughtered in a public slaughter-house?—It ought to be.

6133. And if you were selling outside of Carlisle you would have no objection to the meat being

slaughtered, at least, in some place, passing the same inspection as would be the case in Carlisle, or similar large towns?—That ought to be.

6134. And your opinion is also that there would not be any serious inconvenience to you as a butcher, supposing you had to do it?—None at all.

6135. Nothing serious?—Nothing serious.

6136. Further south, in the English counties, a considerable complaint has come from the Association of Butchers that the public slaughter-houses are not desirable owing to the great inconvenience that arises; but there, you have said you have not found it an inconvenient in Carlisle?—We find it a little inconvenience as regards the slaughter-house itself, by closing the slaughter-house at certain times and not opening at certain times in the morning. They have their own hours, and we had to complain to the Slaughter-house Committee of that, and also as regards the slippery state of the floors, which caused a special prize bullock of mine, at Christmas, to break its leg.

6137. That is a matter of arrangement?—Yes, between the butcher and the Slaughterhouse Committee. These are difficulties that arise, and it was to meet those difficulties that the association was formed.

6138. Have you any experience of farm buildings round your district?—Yes.

6139. If you, from any reason whatever, were asked to separate animals that might be infected from those that are not, could they be kept separate without serious loss?—No, because the buildings are all very close.

6140. Could they keep them under separate roofs?—Yes.

6141. You do not think there would be anything very serious, either to the cattle of the farmer or of the proprietor?—It is generally done; the milch cows are in one byre and the feeding cows in another. The cows are usually all together for the sake of milking purposes, and the feeding animals are in another place. The bullocks, as a rule, go into loose sheds, and they have a better chance of walking out than animals tied by the neck like the cows.

6142. (Mr. Cooke-Trench.) Let me understand. You say there was 6d. which you asked for from the sellers, and that, I understand, is in lieu of the guarantee?—Yes.

6143. That is acquittance of all claim, moral and legal?—Yes, to meet it, and that 6d. rather helps to meet the deficiency if there is any.

6144. But that is what you think would be a fair contribution from the sellers?—We do not think so.

6145. You do not think so?—We ought to have more from the seller.

6146. But, still, you are satisfied to take 6d. when you can get no more?—When we can get no more. When we formed our association we met all the auctioneers and got their point of view.

6147. You heard the evidence of the last witness, that they found 4d. a bullock a sufficient charge on their society, which was in a flourishing condition?—But look at the support they were getting from the auctioneers. Our auctioneers gave us five guineas to commence the association, and that is the only part that the auctioneers gave us.

6148. You said Dr. Brown condemns the carcasses of all cattle that are tubercular?—Yes, for the past two years.

6149. He has lately?—Yes.

6150. Do you mean that he condemns a carcass if it has the slightest speck of tuberculosis on the lung?—Yes.

6151. (Dr. Thorne-Thorne.) You were speaking about Dr. Brown condemning all animals, however, trivial the tuberculosis, except those last week?—Yes, since about February.

6152. Dr. Brown, in his Report on the sanitary condition of Carlisle for 1896, wrote this: "A few weeks ago, a writer in a Carlisle newspaper referring to Professor McFadyen's address on "Animal Tuberculosis, at Newcastle, pointed out that the Carlisle Sanitary Authority held an unique

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"and unjustifiable position in ordering the destruction of carcasses affected with slight tuberculosis. The information of the writer with regard to the procedure at Carlisle slaughter-house in dealing with tubercular carcasses is evidently at fault, as I can bring to my recollection several instances during the last few years where carcasses were passed as fit for food in consequence of the tubercular diseases being limited to some particular organ. In the vast majority of cases where we are called upon to examine carcasses for tuberculosis, the tubercular disease is general, so as to admit of no doubt as to the action which ought to be taken" that is quite contrary to your view of his action, is it not? He goes on "Thus, of the 32 carcasses examined during the past year for tuberculosis, there was only one case of 'localised' tubercular disease." That is rather opposed to your view of his action. This is Dr. Brown's writing of January, 15th, 1897?—Yes.

6153. That is not the view that you hold of his action, is it?—That is rather contrary to what I thought. Now he says that he passed some of them. Is that the meaning of it?

6154. He says that: "In the vast majority of cases where we are called upon to examine carcasses for tuberculosis the tubercular disease is general, so as to admit of no doubt as to the action which ought to be taken"?—They have been all more or less affected.

6155. "General" is more rather than less?—Yes.

6156. I have been looking through the statement which you have been good enough to prepare and submit to the Commission, and I find that in the period from 15th February 1895 down to the 17th February, 1897, there are 48 carcasses that have been seized, and they all have been, I find, on account of tuberculosis?—Yes.

6157. I further find that of these 48 that have been seized 35 were cows?—Yes.

6158. Excluding heifers?—Yes.

6159. And I am bound to say, on looking through this list, that I can hardly find more than one or two in which the tuberculosis must not have been general; either the tubercular is spoken of as being very marked, "markedly tubercular," or else as many as "two" "three" "four" and even "nine" separate organs are affected?—Some are very bad cases.

6160. But I can find no others hardly. These are really all that he has condemned; but if you can point out any three out of the 48 in which it was limited to one organ, I shall be much obliged to you?—I cannot go that far.

6161. But this return shows clearly the reverse of that?—Yes, certainly.

6162. You were saying that not all the butchers in Carlisle belonged to your association?—No.

6163. Do you exclude any?—No.

6164. Even if a man deals solely in used-up milch cows you still admit him?—Yes, but there is a case, that of a butcher, which was before our committee on Tuesday; we called a special meeting to put him out of the association because he seems to go in for this particular class of cows.

6165. Am I to take it that you would rather reject him than run the risk of compensating him for these animals?—Yes.

6166. That is why you would eject him?—Yes.

6167. And you would not give compensation to such men?—We raised the price for which compensation would be given from 5*l.* to 8*l.* this year.

6168. Do you make any limitation in paying compensation as to the price which the butcher gave for the animal?—We have not had any case before the committee now, but a resolution was passed that all cases in future have to come before the committee. We are going to bring it forward to look after those cows, and if we thought a member paid more than the value we are not going to give him compensation.

6169. If a man gives 5*l.* for the cow, and it was the full value, and it was not worth more, should you

compensate him if it were condemned?—Not if that was very cheap per stone; that is, if it was under the market value.

6170. We have had some gentlemen before us who have thought it wrong to give compensation below a certain price, say 8*l.*, 10*l.*, and 12*l.*?—So would I.

6171. But you have not made a rule to that effect in your association?—We made it 6*l.* and now it is 8*l.* I would suggest that our association might make it more than 8*l.* Unfortunately our secretary has not kept separate the amount paid in compensation for cows and the others. I only received this account the night before I left Carlisle, and when I see that there are 36 cows against the others, naturally I would have gone in for 10*l.* because the association ought to stand against cows like these; it is not a fair thing. Take my own case, I kill nothing but bullocks or heifers, mostly bullocks.

6172. Would you kindly tell me as regards that carcass of yours that was seized after giving 18*l.* 10*s.* for it; are you quite clear that the tuberculosis was limited to the liver?—Quite, with the exception of that piece of what you call the thin flank. I covered it with my hand.

6173. Then it was affected in the flank and the liver?—Yes.

6174. And it was limited to those two parts?—Yes.

6175. Was that a bullock?—A heifer.

6176. Have you been long in business?—I have been a butcher myself all my life, and I go back for generations as a butcher. I managed for a widow for eight years, and I have been in this business seven years for myself from 1st June.

6177. How many beasts did you kill in a week for the widow?—Three and four, three generally.

6178. Say 150 a year?—Yes.

6179. Then for yourself?—I commenced with four and I am now killing eight.

6180. And that has been going on for seven years?—Yes.

6181. Would you say eight a week?—Eight a week now.

6182. That is some 400 we will call it. For eight years you bought up to 150 and for seven years for 300?—Yes.

6183. Now, out of those animals, how many have you had seized on account of tuberculosis?—One and a half.

6184. One and a half out of about 3,300?—Yes.

6185. Well, then, I suppose, I may take it for granted that you have no grievance?—None at all.

6186. Are you really appearing for those butchers?—For the association as brother butchers.

6187. Who mainly get these disused milch cows condemned?—They are not all milch cows. Some are rather young ones, there are some that have had a calf, they are not all giving milk, they will not throw the milk out, and, therefore, they are fed, and they are quite young ones.

6188. I see that out of the whole lot there were two that were two years old, and some so old that age does not tell, they are simply called "very old"?—I am strongly against giving compensation for those old cows.

6189. On this question of compensation I should like to ask you a further question or two: you say you would wish them to be dealt with in some way as is done for pleuro-pneumonia?—Yes.

6190. Will you allow me to read the Act that relates to pleuro-pneumonia. It says, "that the Board may, if they think fit, in any case cause to be slaughtered (a) any cattle suspected of being affected with pleuro-pneumonia, and (b) any cattle which are or which have been in the same field, shed, or other place or in the same herd or otherwise in contact with cattle affected with pleuro-pneumonia or which appear, in the opinion of the Board, to be in anyway exposed to the infection of pleuro-pneumonia." You know as well as I do that that means often pretty

wholesale seizure of perfectly healthy animals that the owner does not want to sell?—Quite so.

6191. Do you find the slightest parallel between a man going to market and buying at the ordinary trade risk, and then asking for compensation on the same ground as is given for pleuro-pneumonia?—The doubt that comes in there is in knowing beforehand.

6192. I ask you is there any parallel between a Government officer going in and saying to an owner "You have got 100 cattle in contact with danger, and I shall slaughter the lot whether you like it or not." That is the one case. The man goes into the market and at an ordinary trade risk buys an animal, kills it and wants to sell its carcase, and make money for his own pocket, and he has unfortunately bought a bad article, and it is diseased; is there any parallel whatever between the two cases?—As regards compensation there is.

6193. Where does the parallel lie?—The one has to be slaughtered before it is known, and in the other case you do know that the animal has been in contact where the pleuro-pneumonia has existed.

6194. I am asking you about the parallel of going into a man's place, and seizing cattle against his will, the majority being healthy and requiring them all to be slaughtered; and the case of a butcher actually exposing for sale or having slaughtered for sale an animal which is found to be unfit for human food; is there any parallel whatever between the two cases?—No, I do not say that there is.

6195. In the latter case the Government do not compel the slaughter of his cattle, he has done it at his own risk?—Yes.

6196. Would you have tuberculosis dealt with on the same lines as pleuro-pneumonia?—You cannot put it strong enough.

6197. Well, then, you are very strongly in favour of uniformity of inspection?—Yes.

6198. Do you think that you could get uniformity of inspection or anything to approach it, without public slaughter-houses becoming at least general in the urban districts in towns. Could you get anything like uniformity of inspection unless you had public slaughter-houses?—I do not think we could.

6199. You have no objection personally to public slaughter-houses—rather the contrary?—No, it would not pay me to have a private slaughter-house outside. It increases my trade to let the public know that I am under inspection.

6200. You are like most gentlemen in your business that have been before us, you know how to buy, and do not run much risk?—No.

6201. But even as regards those who buy at a risk, do you think that if there were uniformity of inspection throughout the country, and that carcasses were not condemned as food supplies if the tuberculosis was really localised, that that would remove the greater part of their grievance?—It would remedy the grievance very largely in my opinion, it would almost make a famine if you summed them all up.

6202. You were speaking of one instance in which I rather infer that the granting of the insurance money may have induced a man to be a little careless of what he paid because he felt sure of getting the compensation?—Yes.

6203. How could that possibly be avoided under any system of compensation out of either Imperial or local funds?—Well, seeing now that cows are coming forward I would put a stress by letting the butcher lose one-third if not a half.

6204. Would you limit the amount of compensation to be given so as to not make it an inducement for a butcher to buy carelessly?—Yes, especially with the cows, I am going strongly in for the guarantee if nothing is done.

6205. If the money is taken for compensation out of the Imperial funds who would take care of the Imperial purse in your district for instance?—Of course you have got the Government officers down that way.

6206. You would have a Government officer wherever there is a slaughter-house?—Yes, to look after the money.

6207. To look after the compensation question?—Certainly.

6208. Who would pay their salaries; would it be paid out of Imperial funds also?—It would have to come out of Imperial funds.

6209. Do you know that it would cost hundreds of thousands of pounds, if not millions, if there were Imperial officers and Imperial compensation everywhere?—It would cost a good lot certainly.

6210. And all this is done to protect a man against a thing that you can perfectly well protect yourself against and have protected yourself against—am I not right?—We protect ourselves so far, but it is a great loss to us.

6211. I am speaking of you individually?—In my own case certainly.

6212. The risk against which you have been enabled in all these years perfectly well to protect yourself with one single exception?—Certainly, but I am helping my brother tradesmen. So far I have lost myself almost nothing. I am one of the fortunate kind; I am a strong teetotaler. But I do not want to stand aside when I am here to represent the town of Carlisle. (*Witness handed in a table of the results of the condemnation of cattle for ten years.*)

6213. (*Mr. Murphy.*) You gave us the amount paid in compensation in a year, 209*l.* I think it was?—209*l.* for 1896 and 95*l.* in the first year.

6214. That is three-fourths compensation?—Yes.

6215. You pay a portion?—That is one-fourth against the butcher's self.

6216. You had to raise your price for insurance during the last year?—Yes.

6217. Because you found 1*s.* per cow was not sufficient?—It was too little. I proposed to make it 2*s.* and if I had known it would have been 2*s.* Our secretary could not give the figures as to how many were cows and how many were of the other class.

6218. Do you anticipate that the 1*s.* 6*d.* will be sufficient for the cows?—Not at the present percentage. We have taken it again, the last three weeks, and when we get three or four weeks clear it pulls us up again.

6219. You were thinking that if the carcasses were only seized when there is generalised tuberculosis that your losses would be less?—Certainly.

6220. Would that make you expect to find the 1*s.* 6*d.* more than you would require for the purposes of insurance?—It all depends upon what is to befall us.

6221. But under existing circumstances 1*s.* 6*d.* falls a little short?—It does fall a little short.

6222. You have had a particular member of your society who has cost you something more than the others?—Yes.

6223. Could you say how many of these last year belonged to him?—That is the particular price of all the animals; that is in the list that I have given you.

6224. I want to know of the number of carcasses seized, how many would belong to him. You have 56 seized in the year from March, 1896, to February, 1897?—That is to say, four in the two years, three in his own name and one in that of a relation.

6225. Could you make any estimate of the average age of cows that come to the slaughterhouse?—That would be rather difficult to do. The ages are all given in that table which I have handed in. I did not notice the high percentage of the cows, and I was quite surprised to hear the last witness speak about the cows.

6226. I gather from the ages stated in this return that some five or six years is the average duration of life of a cow that comes to the slaughterhouse; would you think that would be about it?—That is only a young age; when we speak of cows, we speak of cows of eight or ten years old. In years gone by cattle were not killed at four or five years old, and the same

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way with sheep. Now they are fat much earlier, and with the artificial feeding they come into market much sooner. We have cattle 12 and 18 months old, as heavy as 56 or 60 stone.

6227. These are not the animals that you complain of?—Certainly not; therefore it is the feeding that brings them on very much earlier now. The animal after it has had a calf, and shows not good udders for milking purposes, is milked for six months, and fed right out again. That is the reason you get them so young. Taking an average of a beast, we think five or six years is rather large, you get them about eight.

The witness withdrew.

Adjourned sine die.

EIGHTEENTH DAY.

No. 7, Whitehall Place, Westminster, S.W.

Wednesday, 30th June 1897.

PRESENT:

SIR HERBERT E. MAXWELL, BART., M.P. (CHAIRMAN).

SIR RICHARD THORNE, K.C.B., F.R.S.
PROFESSOR G. T. BROWN, C.B.
SHIRLEY F. MURPHY, Esq.

T. COOKE-TRENCH, Esq.
JOHN SPEIR, Esq.

T. M. LEGGE, Esq., *Secretary*.

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Mr. CLEMENT STEPHENSON called and examined.

6230. (Chairman.) You are a veterinary surgeon, and a Fellow of the Royal College of Veterinary Surgeons?—I am.

6231. And you have been veterinary inspector for the City of Newcastle since 1865?—That is so.

6232. And for the county of Northumberland since 1878?—Yes.

6233. You are also acquainted with farming generally, and the breeding of cattle?—I have been a farmer since 1871, and breed stock.

6234. What is the cow population of Newcastle?—In the City of Newcastle there are 700 registered cows, 45 non-registered cows, that is, cows the property of gentlemen for their own use, and there are on the Town Moor 242 dry cows, making a total of 987 cows in the city.

6235. Then Newcastle has a considerable cattle market?—We have a large cattle market on the Tuesdays at which there is an average of about 2,000 head of cattle shown. We have a cow market on the Saturdays, new calved cows, and there are about 50 shown on an average.

6236. That is cows sold for milking purposes?—Yes, new calved cows brought to be sold to dairymen.

6237. You gave evidence, I think, before the Departmental Committee in 1888?—I did.

6238. We do not need to trouble you to repeat yourself, but if you think there is anything in that evidence to which you can refer with advantage, please to do so?—I should like to put in a further statement in continuation of the Report of 1888, in the Appendix, marked A., on page 295 of the Appendix. It is an account of tuberculosis found in cattle at the knackers' yards in the City of Newcastle and in Gateshead. From 1888 to 1896 there were 70 cases of tuberculosis, and from all other causes there were 114.

6239. It would be useful if you could tell us how many carcasses there were?—The total number of carcasses was 184.

There are a great many killed about eight or nine that are found healthy.

6223. (Mr. Cooke-Trench.) You were asked just now whether there was any analogy between cattle slaughtered for pleuro-pneumonia and carcasses confiscated for tuberculosis; you said you could not tell. I want to know now, is it for the public interest when cattle have been slaughtered for pleuro-pneumonia?—I cannot say whether it is for the public interest. I do not know that it is for the public interest.

6229. You do not know?—No.

6240. And out of that how many were tuberculous?—70.

6241. (Sir Richard Thorne.) What was the total number of carcasses?—184 not slaughtered, but animals that died or were slaughtered from disease, and which were sent to the knacker's.

6242. That is Table III.?—It is a continuation of what I put in the last report; it is from 1888 to 1896, and over and above this report from the knackers there were 18 tubercular cattle out of the market that are not enumerated in the above.

6243. (Chairman.) Were those condemned?—Yes, we took 18 out of the cattle market.

6244. After slaughter?—Before slaughter.

6245. What were they condemned for?—We have power to remove and exclude animals that we consider are suffering from tuberculosis or from other disease, and that are emaciated animals which we consider are not fit for food. We order them out; we have not power to slaughter. When we see a worn-out diseased animal, generally old cows, some of the salesmen will say, "What shall I do with it." We say, "Take it down to the knackers." Some will do that at once; others will take the animal out of the market and take it back to the lairs, and in all probability sell to the men who buy those animals at a very small price, and take them away to another town. But at any rate we got 18.

6246. All these must have been extreme cases of tuberculosis?—Yes, they were evidently suffering severely, and they were worn-out old cows. In the eight years from 1871 to 1878 there were 53 cases of tuberculosis, and from other causes 558, that were sent to the knackers, making the total of deaths 591 in that time against 184 in the years 1888 to 1896, showing a very great decrease in the number of deaths. This is only a copy of the form that we supply to our knacker men; when they get a carcass they must send us this notice (*handing in the same*). That is the old copy of which you have a

copy in the 1888 Report. This is our new form recently issued to all the knacker men (*handing in the same*). When they get a dead cow in of any kind they must fill that form up, and we supply them with stamped envelopes; and these are sent to Mr. Elphick, V.S., inspector, and he makes a post-mortem and fills it up, and it is handed in to the Health Department of the Corporation, and there it is filed, and we can tell the number of animals that die, or that are sent for destruction.

6247. Then, in the same Appendix, there is a table of cases, supposed to have been those of pleuro-pneumonia, which turned out to be tuberculosis?—Yes, I have got a continuation of that from 1888 to 1896, showing in that time the cases that were reported as pleuro-pneumonia and swine fever, and of that class 13 cases of tuberculosis were found in cattle and eight in swine. In the year 1879, to 1887, according to the Appendix C., page 295, there were 23 cases of tuberculosis in cattle; and in 1896 report there were 13 cases of tuberculosis in cattle (*Tables handed in*).

6248. Is there much meat destroyed in Newcastle on account of tuberculosis?—A good deal.

6249. On what principle do you go?—We pass carcasses or quarters as they come if the disease is small and localised. If it is at all generalised, or two or three of the organs are affected, we condemn them; but if it is only small localised tuberculosis, and if the beef was in good condition, it would be passed for food. I have got an account of all that has been destroyed. It is rather an interesting report; it was got out for me by Mr. William Hedley, our inspector. It is a return of the beef, veal, and pork destroyed in Newcastle-on-Tyne on account of being affected with tuberculosis, and also from all other causes, from the 22nd of March 1892 to December 31st, 1896. From the 22nd of March 1892 to December 31st, 1892, there were destroyed, on account of tuberculosis, 29 carcasses of beef and 1 carcass of pork; and from all other causes 39 carcasses and 13 quarters of beef; 34 carcasses of veal and 21 carcasses of pork. In 1893 there were 40 carcasses and 9 quarters of beef destroyed for tuberculosis; and from all other causes 61 carcasses and 11 quarters of beef; 63 carcasses of veal, and 53 carcasses of pork. Seven of the tuberculous carcasses and 4 quarters of beef were imported dead meat from Denmark. In 1894 there were destroyed for tuberculosis 37 carcasses, and 23 quarters of beef; 1 carcass of veal, and 2 carcasses of pork; and from all other causes 25 carcasses and 18 quarters of beef, 47 carcasses of veal, and 49 carcasses of pork. Tuberculosis was found in three consignments of dead meat from Denmark, 19 quarters of beef being affected and other 8 quarters of Danish beef were in a dropsical emaciated condition, and they were destroyed. In 1895 there were destroyed, for tuberculosis, 37 carcasses and 10 quarters of beef, 3 carcasses of pork, and 6 pigs' plucks; that is the lungs and heart. The pigs' plucks came from Stranraer. From all other causes we destroyed 19 carcasses and 5 quarters of beef, 49 carcasses of veal, and 199 carcasses of pork. The large quantity of pork destroyed during this and the following year was owing to outbreaks of swine fever in the district. In 1896 there were destroyed, on account of tuberculosis, 40 carcasses and 3 quarters of beef, and 2 carcasses of pork; and from all other causes 42 carcasses and 17 quarters of beef, 52 carcasses of veal, and 158 carcasses of pork. During 1896, 13 carcasses of good fat cattle that showed no signs of disease during life were destroyed on account of being affected with tubercle, the butchers bearing the loss. This year, on February 2nd, there was one carcass of tuberculous veal destroyed, the calf was 10 weeks old, and it came from Carlisle. I have annexed a return of beef, veal, and pork destroyed in Newcastle-upon-Tyne on account of being affected with tuberculosis, and from all other causes from the 1st of January to the 30th April 1897 we destroyed, for tuberculosis, 3 carcasses and 1 quarter of beef, and 1 carcass of veal;

and from all other causes 10 carcasses and 17 quarters of beef; 8 carcasses and 2 quarters of veal and 55 carcasses of pork. The quarters of beef destroyed were imported dead meat from Denmark; one was tuberculous, one had a large abscess, and the others were generally in a bad condition. Of the 13 tuberculous carcasses of beef destroyed 9 of the animals had been bought in the live-cattle market for healthy fat cattle.

6250. Showing no signs of disease?—Showing no signs of disease, and bought at good prices. Referring to the carcass of veal destroyed this year, upon inquiry I found that the calf was bought at Carlisle and, as I said before, it was 10 weeks old, and it cost 3l. Nothing was observed wrong with it, it was put on rail for Newcastle; at the latter place it was found down in the waggon, and was killed. The lungs were affected; the pleura was studded with tubercular deposits, and the thoracic and pelvic glands were affected. In connexion with Report No. 1, we in Newcastle believe that through the use of tuberculin in the West of Scotland, many cows in milk, and bulls in working condition, have been sent to our market, and increased our tubercular returns. Dairymen have for some time been buying milk cows in our fat-cattle market, and the disease has been, as a result, prevalent in our eyes.

6251. What qualifications have you insisted upon for your inspectors?—Well, the medical officer of health is the inspector for looking after the health of live animals.

6252. When I say "you" I mean the town of Newcastle?—We have a medical officer of health, Dr. Henry Armstrong, and two assistants. Mr. William Hedley, who is an old servant, and has been an inspector working under me for many years, and he is one of the best men in the country, and he has an assistant named Dodds, and I am there too. If a doubtful case of meat arises the medical officer sends for me, and we consult before destroying or passing it. If I see anything in my journeys I direct Mr. Hedley's attention to it; we may there and then destroy it, or do what is right. If it is a doubtful case we bring up Dr. Armstrong, and we work together, I think, pleasantly.

6253. From the point of view of a veterinary surgeon you consider that the inspection is effective?—I do.

6254. Are there many Jews in Newcastle?—A great many.

6255. And they do their own slaughtering?—Yes, their rabbi does. I believe amongst the Jews it takes years before the rabbi is qualified to slaughter. I have often seen them at work amongst the slaughter-houses, and in connexion with that I have had many a talk with them. I may say that I do not attach much importance to the examination by the Jews.

6256. They have their separate inspection?—Yes, the animal is slaughtered in a special way, their way. When the sternum is cut through with a saw, the Jewish priest puts his arm into the thorax, feels all round for adhesion, or any hardening, and if he finds nothing wrong with the hand, as a rule there is no more examination. If he finds something suspicious he will have the lungs and the trachea taken out and the lungs are inflated as far as they would be during life, and he handles them and feels all round the edges. He will sometimes reject the whole carcass simply for a small shred, some slight adhesion, or a little pleurisy. If a portion is found affected, in passing his hands over the pleura and the diaphragm, they will reject it, but they never look to the hind parts. I have had a good deal of talk about this matter with them, and I may say that I have here the "Jewish Chronicle" of March 19th, which gives a report of their proceedings. It says that in six months in White-chapel, Deptford, and Liverpool, they killed—it is here called slain—17,910 cattle. Of these 15,558 were kosher, that is healthy, beasts. That leaves 2,352 which are what they call trypha, not sound. Of calves they slaughtered 3,078; of that number

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2,689 were kosher and 389 were trypha, that is 13 per cent. of the cattle, 18 per cent. of the calves. Then of the sheep, 25,290 slain, and 18,426 kosher, and that leaves 6,864 trypha, making 27 per cent. of the sheep rejected.

6257. Eighteen per cent. of the calves, 13 per cent. of the cattle, and 27 per cent. of the sheep; but that could not be for tuberculosis?—No, certainly not. They are exceedingly particular, and they reject for other causes besides tuberculosis. Mr. Hedley told me a fortnight ago that out of 15 sheep slaughtered by the Jews they only got five. That is to say, the Jewish people wanted five sheep, and they had to slaughter 15 to get five kosher.

6258. What did they do with the condemned carcasses?—Well, that is thought good enough for the Christians.

6259. That is precisely what I was going to ask?—I put in that report in the "Jewish Chronicle," and you will see all particulars (*handing in the same*).

6260. When the rabbi condemns a beef carcass it is not destroyed?—I never knew one destroyed.

6261. It is sold in the open market?—Yes.

6262. Does it go through a further inspection before being sold to Christians?—If there was a piece tuberculous, a slight adhesion, we should never hear of it. If it was more than that then Mr. Hedley would be on the scene, he and his assistant are continually going round, and we detect them in the slaughter-houses in that way.

6263. How many public slaughter-houses have you?—We have no public slaughter-houses; the slaughter-houses are all licensed. We have a great many.

6264. Have you any opinions as to the expediency of public abattoirs?—I think it is most important—one of the most important questions of the day. I say, if possible, there should be public abattoirs, and they should be compulsory and uniform all through the United Kingdom. That is my own idea of it.

6265. I think the reasons are pretty obvious?—Yes.

6266. Well, then, there is in Newcastle and district the Butchers' Association?—There is. These are the rules of the society (*handing in card of rules*). I asked the President to get me the statistics out of what they paid, and the secretary writes, it is rather a mixed statement, but I will read it: "Our association was commenced in April 1892—year ended 31st May 1893—and so ending each May '31st." You will see that the butchers pay 1s. for steers and heifers and 1s. 6d. for cows as an insurance. When they go into the bank to pay the money for the cattle bought they give off the names, and they pay 1s. or 1s. 6d. as the case may be, and the cashier gives a small ticket, showing that these animals have been insured. I might also say that they surrender their cattle. They do not say that they are seized or have the cattle taken from them; but they say that they surrender the cattle. They have certain terms of compensation. The first year the number of cattle insured was 5,884; the number surrendered—one of which was from anthrax—two. I saw the anthrax animal. The amount of compensation paid was 22l. 13s. 4d. The amount paid back to insurers, as divided at the end of the financial year, after setting aside a fair balance for next year, was 255l. 7s. 9d., or 87½ per cent., paid back to the members. That is the first year.

6267. How do you account for the great discrepancy in the proportion of insured animals condemned?—I should just like, before answering that, to finish these figures in the letter: "The number insured in the second year is 4,418; number surrendered, 1; amount paid in compensation, 12l. 6s. 8d.; amount paid back to members, 197l. 3s. 6d.; that is, 91½ per cent. of the money paid back after providing a good balance for the amount carried forward. In the third year the number insured was 3,900;

number surrendered, none; compensation paid, nil amount paid back to members, 176l. 5s. 6d., being 93½ per cent. In the fourth year the number insured was 4,242; the number surrendered, 1; the amount paid in compensation, 9l. 15s. 4d.; the amount paid back to members, 198l. 16s., being 91½ per cent., after providing a balance for next year. In the fifth year the number insured up to 25th March 1897, was 4,320; number surrendered, 4; amount of compensation, 27l. 5s. 4d.; amount paid back to members not known yet. The total number insured was 22,764; the total number surrendered, 8; the total amount of compensation, 70l. 0s. 8d.; the average per head, 8l. 15s. 1d. There was only one cow, four heifers, and three bullocks." And then there is something about the number of teeth, showing their age. "The total amount paid back to members was 827l. 12s. 9d. The number of members is 98, of which number about 40 availed themselves of the insurance fund." I was struck with the small number of animals surrendered, and I wrote to the secretary and expressed myself surprised that so few proved to be tubercular, and he replies on the 29th March 1897: "In reply to your note, *re* extraordinary result of insurance figures, that we do not insure any cattle of less value than 8l. Also, I will point out to you that the majority of cattle insured are all of a very good class. Again, compare the cattle slaughtered at St. Lawrence in an abattoir, viz., 20,217 during the same period under inspection, and we find that not one was found to be diseased. I am told it is pretty much the same at Liverpool, Glasgow, and London. Our figures do not seem so extraordinary. I fully believe the number of infected animals is over-rated." That was the explanation to my letter expressing surprise at the small number. He says the quarantine yards are not affected with tuberculosis. I have no data to go by, but I fancy there was, and has been, tuberculosis at the quarantine yards at the ports during that period.

6268. (*Sir Richard Thorne.*) Where is St. Lawrence?—It is within the city boundary at the east, down the riverside, where the foreign cattle are landed for slaughter.

6269. (*Chairman.*) Those are very remarkable figures. It will take time to make them out. I think you wish to put in extracts from the Newcastle-on-Tyne Improvement Act?—Yes. We have for many years used every power that we could get hold of to protect us from diseased animals and diseased meat. These are special extracts that I have taken out (*handing in the same*). Under the 1847 Act in 1891 we seized two cows in a slaughter-house, and had them condemned by a magistrate. I do not know that you are quite familiar with all the conditions of post mortem, but that is from a report in "Public Health" referring to these two cases.

6270. Could you give us a brief summary of that case?—Well, Dr. Armstrong gave evidence first. I was with him, and he would not seize them until I sanctioned it at the slaughter-house. He is the first witness called in this case. He says: I made the following notes during the post mortem examination at the knacker's yard:—Black and white cow (five months in calf). Weight of tuberculous glands in chest (exclusive of lung), 1 stone 9 lbs.; each lung contained a tuberculous abscess of the size of an orange; weight of lungs, including abscesses, 10 lbs.; estimated weight of dressed carcass, 18 stones. Red and white cow.—The entire peritoneum was roughened from milary tuberculosis. The mesentary was coated with a layer of yellow organised tuberculous exudation. The mesenteric glands were all greatly enlarged (some to the size of a small orange), and much indurated. The uterus or calf bed was lined with a cauliflower-like tuberculous deposit from half an inch to above an inch in thickness, and its cavity contained at least a quart of purulent tuberculous fluid. The two lungs were full of tubercle in different stages of growth, and

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"weighed 37 lbs. The estimated weight of the dressed carcass was from 18 to 19 stones. This cow was in milk." That is really the condition of them. That is an extract from "Public Health." In the 1892 Act two clauses—sections 23 and 24—were inserted, which are as follows:—(23.) "The market-keeper may remove and exclude from the cattle market and from the cow market all animals which, after inspection by a duly registered veterinary surgeon, shall be suspected by him to be affected with tubercular disease." (24.) "The market-keeper may remove and exclude from the cattle market any old, emaciated, or diseased animal which, in the opinion of a duly registered veterinary surgeon, is unfit for human food, and may exclude from the cow market any old, emaciated, or diseased cow." We have also adopted this year section 4 of the Infectious Disease Act of 1890, giving the medical officer power to go to any byre, if accompanied by a veterinary inspector or a veterinary surgeon, and examine the cows if he suspects disease coming from that byre. That is the 5th February. That is our last order on the Infectious Diseases Prevention Act (*handing in same*). I only hand them in to show that we try to do the best we can to prevent disease passing from animals to man.

6271. I suppose inspection is rendered much more difficult by the existence of a number of slaughter-houses?—Yes, it means more work.

6272. But, granted the additional work, can it be as effective?—No. I have no doubt that there will be time for a carcass to be removed if the inspector was not on the spot. I think that it is exceedingly important, if it was possible, that there should be public abattoirs.

6273. The next point on your notes is the question of heredity, and that I should rather leave to Professor Brown to inquire about. I may ask generally if you ever detected tuberculosis in the fetus?—No. I have seen it congenital; I have seen a calf born with the disease well developed. When you spoke of fetus, I thought you referred to killing the animal—a tubercular animal.

6274. Yes?—In the case of that cow that had a calf in her, I examined that calf. I found nothing in it, not with the naked eye. If it was there, I did not detect it.

6275. Is the presence of disease as easily recognised in young animals as in adults?—Not clinical, but with the tuberculin test I daresay it would be. I have detected it in a very young animal. I might say that I have detected it when the animal was very seriously ill, and would not live long, and in that case it proved to be tuberculosis of the liver. Very much would depend upon the amount of disease that was present in the animal.

6276. I think it will probably save your time, and the time of the Commission, as the remainder of your notes is so highly technical, to hand them over to Professor Brown?—Quite so.

6277. (Professor Brown.) You spoke of certain old worn-out cows that were sent to the knackers?—Yes.

6278. Was any post mortem examination made of them?—Yes.

6279. And did you find any considerable proportion of them with tubercle?—I have given you the number.

6280. Were those tubercular cows?—I have only given the number of animals that we find tubercular; but it is no uncommon thing to find a worn-out cow with a difficulty of breathing, and scarcely able to move, and mere skin and bone, that an ordinary observer would say that it was a tubercular animal, and yet the post-mortem shows no trace of tuberculosis.

6281. What I wanted to bring out was that when cows are in such a state of extreme emaciation that many practical men would call them graped they may, on examination, be found to be perfectly free from tuberculosis?—I have found that over and over again.

6282. You spoke of certain cases of supposed pleuro-pneumonia and swine fever which turned out to be tuberculosis?—Yes.

6283. Are there any symptoms belonging to tuberculosis which could be mistaken in the living animal for swine fever or pleuro-pneumonia?—For pleuro-pneumonia there are.

6284. What are the symptoms which you can mistake?—You get consolidation of the lung on auscultation of the chest, and difficult breathing, and a peculiar noise, and then there is the history to guide you.

6285. With evidence of consolidation on auscultation and those other symptoms you would not be quite certain that you were not dealing with pleuro-pneumonia?—Just so; hence we had power to slaughter.

6286. As to swine fever, what are the indications in the pig due to simple tuberculosis which might be mistaken for swine fever?—It would be very difficult indeed to say. As to tuberculosis of swine, a very common symptom is the swelling of the glands round the throat. You may have cough too, and difficulty in breathing. Before the swine fever order I had power myself by special order to kill, and I found in some cases the very same lesions in swine as I found in cattle. Over and above the pharyngeal glands round the throat the lungs were affected and adherent. In one case I found the lungs, the diaphragm, the stomach and the liver all adhering; it was impossible to separate one from the other, and I have also seen the lymphatic glands affected in the thorax and in the abdomen of swine.

6287. Of course there would be no risk of pleuro-pneumonia and swine fever being taken for tuberculosis if a careful post mortem examination were made?—Certainly not.

6288. You say that you freely admit that many cases are due to infection—that is, of tuberculosis?—Yes.

6289. But you also are confident that in some cases it is congenital, and you believe that it is also hereditary?—Yes.

6290. It is admitted that there are a certain number of cases of congenital tuberculosis?—That is my experience of it.

6291. It is admitted by observers generally?—Yes, that there is some small percentage.

6292. Is not it the case that Dr. Bang records something like 20 or 30 cases that he has seen?—I have not come across that. I have found it myself.

6293. You have also found very evident tuberculosis of the uterus?—Twice I have found it—twice in my own herd and once in this case which I have quoted from this report in "Public Health." In that case you had very extensive tubercular disease of the uterus.

6294. Was the calf in that case also tuberculous? There was no calf in the tubercular uterus. There was a calf in the first cow, and I could not find anything in the calf; if it was there I did not find it.

6295. Of course, there might have been a small deposit, which could only be detected after a very laborious inspection?—Yes.

6296. Would it be likely in most of the cases where there was congenital tuberculosis that it would come from the uterus?—That is not necessarily so. I had one case in my mind. I bought a cow at a good price. I gave 70 guineas for her, and I expected she was a right one, and she was good looking; she was in calf. I had her six months before she calved, and she went on first rate and I saw nothing wrong about her. One morning my man came to me and said "so-and-so has calved," and he said "the calf is a heifer." I said, "that is better still." He said, "it is a very weak and delicate calf." It was laid in a corner. It was such a little wretched thing I had to stoop down to see it. I said: "Well, David, it will not live long," and he

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said, "In a little time it will be all right." To make a long story short, I may say that it lived on about four weeks and then died. When examined, the heart was found diseased, and the liver was affected with tuberculosis. Soon after this cow calved she developed a swollen throat and became a snorer, and she breathed with difficulty. I had her isolated, and sent her to the butcher. I could not see her myself, but I told the salesman to see exactly what was wrong with her. In that case the viscera was perfectly right, but she had a tubercular gland in the throat. A curious thing about that was this: A month after I bought this cow I met a gentleman who knows a great deal about cattle, and he said, "you bought so-and-so," and I said, "yes." He asked, "is she all right?" I said I expected so "why do you ask?" "Well," he said, "her mother was not a right one." I was shocked. I asked what was the matter with the mother. He said, "she was a snorer."

6297. Was she killed or did she die?—I do not know; I was told that my cow was from a dam that was not right, and I know that mine went wrong, and that the calf had tuberculosis of the liver.

6298. But you had no opportunity of making a post mortem of the cow?—No, I ordered it to be sold to a butcher subject to inspection, and the inspection showed that she was all right in the body, except that she had an enlarged gland in the parotid.

6299. How do you distinguish between what you call hereditary and congenital tuberculosis?—Well, I have looked at it in this way; you may have calves with the disease fully developed; and, therefore, I think it is reasonable to believe that you may have calves from tubercular parents born with the disease in such a latent and such a slight form that it is impossible to detect it, and that only time develops it. Even supposing that the disease was not developed in any form at birth, I think that the animal is predisposed to tuberculosis; that its tissue is weak; it has no resistive power to the bacilli; in fact, it is predisposed coming from diseased parents.

6300. In fact, you take heredity to be the predisposition in the animal's system?—Precisely, due to weak tissue, I take it.

6301. I suppose you would admit that when an animal lives for a month, and is found tuberculous at the end of that time, that it may have contracted the disease from the mother's milk?—That depends upon the position of the lesion and its extent.

6302. Could you judge from the position of the lesion whether it was taken from the mouth or the lungs?—I think I could. Take the case I quoted in 1888; if you remember, it was a Jersey cow that calved; it was supposed to be perfectly healthy and went down with milk fever, and she became paralysed. The calf she had was taken away from her and fed with milk that I knew to be healthy. At the end of a few days, eight or ten days, you will find it in the 1888 Report, the cow was slaughtered, and I was sent for to look at her lungs to see what was the matter. At one portion of the lung there was a very hard piece of tuberculosis. The carcass was cut up and buried. A few days after, the calf was slaughtered with the idea of making veal, when three or four weeks old; and, again, I was sent for to see what was the matter with the calf's lung, and in the same lung there was a well-developed piece of tuberculosis as large as a hen's egg.

6303. You are aware that in our experiments we had numerous cases of well-marked disease in the respiratory organs in animals fed on tuberculous matter?—I was not aware of that.

6304. Are you aware that we had numerous cases of digestive ulceration of the intestines of animals inoculated and not fed at all?—I have not seen those experiments.

6305. Are you acquainted with the system that Dr. Bang recommends?—Testing with tuberculin and separating them?

6306. Yes?—But I have no experience of them.

6307. Would it be a desirable thing to introduce it into this country?—No, certainly not.

6308. You would not breed from a known tuberculous animal?—Certainly not.

6309. Merely with a view of taking the calf away and feeding it?—Supposing it became law, that that was to be done it would mean a separation of the animals that re-acted.

6310. (Chairman.) That is not so if you are quoting from the Danish case?—They have got to be isolated.

6311. No, they are under the same roof?—Then isolation is not perfect; it would not be sufficient for me.

6312. If you are forecasting what would be necessary on Professor Bang's system, I merely wanted to point out that separate buildings are unnecessary?—Quite so.

6313. (Professor Brown.) But your opinion is that a system of the kind must be carried out under the direction of an expert?—Yes, and it means extra buildings, extra cost to rear calves in the way they say.

6314. Have you any views as to the best method that could be adopted by the stock owner in general for the purpose of preventing disease?—It is such a large question, I scarcely know where to touch it. I have perfect faith in the tuberculin as a test, but it has one serious drawback. The action is the same whether the animal is extensively diseased all over the viscera or whether it is so small a piece as the size of a bean. It requires an expert to find it, and half-an-hour to seek it. Under these circumstances I am not one of those who advocate the use of the tuberculin throughout the whole herd.

6315. But in your present position, if you were induced to test your herd, what would you think best to do with the animals that did re-act?—After I did, it is my idea that I should have them slaughtered as soon as possible. I would not do as many people say, and I have heard it recommended, that the animals that react should be put aside, and fed and got fat, for the butcher. I know a case of that kind where it was a dead loss to do so, and when the animal was fat and came to the market, it was condemned. The first loss in all those cases is, in my opinion, the least. I think that it is a great mistake to attempt to fatten animals that have reacted, for, mind you, we cannot differentiate between an animal that is extensively diseased, and one that is very slightly diseased. If that could be done, then those very slightly diseased might be kept to breed, or fat, or anything else. I was very much struck with a letter that appeared in the "Scottish Farmer," of 8th May 1897, from Mr. John Speir, about the tubercular test in Belgium. I was so much struck with it, that I put it by. He says: "During the past three years Belgium has tested with tuberculin 22,000 animals, and the Secretary to the Board of Agriculture tells me that out of from 3,000 to 4,000 post-mortems which have been made up to date, the errors in diagnosis are only about 1 per cent." This is the important part: "While, however, the disease was far advanced in many, in the large proportion it had developed so little as not in any way to hurt the animal for feeding or milking, or to render its carcass unfit for human food; and in not a few cases it took the inspector half an hour to find the seat of the disease at all. In the cases where no disease has been found, the presumption of the Belgian inspectors is that infection has only recently occurred, and that the traces of disease are so slight as to escape detection." That puts the trouble of a tubercular cow in a nutshell. Unless we can get a test between the animal diseased in the lungs, and thoracic and mesenteric glands from the one that takes an expert half an hour to detect it, I advise my clients not to use the tuberculin test under those circumstances. But if you do use tuberculin, slaughter at once, and do not attempt to fatten them—the first loss is the least.

6316. I gather that you do not think it desirable to send them to market?—Certainly not. I would make it a penal offence to sell a cow which reacted from tuberculin. I know that it is done. It is a most disgraceful thing. A short time ago, a butcher with a large trade, and a large dairy farm, who supplies milk to a large institution in a neighbouring town, came to me and said: "What about tuberculosis and tuberculin?" I said: "What do you want to know about it?" He said: "Well, I have a large contract to supply milk to a certain place; a medical officer of health came and said that the cows were all to be tested, and he brought a veterinary surgeon, and tested them, and stopped all day." "What was the result?" I said. He replied, "A certain number reacted." "What did you do with those that reacted?" He said: "What could I do. I sent two or three to a certain sale, two or three to another sale, and sent some to a market, and I got rid of them." That is the sort of thing that is going on from the use of tuberculin. I know that we are getting cattle that have been tested, but there is no proof of it.

6317. Obviously, that mode of procedure is calculated to spread the disease all over the country?—The medical officer is quite right to protect his patients, but having tested the cows he ought to go a step further to prevent these cows getting into another dairy, and, perhaps, doing harm.

6318. You do not propose to deal with tuberculosis as we dealt with the cattle plague and pleuropneumonia?—Certainly not, it is a different thing altogether.

6319. In reference to compensation you say that butchers who buy apparently healthy-looking articles at market value should be compensated if, after slaughter, the animal is found to be affected, and the carcass confiscated?—That is my opinion.

6320. Who should pay the compensation?—I think that it is a national question, and I think it should come from the national Exchequer. It is to save the people. I should like to add to that, that farmers and dairymen who submit their animals to tuberculin, and afterwards send them to slaughter subject to inspection when a veterinary surgeon is engaged, that that man is entitled to a certain amount of compensation, and the very fact that you send an animal to a slaughter-house to be slaughtered under inspection, gives the flesh of that animal a very poor chance to be sold. It has to be sent to a dead meat market, and there it competes with Danish meat, and with United States meat, and other kinds, and will sell for 3d. a pound; whereas if the man had sent it to the open market, and said nothing about it, he would have got 5d. or 5½d., or even 6d. a pound. In that case the man is entitled to a 1d. or 2d. per pound to make up the loss that he has voluntarily submitted to for the good of the public.

6321. But you have not decided at all what authority should pay that compensation. You say, "Out of the Imperial Exchequer," but the difficulty in that matter is that there is no order for slaughter?—That is so; I see what all the trouble is about. It is a most difficult question; and then there is the question of notification.

6322. But regarding compensation, you consider that something ought to be done in that direction, but you have no details to submit to the Commission?—There are two men, in my opinion, who ought to receive compensation; that is, the butcher who buys an animal in apparent good health at a fair price, and then loses the carcass, and the man who faithfully carries out the slaughter of animals that react. I know for a fact with my own cattle, if anything goes wrong, I send them off subject to inspection, and give notice that the inspector is to be there, although the animals have splendid carcasses, and some of the cows are suffering from nothing more than multilocular cyst of the ovaries, yet that meat has to be sent to a dead meat market, and has to compete with a very poor quality of meat. I think that the man who does that is entitled to something per pound to make up the

loss. If he does not do that, then the tendency will be that he will say nothing about the test, and put the animals into the market that are affected.

6323. That would extend compensation to disease of carcasses from almost any cause?—No, certainly not.

6324. In the case of multilocular disease of the ovaries, you said?—That is not a disease that would interfere with the value of the meat at all.

6325. That would lose from that circumstance?—Yes. I sent a cow this year that had stopped breeding. I could not get her to breed, and she had bred a good many; she was perfectly free from all kinds of disease except the ovaries, which were about the size of an orange, with multilocular cyst.

6326. In that case the owner should receive compensation, you think?—No, I only quoted that. If you sent the cattle that reacted, they depreciate in value, because you have to sell them as dead meat, and to compete with the poor foreign meat.

6327. (Mr. Speir.) You made a statement that you believed a great many cows come from the south-west of Scotland, which have been previously subjected to the tuberculin test?—That is our idea.

6328. Have you any facts in support of that?—We have no proof, but we have more tuberculosis in our byres than formerly, and week after week for two years we have had a show of milch cows that ought not to be in a fat market, cows giving plenty of milk, and in fair condition, and apparently healthy. Mr. Hedley tells me that going into the byres in the district and the town, they find that there is more tuberculosis as the result, than there was before. I do know also that we have had three good-looking bulls that came *via* Carlisle to Newcastle, selling at 22l., 16l., and 22l. to butchers, which were very much diseased, and were confiscated. We have had trouble with cows coming *via* Carlisle with tuberculosis.

6329. But I think that all that does not give any proof at all that the animals that you get from the south-west of Scotland have been previously tested and then are passed on to you?—I cannot give positive proof of it, but there are certain cases that you cannot always prove.

6330. It appears to me that it may be possible that you may have got isolated animals of that kind, but the use of the tuberculin, even in the south-west of Scotland, has been so limited that I do not suppose that there would be anything like 1 per cent. of those passing through your market, if you even had that percentage?—I do not agree with you. In connexion with tuberculin, in my opinion it should only be supplied to and used by qualified veterinary surgeons, and I think a record should be kept of what animals are tested. I certainly think that it is wrong that any farmer or dealer should be supplied with an article like tuberculin, by which he can test an animal and say nothing at all about it, and then send the cattle away.

6331. Would it meet your view if it were supplied to the veterinary surgeon, and that every animal he found reacting should be marked in some sort of way. I may tell you that in some countries a button is put in the ear?—A button would be no satisfactory mark, or anything that can be put in and taken out; they are put in animals, but they often drop out. If you want a permanent mark it might be put on the hoof, and in the case of horned cattle on the horn.

6332. What you insist upon is that every reacting animal should be marked so that the public should easily know it?—That would meet my views.

6333. And speaking of your own market you said that a great many foreign cattle come in, where do they come from?—No foreign cattle come in; we get foreign dead meat.

6334. You have no live animals?—We have not had live animals for many years. Three or four years ago we got a great deal of dead meat from Denmark. We have had a great deal this spring from Denmark, Copenhagen and FredericksHAVEN; and four years ago from AARNAUS, Aalborg, FredericksHAVEN, and

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Copenhagen. The meat from Copenhagen was always the best and freest from tuberculosis. Now we only get it from Copenhagen. I would like to point out that all this dead meat that comes from Denmark comes in sides sheeted, and when it comes into Newcastle it is cut in quarters and sold. In looking this over before the sale takes place, at one time three quarters of all the quarters had been examined at the shoulder and at the stifle; there was a cut with the knife quite 6 inches long and 6 inches deep. That was done while the carcase was warm, but when it came to us it was closed, and by opening that out we found a large lymphatic gland. In these cases we believe there was evidence of tuberculosis in the viscera, and that those large lymphatic glands at the shoulder and stifle had been examined, and that it was not generalised so was fit for consumption.

6335. I presume the gland would be still left?—Yes.

6336. But you would find that the gland was quite healthy?—I always found that gland healthy in the cases that I have looked at this year.

6337. That, from what I know passes on the other side, would seem to indicate this: that, had they found the gland unhealthy the carcasses would have been condemned?—Well, I think that the gland I have examined would be the last gland in the whole body to be affected. The smaller glands of the thorax and pelvis are much earlier affected than those large glands at the shoulder and stifle joint. I should not think of exposing those glands, and I should expect to find it much easier in other places.

6338. Would you be surprised to find that we saw several cases where there was very little in the internal organs, nothing certainly which would be condemned in this country, and where these glands were wrong?—I am surprised to hear you say so.

6339. You state that under your recent Order your medical officer and veterinary surgeon have power to examine cows. How far do you go with that inspection?—When I have been with the medical officer I looked to the health of the animal, looked for eruption and temperature, and the general health of the animal. The medical officer will take my word for the cow, and devote himself to the health of the people who are about the cattle, the household of the owner, and the milkmen and dairymen and farm hands generally, to see if there is any notification of disease that may be spread to the milk, and from the milk to the consumer.

6340. It is only tuberculosis that we are making inquiry about just now. In an animal or animals presumed to be under that disease, in what different organs could you easily distinguish it?—Do you mean under a post-mortem?

6341. No, in a living animal?—I should look to the general character of the cow—its healthy breeding condition, its temperature—you might get high temperature with tuberculosis, and I should very carefully examine the glands; all the external glands. I should auscultate the chest, and if not satisfied I should run her about so as to increase the respiration in the lungs; in fact, I should do everything to detect anything wrong.

6342. Would that be sufficient to detect it?—No; certainly not.

6343. The disease might be in several other organs?—That is so, and I should then want tuberculin.

6344. Do you think that your people would allow you, as a veterinary surgeon, to use tuberculin?—Some would, and some would not. If I advised it I think they would do it.

6345. Are you prepared to advise your Corporation to give such power?—I have the full power.

6346. Have you ever used it?—Not for tuberculosis.

6347. You mentioned that in a lot of pigs that you examined several times you had found the glands of the neck very often swelled?—Yes.

6348. Have you any opinion to give as to how in pigs the neck glands were affected more than the other organs?—It would be from the food, either from diseased milk, or phthisical human beings expectorating where the pigs are. I think that the disease is sometimes spread from human beings to both cows and pigs.

6349. You gave what I call an adverse opinion against the use of tuberculin: you said its great drawback was that it made no distinction between a bad case and one of recent infection?—That is my opinion.

6350. Presuming that in your own stock, where you are breeding every animal, or most of the animals, that you had started the use of tuberculin on all those when young, and were to use it once a year, would you not then detect every animal within a year after infection had begun and in that case you would know from the test that the infection was recent, and would not that be a very great advantage?—To begin with, if anyone were disposed to carry out the tuberculin test with anything like force and correctness the test would have to be applied not less than once in six months, and I would like to say that in my opinion, and I have thought it over a great deal, if it were possible to detect and to eradicate every tubercular-diseased head of cattle in the United Kingdom that within six or 12 months more the disease would be rife again amongst cattle, and therefore, it would require continual testing and casting. We are importing the disease in foreign meat, and, in my opinion, it is spread by phthisical human beings.

6351. You mentioned, when I asked the question as to clinical examination, that when you put your animals under that you always found a high temperature?—Not always.

6352. Occasionally?—You may have a very high temperature with tuberculous fever in its later stages—a very high temperature.

6353. But would not you have that high temperature from some other cause?—You might, but tuberculosis accounts for it.

6354. And therefore a high temperature in clinical examination means nothing, but with other things it means a great deal with corroborative evidence?—Yes, but high temperature always indicates mischief.

6355. (Mr. Cooke-Trench.) I wish you to tell me a little more about this insurance business. Your results are so very startling that there must be something which I have not understood. As far as I understood your rules, it is open to any butcher who is a member of the Butchers' Association to join the insurance?—Yes. You will excuse me; I had nothing at all to do with this insurance association. I have got this information, but I have nothing at all to do with it.

6356. It is open, I suppose, to any butcher to join the association?—That is so.

6357. Then it is open to any butcher to insure, in fact?—Yes.

6358. The benefit of insuring is more likely to accrue to those who are in the habit of killing rather than an inferior class of cattle, and that would be an inducement to them to insure?—Yes.

6359. And notwithstanding that, you are able for the very small premium of 1s. for every bullock and heifer, and 1s. 6d. for every cow slaughtered, to return at the end of the year something like 80 per cent. of the money?—That is so.

6360. That implies that the risk only amounts to something about 3d. or 4d. a beast?—Yes. I would direct attention to the word "surrender," which is used; that is, the state of the carcase is left to the butchers, whether they shall surrender it as diseased, or, if only slightly affected, to say nothing at all about it.

6361. If they do not surrender they are liable to inspection?—Yes, and they are inspected. There are a great many cattle in which the disease exists, but in such a slight form that you do not find it unless

you seek for it very carefully. The test will never come in in those cases.

6362. I suppose that the cases that ought to be condemned are practically all included under the head of "surrendered"?—That is so.

6363. Both the cases that ought to be condemned are practically insurable at 2*d.* or 3*d.* per head?—No, 1*s.* per head.

6364. But you return 80 per cent of the 1*s.*?—You are quite right, and in some cases more, 91½*ths* was returned in one case.

6365. That is a very wonderful result?—I do not attempt to tabulate these.

6366. That is what I understood; I thought I had been mistaken. You expressed a very strong opinion that there ought to be abattoirs established all over the country?—That is my own opinion.

6367. Would it meet your view if they were established in the large cities, and not elsewhere?—They ought to be at the outside of the cities. If it was a large city there would be two, three, or four; you could not have them massed together in districts at the edges of the large cities.

6368. But suppose that the large cities were protected by abattoirs, would you be content with that, and leave the rest of the country as it is?—Well, if you had large abattoirs, all the cattle that came into the cities to be slaughtered would have to go to these abattoirs. That would cover cattle sent in by farmers or dairymen from the country.

6369. But it would not cover those slaughtered in the country?—Certainly not.

6370. Would that meet your view?—No, you would then want a clearing house for meat. There would be a clearing house for all the dead meat of the county or district, which would be sent on and submitted to the same inspection as the abattoir.

6371. You would have a sufficient number of those clearing houses to enable the country butchers to send their beasts after slaughter for examination?—Yes, there would be very little of that done. The country butcher who slaughters more beef than he wants, if he is a small butcher, would kill one animal, and send, perhaps, the two hind quarters into the city. In fact, that is the trade all over. If they kill more than they want they send in their best cuts to the butchers, and take back meat for boiling from the good butchers to the country.

6372. In the case of a village butcher who kills a beast of his own in the village for the consumption of his customers entirely, and does not send into the cities, what protection do you propose to his customers?—I cannot suggest anything, unless you have the local veterinary surgeon to look after it.

6373. You would not attempt to cover the whole country with slaughter-houses?—Certainly not—large centres of them.

6374. You would leave the country districts to be protected by such inspection as they could get?—Certainly.

6375. Have you formed any estimate of the cost of establishing abattoirs?—No, I have not. The cost of working an abattoir could be got in a place like Manchester.

6376. (*Mr. Murphy.*) Referring to the figures you were good enough to give us as to the Butchers' Association, could you tell me where the cattle which were insured were killed?—In their own private slaughter-houses. We have no public abattoirs; every man has a slaughter-house of his own.

6377. Then the officers from the sanitary authority would not be present?—They might, or might not. Our two officers are continually moving about on Wednesdays, Thursdays, and Fridays.

6378. But you have two officers only that can be present, and they would not be present during the killing of a large number of animals?—We might miss some of them, but if the officer is not there when they are slaughtered the probability is that he will

see the carcasses, and could look at the lungs when hung up.

6379. But I presume they would not be able to inspect the living animals?—They might miss some of them.

6380. Would they be able to inspect more than a small proportion?—A large proportion of them; some of the cases returned as destroyed are cases of this kind.

6381. There is so much difference between the figures that you have been able to put before us and those we have received from other sources, that I am led to ask whether the difference may be in the fact that the cattle insured in the Newcastle and District Butchers' Association are killed in private slaughter-houses?—No, I do not think that would account for it. You see the butcher has nothing to lose by disclosing the fact.

6382. Then who are your inspectors?—We have, as I told you, Dr. Henry Armstrong, the medical officer of health, his decision is final. Then we have a very good man who has been with us since about 1871, and even before that, that is William Hedley, a most able man, who is acquainted with every one of the people, the senders of live cattle, the slaughtermen, and the butchers, and he is the most able man I have come across for inspecting cattle and meat.

6383. Has he had any veterinary training?—No.

6384. But he is not a veterinary surgeon?—Oh, dear, no.

6385. And the other one was what?—He was a policeman who was taken on to assist. Dodds is his name. He follows Hedley, and if he sees anything he draws Hedley's attention to it, but he cannot do anything of his own accord. He must point out defects to Hedley, and Hedley, if I am not about, will send for me, or at any rate the medical officer of health.

6386. In any future appointment do you think it desirable to have an inspector who has veterinary knowledge?—If you could get hold of a veterinary surgeon accustomed to cattle, sheep, and pigs, and who knows the habits of these animals, and a man with tact, a good deal of tact, and who could go pleasantly and nicely amongst the people and not set their backs up, he would be all right.

6387. You might find members of the veterinary profession with those attributes?—Precisely, but they are not very common. There are many good veterinary surgeons not adapted to make a meat or cattle inspector.

6388. I take it that a veterinary surgeon will probably require special training for the purpose?—I am sure he would, unless he had naturally obtained it before becoming a veterinary surgeon.

6389. Have you thought of any system that might be organised for the purpose of inspection of cattle in dairies?—Well, under the Dairy and Milkshop Order there are certain regulations, for instance, as to ventilation, whitewashing, and lighting, and at present the dairies are not under the veterinary surgeon's inspection at all, they were originally under the veterinary surgeon, but now I think the policemen do it all, and they have power to call in a medical officer of health. It would be certainly most desirable if all dairies were inspected at certain times by a man who knew what he was working about, a veterinary surgeon to examine udders and as to general health and ventilation and light and cleanliness and drainage.

6390. Would you think that such inspection would be sufficient, or would you require notification?—Notification certainly, the inspection with a notification, and inspection independent of notification. But I would make notification compulsory in all dairies. It does not matter if the cows had an ordinary inflammation of the udder from any cause and the milk was altered in character; the milk of that cow should be withdrawn.

6391. You expressed the opinion that it was not profitable to fatten cows which react with tuberculin?—Certainly not. If they are being tested with tuberculin those that react should be slaughtered as soon as

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possible. I will tell you why. I was consulted a few months ago by a gentleman's steward, who said: "I want to see you. The master would have all the dairy cows that supplied milk to the house tested, and it has been done." "What is the result?" I said. "Certain of the cows reacted." I said: "What are you going to do?" He replied: "That is what I asked the veterinary surgeon, and he told me to fat them and get them ready for the butcher;" and I replied, "How can I fat a cow four months from calving, and another six months, and here is one within a month of calving; how am I to fat the lean milking cows in calf?" I said, "My idea as to what should be done with them is that they ought to be slaughtered." He kept them all. The first cow that he got fat he sent to be sold, with the result that it was condemned, and it was altogether a total loss. I did not see it, I was in London at that date, but I heard of it after. There is a case where the man lost not less than three months feeding, to say nothing of the risk of keeping the animal in his herd, and then lost it all. I look upon this first loss as being the least loss, and people ought to get rid of them. I look upon the first loss being the least loss, and I advise people to get rid of them.

6392. (*Chairman.*) Pardon me, the man did not lose it, the owner of the animal did not lose it?—Yes, the whole carcass was confiscated.

6393. Did they slaughter it?—No, he brought it into Newcastle subject to examination, the same as I do. I say that tuberculin is a very luxurious test, and one that only the wealthy and the bold will attempt.

6394. My interruption only was because I thought naturally in the ordinary course of things, the loss would be upon the butcher?—Not in this case.

6395. There was no butcher in the question?—The salesman was told that this animal reacted, and it was sold subject to be examined.

6396. (*Mr. Cooke-Trench.*) It was, in fact, warranted?—Yes.

6397. (*Mr. Murphy.*) With your view of the use of tuberculin, would it be sufficient if the local authority were to require the exclusion from the dairy of animals that presented physical signs?—I beg your pardon.

6398. You expressed the opinion that tuberculin is a luxurious test?—I do.

6399. Do you think it would suffice to exclude from the dairy animals that gave physical signs of tuberculosis?—That is my opinion. From all that I have read, even from Mr. Speir's letter and M. Nocard's writing, it is evident that in a large percentage of the animals that re-act, the disease is in such a very mild form that it is ineffective, and that the milk is perfectly healthy and the animal may go on breeding and be kept in a herd.

6400. Do you think there would be advantage in giving opportunities to people who wish to use tuberculin to have the services of a veterinary surgeon and tuberculin for their use?—I think that ought to be the case. If you prohibit private owners from obtaining it and using it, for I am strongly of opinion that it should be only supplied to veterinary surgeons, and only used by them and on an animal having reacted from tuberculin, and that it ought not to be sold without disclosing the fact that it had reacted, and it ought to be a penal offence to sell the animal without disclosing the fact that it had reacted. It is only another way of spreading disease, and increasing the number of centres.

6401. On the subject of compensation, does it occur to you that the insurance system is a more convenient and useful way of assisting the butcher than any other?—Decidedly so. If the figures were worked out it would be a simple thing for both dairymen and slaughtermen to insure against loss.

6402. So far as your experience goes, the amount required to be paid for the purpose of insurance is not too severe a tax for either the buyer or vendor?—Certainly not. I am going by the papers I put in

6403. Then you express a strong opinion in favour of public slaughter-houses?—I do.

6404. Would you propose to mark meat that had been killed in a public slaughter-house and passed inspection there?—Well, meat perfectly good requires no marking, but if an animal gave evidence of a certain amount of tuberculosis, the first thing would be to destroy the tubercular portions and then it might be, perhaps, advisable to mark that as a second-class meat, but the first-class meat should be absolutely without mark. At the same time I would like to say that the marking of dead meat is an exceedingly difficult question; I do not know how you would do it.

6405. Seeing that a great deal of meat comes in from abroad, do you think there would be any advantage to the home producer if his meat, killed and examined in a public slaughter-house, were marked in such a way that the consumer would know that he was buying meat which had been subjected to this examination?—I think it would be an advantage; and I think all the dead meat that is imported into England should be rigidly inspected at the port of debarkation. I would have the sheet taken off and have the meat as carefully examined as in our own abattoirs, and if it were diseased it should be confiscated there and then, before sending it out to the large centres.

6406. (*Sir Richard Thorne.*) Would you allow me to refer to the insurance system. You gave us a list of 22,764 animals, I think, that were insured?—Yes. These figures are supplied by the secretary of the Newcastle Society.

6407. I notice that Rule 2 of this Butchers' Association says:—"That its object be to compensate members losing cattle, seized or surrendered or destroyed, affected with tuberculosis, or other disease, or by accident"?—Yes.

6408. Now you mentioned eight that were surrendered?—Yes.

6409. Does that mean that none were seized?—None were seized; eight were surrendered; and of that seven were affected with tuberculosis, and one by anthrax.

6410. In other words, there were only seven out of 23,000 that were found to be suffering from tuberculosis?—That is so.

6411. And for which compensation became at all necessary?—Yes; but I quite think that in several of the carcasses that were passed, there might be traces of tuberculosis that an expert might have found, which an ordinary butcher did not see.

6412. Then you read a letter from Mr. Thompson, secretary of the Association?—That is right.

6413. And his final conclusion is this: "I fully believe the number of infected animals is over-rated"?—Yes.

6414. I suppose those statistics that he submits through you bear that out?—Yes.

6415. I notice that the proportion of tuberculous animals is very different in this list of insured animals to what it is in the list which you put in before the Committee on pleuro-pneumonia and tuberculosis?—Yes.

6416. And that at the date which you have given us this morning there were, from 1871 to 1896, 868 cattle that died or were slaughtered for disease in Newcastle, and of these 123 were on account of tuberculosis?—Yes.

6417. Of course, the contrast between that and the table which you have given us this morning, of only seven tuberculous out of 23,000 is very striking?—That can be very easily explained. To begin with, the butchers are buying apparently healthy animals; these statistics I put in are all diseased animals. These are animals accounted for by going to the knackers.

6418. But there are 123 that are tuberculous?—Yes.

6419. Is the difference due to this, that since this insurance association insures none under the value of 8*l.*, the remaining ones are mainly old disused cows

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that were not insured?—I do not think that would affect it.

6420. Not at all?—No.

6421. Does the *£l.* limit exclude a large number of diseased cows?—I should say it does, but you must bear in mind that the members of the Butchers' Association are men who deal with good cattle; they are not men who buy worn out old cows, but they buy good animals.

6422. There seems no particular ground for compensating those butchers; you have only 7 out of 23,000 that are slaughtered?—They boast that they get *11½d.* back for every *ls.* that they pay in to the insurance fund.

6423. But those who are compensated are those who buy old disused cattle?—They are men who buy first-class cattle, healthy-looking cattle, at good prices, and then they find that they are badly diseased and have to be destroyed.

6424. And that number is seven out of 23,000?—Yes. You are referring to the butchers' statistics.

6425. And you think that the Imperial Government, the nation and the State should step in for those seven cattle out of 23,000?—I think they are entitled to compensation. Where the money is to come from I cannot say.

6426. I believe that you have said that you would be perfectly content with a system of insurance?—Yes.

6427. But you also speak of Imperial compensation?—I speak of two people entitled to compensation, namely, the butcher who buys an apparently healthy animal and gives a full price for it, and when slaughtered it is found to be bad—that he was entitled to compensation.

6428. And you tell us that these 23,000 represent that class of business?—I do.

6429. Do you honestly think that seven cattle out of 23,000 is a matter for the nation to compensate?—Not if those figures are right; but I think that there are more. You see that I expressed surprise at them.

6430. But the Secretary to the Association says most distinctly the figures do not seem so extraordinary?—So he says.

6431. He does not think there is anything particular about them?—Quite so.

6432. Your ground for having this dealt with out of the Imperial taxes is, to use your own words, to save the people?—Yes.

6433. To save the people from what?—From tuberculosis.

6434. From an infectious disease?—Yes.

6435. In the excellent administration in Newcastle you have an admirable infectious hospital to save the people from infection. Does the Imperial Government support that?—No; the rates. In my opinion the amount of tuberculosis that is spread by cooked flesh is infinitesimal; that is my opinion about it.

6436. I am speaking of the principle of saving the public by protecting them at the cost of the Imperial rather than the local rates?—Yes.

6437. You have a very good water supply in Newcastle. Does not that largely conduce to save the people from infection?—Yes.

6438. Does the Imperial Government pay to save you from that?—Certainly not.

6439. You have a good system of sewerage, and that has saved your people from typhoid fever enormously?—Yes.

6440. Was that carried out by the Imperial Government?—No.

6441. But when there are seven cattle out of 23,000, you think the butchers should be compensated?—Yes, because I think that this is a special thing. A man pays *25l.* for an apparently healthy animal and the next day, owing to a post-mortem examination, that animal is confiscated and he has either to get the money from the person that he bought it from or from the funds of the Society.

6442. At any rate it would not cost the Government much?—No. Men who submit their cattle to

the tuberculin test and then have them confiscated, or even if they are passed, I would have compensated. I would not give them compensation, because the animal is so bad that it was going to die, but if it were only slightly affected, and the Medical Officer of Health in his discretion condemned that carcass, he ought to be compensated for it.

6443. You have been good enough to tell us that since 1871, you have been farming and breeding cattle yourself?—I have.

6444. How many carcasses have you sent to market with the firm belief that the animals were good, and yet you have incurred personal loss as regards tuberculosis?—I can tell you, I have a record of every animal, and I take care to see every post-mortem I possibly can.

6445. I want the total number that have been seized and condemned of the animals that you have sent to market to be slaughtered and that were condemned and seized by reason of tuberculosis?—Not one was seized, but one was condemned.

6446. How many were surrendered?—Altogether, in 26 years, I have slaughtered for special reasons 19 animals, and my herd, at the present day, is 90; it varies from 65 to, perhaps, 95, and I am selling and breeding.

6447. But we are, of course, only dealing with tuberculosis here?—In that time I have had 11 animals which, on post-mortem examination, were found to be suffering from tuberculosis.

6448. I was asking for the number of animals seized and condemned?—One condemned.

6449. Nor surrendered?—Yes, one just mentioned.

6450. Would you be surprised that that is almost parallel with the evidence of nearly every gentleman who has been before us?—I cannot say that I am surprised.

6451. I expect not. There is one further point that I do not quite understand: you were speaking of the fattening of cattle, and of their reaction in case tuberculin were used?—Yes.

6452. I am interested in that, because I was assuming that a milch cow that was discovered to be tuberculous through the tuberculin test might be fattened and sent for slaughter. But you say that that would be impracticable. The use of the tuberculin test in that sense will not answer, because you cannot tell whether the animal is only slightly or extensively diseased?—That is so.

6453. What I want to ask you is this. Do you mean as a skilled veterinary surgeon to say that you cannot tell whether an animal is only slightly or extensively diseased?—I do.

6454. That is really a fact?—That is really a fact.

6455. That I was not aware of. You distinctly say in the paper that you have been good enough to lay before us as a summary of your evidence, that the disease is largely conducted by, amongst other things, bad sanitary surroundings?—Yes.

6456. And again, that dairy cows should be kept in sheds well lighted, well ventilated, and well drained?—Yes.

6457. We have had a good deal of evidence to show that the greatest loss arises in the case of animals used as milchcows?—Yes.

6458. You would not wish to compensate people who do not keep their cows properly?—No.

6459. How would the Imperial Government or anybody else be able to control this matter when cows are sent from a distance to be slaughtered?—By a local veterinary inspection of the dairies.

6460. That is when they are kept and slaughtered in the same town. But supposing the Scotch sent you a few of those cows, how would you know whether they had been kept in proper byres?—I would not know.

6461. Would not compensation rather encourage a man in not keeping his cows properly?—No; I attach very great importance to ventilation, and light and drainage.

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6462. You say that cattle contract tuberculosis, and that they often contract the disease from human beings?—Well, I would like to modify the word "often," but I do believe that both cattle and pigs contract the disease from phthisical human beings who cough and expectorate.

6463. You understand, of course, how cattle get tuberculosis from a tuberculous human being?—I think I do.

6464. By means of the sputa which would dry and then be blown about, and which the cattle in common with human beings might inhale?—Yes, and also in the making of hay, and in the turnips, from the sputa.

6465. I was examining you on your own word "often"; do you think that dairy farmers keep people who are coughing and expectorating?—Not often, but I have seen phthisical people about a farm that ought not to be there.

6466. Well then, of course, you know better than I do how the same danger of infection arises owing to tuberculous cows; that they are eating the same hay as the hitherto healthy ones, drinking from the same water trough, and whose expectorations, so to speak, are all about the byre?—Yes.

6467. Do you think there is any parallel at all between the amount of danger from the human subject and from the cow itself?—I think if you have a tuberculous cow in your herd that that will account for a good deal of the spread of the disease, particularly if closely housed. At the same time, I think, phthisical human beings do account for some of the spread of disease.

6468. But with the knowledge that there is, and certainly will be soon, is it not the dairy farmers own fault if he keeps such a man?—That is a point. The farm servants are hired for six or 12 months, and you have a man and his wife and children about the place to work, and you have got to keep them unless they are so ill that they cannot work. Again, I know for a fact, it is a very delicate thing to approach a man or his wife to say: "You must go from here and be shut up and isolated." They cannot do it. Many a man would put off the evil day rather than do it.

6469. The same applies to a dairy labourer having scarlatina?—Certainly.

6470. And there is no hesitation about that?—You have got the law for that, and tuberculosis is not a disease under the Act at present.

6471. You put down the registered dairy cows at 700 in Newcastle; do you register the cows as well as the dairies?—The number of cows that a man keeps. Then our inspectors go weekly, and see the cows and byres, and see that they all right.

6472. That is the number of cows in the registered dairies?—Yes.

6473. (Mr. Speir.) In connexion with the number of cases that were detected by your inspectors in Newcastle do you think that the number would have been greater or less had your inspectors been veterinary surgeons?—No, I have the greatest faith in our inspectors. As for William Hedley I do not think any veterinary surgeon could excel him, and work from as early in the morning till late at night, and on Sundays and week-days as he does.

6474. You think you will get as good results from a lay inspector as from a veterinary inspector?—I am a veterinary inspector, and we have also a medical officer of health, so that it is a sort of union that works with us very well, and we have no trouble.

6475. Assuming that for the time being you were to take Mr. Hedley's place, do you think that you would not pick up some cases that he would allow to pass?—Certainly not; I have the greatest faith in him.

6476. A little later on I think you said that veterinary surgeons would not make suitable inspectors

—did I hear you aright?—No, I said that there were many good veterinary surgeons not adapted to make cattle and meat inspectors.

6477. What reason could you give why they should not make good inspectors?—A veterinary surgeon to be a good cattle and market inspector must have practical knowledge of cattle and stock in general; know their natural habits, and he must know the people, and have a nice way of going about the business, and not to set their backs up, and altogether he must have special qualifications to be a successful cattle inspector.

6478. But would not he, or almost any man be in that class in which you would find those qualifications?—He ought to be, but very often he is not—I said some veterinary surgeons. The very fact of being a qualified veterinary surgeon does not make him a fit man to be a cattle inspector.

6479. Are not all gentlemen who are licensed as veterinary surgeons qualified as meat inspectors before they are sent out?—They are supposed to be; they have passed that examination.

6480. Then, in speaking of your own district, you said that bad sanitary surroundings had contributed considerably to the increase of the disease; might I ask you what provision has been made, within your own municipality, for cubic space in your byres?—Yes. We have got the most perfect arrangements that there are anywhere.

6481. What are the particulars?—For lighting, one square foot for each animal, and cubic space, 800 cubic feet of air for each animal.

6482. Now, for ventilation?—One square foot for each animal; that is the official statement, that the dairymen get to work by.

6483. And your inspectors carry that rigidly out?—No, they cannot.

6484. What is the use of making regulations then?—I did not make the regulations. You cannot get that. I only know one byre, and it is a byre of Lord Armstrong's—the Castle Farm—and that is certainly a very fine byre. Talking about byres, I do not believe in a large byre. I believe in a number of small byres that hold about three or four cows. I think in a large byre there should be no loft, and that the light should come from the top. I will give you the exact amount of air-space that my own cattle have. I have one large byre. It is adapted to hold 25 cows. There are no cows in in summer. In winter it is used to hold 12 cows and 12 calves, and that is a cow in one stall and a calf tied up in the other, but it is a 25 stall byre. The cubic space in that byre is 767 cubic feet per cow, and over and above that it has five doors and a space between the wall plate and the roof, and it has nine end ventilators. Four of the doors are half-doors, and the upper half is generally open and only closed in extreme storms in the middle of the winter. I keep my cattle as nearly as possible in the open, all except the roofs and sides round about.

6485. That is very well. I asked the question with regard to what Newcastle had; you gave us what your regulations were. What I want to know is, what exists now in the cow stables you have?—I cannot tell you exactly, but I would like to say that the amount of cubic space is very much modified by the amount of ventilation.

6486. About what cubic space have you?—I cannot answer that. I will tell you what I have myself, and I asked Hedley where the best byre was, and he said the Castle Farm, and I went to see it, and it was certainly a splendid byre and had more ventilation; more cubic feet of air than any I had seen.

6487. What you have is quite sufficient, I expect—the 750 feet, with the ventilation you have?—I think it is more than sufficient.

The witness withdrew

Mr. SAMUEL ROWLANDSON called and examined.

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6488. (*Chairman.*) You are a member of the Royal Agricultural Society?—Yes, I am.

6489. And also a member of the Business Committee and Council of the Central Chamber of Agriculture?—Yes.

6490. And you come here to represent both these councils?—Yes.

6491. You are a practical farmer, I understand?—Yes.

6492. Can you tell us the extent of your holding?—I occupy about 2,800 acres.

6493. Of what nature?—1,450 is old grass land, 640 arable, and 700 acres rough pasture and sea banks.

6494. Will you tell us in what county?—Part of it in the North Riding of Yorkshire, where I reside, and part in the county of Durham.

6495. What number of cattle pass through your hands every year?—From 1,300 to 1,400 pass through my hands in the year. That is on an average of several years.

6496. Have you given any attention to the question of tubercular disease?—My attention has been more particularly drawn to the question of tuberculosis during the last two years. I have had a very great many more cases during the last two years that have come under my knowledge than ever before. My cattle come principally from Cumberland and Westmoreland, and a few of the very best Irish steers and heifers that I can get.

6497. You say that during the last two years more cases than ever have been brought under your notice?—I have had cases many years back, but certainly not so many cases as I have had during the last two years.

6498. To what do you attribute that?—I attribute that partly to the fact that before that most of my animals have been sent away to be slaughtered, and during the last two or three years most of my animals have been slaughtered in my own district.

6499. Then naturally, even if the proportion of diseased animals has not been more, they have been brought more immediately under your notice?—They have been brought more immediately under my notice. I might say this, if you will allow me, that during the last two years I have had several animals which when killed were found to be badly affected, and some of those animals nobody could possibly have detected from the eye; they had never ailed anything, and they grazed uncommonly well.

6500. Have you suffered any loss from the disease?—Two years ago I had an animal that was seized, and I think it was in 1893 that an animal suspected of pleuro-pneumonia was seized by the official of the Board of Agriculture, and it was condemned and killed, and it was a very bad case of tuberculosis. I was compensated by the Board for that animal.

6501. That was because it was suspected of pleuro-pneumonia?—Yes.

6502. Do you find the system of inspection at different places uniform?—No, I believe it varies very considerably; in fact, I know it does in some of the towns near where I reside.

6503. And naturally we may assume that you would prefer a uniform system, even if it were a more severe one?—I think it would be much better. I had an animal that was seized two years ago, in the autumn of 1895. I had sold it to the butcher; I think it was one of 30, and I know which animal it was perfectly well from his description of it. I did not see the carcase. It was an animal which was perfectly healthy to look at, an animal that had done uncommonly well, but as soon as the butcher had slaughtered it he sent for the inspector himself, and the animal was condemned and buried. It was a cow that had only one calf.

6504. Do you hear any complaints about British and Irish meat being more rigidly inspected than foreign meat?—Yes, I often have.

6505. Have you any remedy to propose?—I can not say that I know that as a fact myself, but I have often heard that complaint. I certainly think the foreign meat ought to be as carefully inspected as the English meat, or else it is placed on unfair terms.

6506. I see by your notes that you would not anticipate much benefit from any attempt to stamp out tuberculosis in the same way as pleuro-pneumonia and foot-and-mouth disease have been dealt with?—I think it would be a very much more difficult case, and especially so if it can be conveyed from human beings to cattle.

6507. But on the other hand, I see a little further on you suggest that veterinary surgeons should have authority to slaughter animals which they find suffering from tuberculosis?—I certainly think if a veterinary surgeon found an animal on a farm, or on a milkman's premises, suffering from tuberculosis in an advanced stage, the sooner that animal is got rid of the better, instead of its being left on the premises to continue the disease.

6508. Then in that case you would compensate the owner?—In that case I think you ought to compensate the owner to a certain extent.

6509. Irrespective of the state of his premises?—Well, there may be cases where premises are in a bad state, but I think where the premises are kept in anything like reasonable order he certainly ought to be compensated. It may be an animal in the pastures, or it may be an animal in the houses.

6510. (*Sir Richard Thorne.*) With regard to that point, would you give me your idea as to this. Suppose in the case of a milch cow an inspector comes in and finds a milch cow tuberculous, and it is condemned in the interest of the public, do you say that that cow should not go on providing milk?—Yes.

6511. Would it be a reasonable thing, do you think, to give the owner of that cow, the dairy farmer or dairyman, the option of immediate slaughter with compensation, or of his fattening it for meat at his own risk?—I do not think from my own experience, with animals that you may suspect of tuberculosis, that it is advisable to continue the animal upon the premises. Some of them go on for a long time, others go down rapidly. I had a case myself, only within the last three weeks, of two animals, both of them animals that had had one calf each. They were only bought in April, and were perfectly healthy animals apparently. One I had to knock on the head a fortnight ago, and the other I have had to slaughter.

6512. That means you would choose immediate slaughter rather than fattening for the market?—Yes, it is best for both parties.

6513. But then you have to remember that a very large proportion of milch cows are tuberculous. Are they to be destroyed, in your opinion, and not used for the purpose of meat?—I think a great many would be fit for purposes of meat.

6514. You would rather have the animal slaughtered at once and sold as meat at its then value?—Yes, and the owner compensated.

6515. That, of course, is the State or the local authority stepping in and deliberately seizing an animal that is not placed on sale?—That is so.

6516. Now I come to the other question to which you refer in the summary of evidence. You would also compensate the man who buys at his own risk, knowing as well as you and I do that there is a risk of buying a tuberculous animal. He runs that risk, he kills the animal, he puts it on sale for his own profit, and then he is not allowed to let it be used for meat, because he has been unfortunate enough to buy a bad article. Would you put him on the same footing as regards compensation?—I would, certainly. I have had many cases where I have sold animals apparently perfectly healthy, some of which were badly affected, and I have to compensate the butcher myself. I have

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the dates here. Those animals I know were perfectly healthy to all appearance, and they proved when killed to have been suffering from disease, some of them very severely.

6517. But that is rather in the interests of the butcher than of the public health?—I think it is in the interest of the public health too.

6518. As regards the individual making a bad bargain, I am sorry to say I bought a horse, and a veterinary surgeon examined it, and it was dead in 48 hours; but I did not expect to be compensated for it. I made a bad bargain?—I have known a case of a butcher buying an animal, and before getting it to the slaughter-house it was dead. I would not compensate him.

6519. Do you place any limit, as regards the value of the animal, to the compensation?—Do you mean the low limit?

6520. Yes?—I should think about 8*l*.

6521. You happened to be present, I believe, when Mr. Stephenson was being examined?—Yes; I discussed the matter with Mr. Stephenson some time ago, before I was here.

6522. Are there many animals above the value of 8*l*. that would be so tuberculous that the carcass would be seized and destroyed?—I think there are a good many at least suffering to a considerable extent from tuberculosis.

6523. I am speaking of when the meat is not allowed to be sold. You, I gather, have had nearly 10,000 animals in the last seven years passing through your hands?—Yes, about that.

6524. And you only mentioned two cases of seizure to the Chairman one two years ago. I was not sure whether it was seized for tuberculosis, or whether you destroyed it?—That was seized.

6525. Then it was an animal that you yourself had sent for slaughter?—It was an animal I had sold amongst 30. It was so far as could be seen perfectly healthy until it was knocked down and opened, and then it was as bad as it could possibly be.

6526. The only other case was in 1893, when you received compensation?—I could quote you a good many more than that.

6527. I should be very glad if you would; your own experience and your own loss?—Yes.

6528. What did you lose on that one we were speaking about just now?—8*l*. 15*s*.

6529. Then the butcher did not have the loss?—He lost 8*l*. 15*s*. too.

6530. You shared it?—We shared it.

6531. Could you possibly give us the number of carcasses that have been seized and destroyed on the ground of tuberculosis from your own place, say, in those seven years?—Seized by an inspector, you mean?

6532. Yes?—I only know of two that have been seized by an inspector, but I have had a good many knocked on the head.

6533. Yes, but that was not selling for the purposes of meat?—No.

6534. I am differentiating here between the man who has a live animal detected as tuberculous and the individual who places a dead animal on sale for meat purposes?—I have had only two so seized. A good many of my cattle have gone away to distant parts.

6535. And your habit in these cases is to share the loss with the butcher?—I have always done so.

6536. If the division of the loss between you and him amounts to 8*l*. 15*s*., and if there were a limit of value of 8*l*., it does not come to a very substantial thing in your case, does it?—No.

6537. I mean a limit of value over which no compensation would be given at all?—No. One was a case of an animal that I sold for 24*l*.

6538. You speak of the uniformity of inspection being very necessary. Would you kindly give me your opinion on this point. Supposing any central department of the Government were to issue a code of regulations for the advice of local authorities and meat inspectors, as to what they were to condemn and what they were not, instructing or advising them

that they were not to condemn carcasses when the tuberculosis was limited to a single organ, or was in some such way very limited; do you think that would largely reduce the grievance that is now felt?—I do not know.

6539. Do you think the proportion of cases is large, then, in which tuberculosis is generalised, and where it would be impossible to know it in advance?—That is a matter I cannot speak upon. I do not see many carcasses myself. It is difficult for me to give an opinion on that point. I have had a good many cases of animals during the last two or three years that have gone down very rapidly indeed, where we have had to bury.

6540. Let me ask you whether you have in the last two or three years improved the ventilation of your buildings?—I have taken as much pains as I could. Of course, the buildings are there, and you must make the best of them. I have built one more, or got the landlord to build one for me, and I have tried in every way I possibly could to improve the ventilation.

6541. Could you tell us whether that has any effect in reducing tuberculosis?—That I cannot say, but I have made the buildings much more comfortable for the cattle than they were.

6542. The reason I ask you is because you say you have found more tuberculosis in your herds of recent years?—It has come to my knowledge because during the last two or three years the bulk of my cattle have been killed by local butchers, and formerly I sold them in one or two waggons together to go away. I may say with regard to the cubic space of my buildings, as near as can be, I average 618 feet, with side ventilation, and roof ventilation in every case, except one, where there is a large straw shed over, and in that I have had a great deal of difficulty. But I think I have succeeded in making it much more comfortable than it was.

6543. (Mr. Murphy.) Have you taken any steps to insure your cattle?—No, I have not.

6544. Have you any opinion as to the value of a system of insurance?—Well, I very much doubt its value amongst the farmers.

6545. It is not largely adopted, at any rate?—No. I very much doubt its value amongst the farmers. I think that, if an animal is diseased with tuberculosis upon a farm, the sooner it is got rid of the better; but I must say this, I heard Mr. Stephenson's evidence this morning with regard to cattle being tested with tuberculin, and I must say that, as to some of the animals I have got these last two years, more particularly out of Cumberland and Westmorland, I have myself for some time suspected (and I mentioned it to Mr. Stephenson some time ago) that some of these animals must have been transferred after having been tested. There have been so many which have broken down after I have got them which were apparently perfectly healthy when I got them.

6546. You cannot trace where you get them from?—No. Some of them come from the auction marts, and some from the dealers. I have certainly had more cases during the last two years than ever I noticed before.

6547. You have not used tuberculin at all?—No. I certainly think where any person does use the tuberculin test those animals that react should either be branded or marked in such a way that they would not be transferred to us graziers afterwards.

6548. Tuberculin has not been used much in your part of the country?—No.

6549. Has your attention been directed to it?—Yes, the matter has been discussed by veterinary surgeons and others.

6550. But it has not been used in any large degree?—I should consider it a very dangerous thing for me to adopt the tuberculin test, because if these animals did re-act, then I should consider it my duty, if I wished to carry on my business in a straightforward manner, to get rid of those animals to be killed directly. If I knew they were animals affected

with tuberculosis, I certainly should not like to keep them there, and I should sell them at the first loss, whatever it might be.

6551. Do you think, if opportunity were given to farmers generally to have the use of tuberculin at the cost of the local authority, that they would be unwilling for that reason to avail themselves of it?—I think they would be very unwilling, and for this reason. It would place us in an awkward position. If you have an animal that is not doing well, if you have no proof that it is suffering from tuberculosis, or you do not know what is the matter with it, you can then sell it as an animal that is not doing well, but, at the same time, you do not know that there is any disease. But if you have it tested and find it out, I should think you are in duty bound to say so.

6552. (*Mr. Cooke-Trench.*) How long has this question of tuberculosis been a practical one?—It is a matter we have heard of for some years. I have had cases many years ago.

6553. But within what period have cattle to any serious extent been condemned as tuberculous—the meat?—To my knowledge, at any rate, four or five years.

6554. Before that there was practically no condemnation for tuberculosis?—I do not know that there was. I think not.

6555. Then this is a new risk to the farmer and butcher, introduced for the protection of the public?—Certainly, and a very serious one.

6556. (*Mr. Speir.*) You said that when a veterinary surgeon saw an animal visibly affected with the disease in a dairy, that the owner of that animal ought to be compensated if it was taken away. Did I understand you aright?—Certainly.

6557. Is not that rather a case where he should not be compensated, if the animal is so affected that it is quite visible?—An animal might be suspected of having tuberculosis, but that animal might milk for many months, or even for years.

6558. But if it is judicious to compensate for one that is visibly affected, it must be more so for the enormous number of animals that cannot be detected at all except in a *post mortem*?—Oh, certainly.

6559. Up to the present we have not compensated for those that cannot be detected. There is surely much less reason for compensating those as to which you have quite ocular demonstration that they are diseased?—Yes, but wherever you enforce that the farmer's animals shall be condemned for the sake of the public health, I think that farmer ought to be compensated.

6560. But if the farmer gets a hint that he is culpably distributing poison to his neighbours, is he justified in doing so?—I do not say that he is, and I say the sooner they are got rid of the better, but I think you are much more likely to get to the bottom of it for the benefit of the public health if you compensate him reasonably, than if you do not compensate him at all.

6561. Then, in connection with this matter of the sale of animals which have been tested by tuberculin, you said that, taking two persons, the one who had not tested and the other who had, you would give compensation to the one who had not tested and to the other who had taken these precautions you would give nothing?—No. If a man tests his animals, and it is distinctly proved that his animals are suffering from disease, upon condition that those animals are slaughtered I should compensate him. But what I say is, I should not like to test my animals myself, because there might be a certain number that would react, and if that was so I should then be selling an animal which I knew from the test was diseased, whereas at the present moment I did not know what was the matter with it.

6562. You would only know from the reaction that the animal was affected and nothing more?—Yes.

6563. Having done so, and having made up your mind that that man was not entitled to compensation, are you not in reality penalising an intelligent man

for taking a certain precaution, while his neighbour, who is careless enough to take no precaution, but sells just as he has them, would get compensation?—I would compensate him if the animal were slaughtered. What we suspect is this, that a good many of these animals are passed away and come to the graziers. We have no proof.

6564. As I said to Mr. Stephenson, I think you are taking too pessimistic a view of the situation?—I am not quite sure of that.

6565. (*Professor Brown.*) You were speaking of animals, which I think you said you bought yourself, which no one could find any sign of disease in, but which afterwards were proved to be suffering from tuberculosis?—Yes.

6566. Do you happen to remember the price paid for them?—The average cost of my stock, I may say, is 13*l.* 10*s.* apiece.

6567. They were milch cows, I suppose?—No, there were a good many pure heifers and all for feeding.

6568. You bought them not for the butcher but for breeding?—For grazing purposes, feeding purposes. I do not keep any dairy herd at all.

6569. Does it occur to you, that in many of these cases the carcasses which are condemned may be condemned in consequence of a particular view which the inspector takes of the danger of tuberculosis?—That may be so.

6570. When the meat may be really very good?—Yes, certainly.

6571. Do you happen to know of any cases in your practice where a butcher has bought an animal, of the value say of 20*l.*, and it was found afterwards to be so badly tuberculous it was condemned?—Yes, I had a case myself last year.

6572. Did you happen to see the carcass?—No, I did not.

6573. Do you know where it happened?—Yes.

6574. Will you tell us?—Yes. The animal was sold in Wakefield market, and it went from there to Sheffield. I must say that it was one of the fastest grazers and best doers I ever had in my life.

6575. Is it not extremely probable that in that case the animal was perfectly fit for food?—I believe it was not. I heard so, but I did not see it.

6576. You had no positive evidence of the nature and extent of the disease?—I heard it was very bad indeed, so that the butcher would not use it.

6577. Do you believe that in that case, the case of an animal that was so badly affected that it really was justly condemned, it would show no indication?—It did not show the slightest. I may also say I had another which was killed last Christmas. I sold eight very good heifers indeed to a man at 20*l.* apiece last Christmas, and one of them was affected to a certain extent, but not, I believe, so as to injure the meat in any way.

6578. Was that animal condemned?—No, it was not.

6579. Do you think, if there were a recognised system all over the country by which inspectors would have some idea of the amount of tuberculosis which was really dangerous, that that would get rid of a great deal of the difficulty which exists?—I do not know I am sure. It depends so much upon the inspector.

6580. (*Chairman.*) You have already said, I think, in answer to a former question, that you thought a uniform system would be better?—I think a uniform system would be better if you could get it. In each case it depends so much on the view of the inspector.

6581. (*Professor Brown.*) You know that there is an immense amount of evidence obtained by the last Commission during five years of very hard work, which ought to direct the meat inspectors as to what is dangerous and what is not?—Yes.

6582. Do you think if that information were generally applied and acted upon by meat inspectors, that there would not be a considerable diminution in the number of carcasses condemned?—I think there

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would be less friction than there is at the present time.

6583. And the cry for compensation would probably be very little heard?—I am not quite sure of that.

6584. You think people would still ask to be compensated?—I think people would still ask to be compensated. For instance, if a butcher buys an animal which is apparently healthy, and when it comes to be killed it is found to have tuberculosis in rather an advanced stage, I think it is only fair he should be compensated.

6585. You mean apparently healthy to the butcher?—When he bought it.

6586. In his judgment?—Yes, or in the judgment of the farmer or the butcher who had to do with it.

6587. But assuming the animal when bought was apparently healthy, and the meat was distinctly bad in texture or otherwise repulsive in appearance, do you think if condemnation were confined to those particular cases that there would be any need for compensation?—It is very difficult to tell.

6588. But you know there is a very great diversity of opinion among the inspectors?—I know there is.

6589. That one man would say he would condemn a whole carcass of very good meat for a single spot of tuberculosis, and another would tell you if the meat was good he would let it pass?—Yes, I have heard that.

6590. Under those circumstances a great deal of difficulty would necessarily arise?—Yes.

The witness withdrew.

Adjourned until to-morrow at 12 o'clock.

NINETEENTH DAY.

No. 7, Whitehall Place, Westminster, S.W.

Thursday, 1st July 1897.

PRESENT:

THE RIGHT HON. SIR HERBERT E. MAXWELL, BART., M.P. (CHAIRMAN).

SIR RICHARD THORNE, K.C.B., F.R.S.
PROFESSOR G. T. BROWN, C.B.
SHIRLEY F. MURPHY, Esq.

T. COOKE-TRENCH, Esq.
JOHN SPEIR, Esq.

T. M. LEGGE, Esq., *Secretary*.

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MR. CHRISTOPHER MIDDLETON called and examined.

6591. (*Chairman*.) You represent the Cleveland Chamber of Agriculture on the Council of the Central and Associated Chambers of Agriculture?—Yes, and I am on the Council of the British Dairy Farmers' Association, and, to a certain extent, speak for them.

6592. You are a dairy farmer?—Yes, and have been for 15 years.

6593. You appear to give evidence on behalf of the Cleveland Chamber of Agriculture?—Yes, because the views I have to express are very much the views held by most of the members of the Cleveland Chamber. We have had the question before us on several occasions, and we are pretty much in accord as to what we think should be done.

6594. Perhaps you will give us an outline of those views?—As to what steps ought to be taken, do you mean?

6595. Yes. You have been good enough to give a précis of your evidence; I will either ask you questions upon it, or, perhaps, it would be more convenient to you to make a statement first?—I have no particular wish to make a statement first. I would prefer answering any questions that you ask.

6596. I see you give the foremost place in your notes to the question of milk from tuberculous cows?—Decidedly, because I am under the impression that there is more danger to the public from consuming the milk of tuberculous cows than there is from using the meat of tuberculous animals.

6597. Do you refer to milk from cows visibly affected, or cows that might be proved to be tuberculous from the use of the test?—I am speaking more of that from those being visibly affected than from those who might react from the test.

6598. You mean especially cows and diseased animals?—Yes.

6599. Do you know if much milk supplied is from the cows with diseased udders?—I would scarcely go as far as that, because my own impression is that the udder is not very frequently affected in tuberculous animals. I have had a great many tuberculous animals in my own herd from time to time, and at the same time there were very few cases where I should say that the udder was affected.

6600. Do you think that the present system of inspection under the Dairies and Cowsheds Order is an adequate one?—I think it is quite inadequate, and my opinion is, that in most cases it is almost a dead letter; and even when it is carried out, as a rule the inspector is not a veterinary surgeon. In most cases the inspector is a man who has not any knowledge of the health of animals at all.

6601. But I suppose he would be able to direct disease in the udder?—The inspection carried out under the Cowsheds Order in very few cases takes any notice of the health of the animal. It is more as to the condition in which the buildings are kept.

6602. What improvements would you suggest?—I think that all inspection of that sort should be by a veterinary surgeon, and that it should be more systematic and periodical than it is. At present I know in most of the districts where any attempt is made to carry out any inspection under the Dairies and Cowsheds Order, the buildings are not inspected more than once in 12 months, certainly not more than twice. I think there ought to be a regular inspection of all dairy herds at frequent intervals by a thoroughly qualified veterinary surgeon.

6603. Have you considered the question of expense?—There is no doubt it would be an expense, but I think that would be justified in the interests of public health. They would be justified in incurring the expense necessary.

6604. From what source should those funds be derived?—It should come from the Exchequer.

6605. From the Imperial funds, and not from the rates?—Yes, most decidedly it ought to be from the Imperial funds.

6606. On what principle?—The expense would be incurred in the interest of the public at large, and I think it would be very unfair if one description of property should bear all the expense. Half the people who would receive the benefit from it contribute very little indeed to local rates, and it would be quite unfair that ratepayers only should be saddled with that expense, in my opinion.

6607. You mean that it is in the interest of the inhabitants of London that the milk that is drawn from, say, Cheshire or Yorkshire should be effectually inspected before sending it to London?—I think so.

6608. And that the inhabitants of London should bear their share of the cost?—Quite so. I do not see why Cheshire or Derbyshire should be saddled with the cost in the interests of the consumer in London.

6609. Would you insist upon notification?—Yes, between such inspections I should. I may say that what I am advocating is subject to compensation being paid to the owner of the cattle; it is entirely dependent upon that.

6610. Would you give full value?—The full value at the time. An animal in an advanced state of tuberculosis is not a very valuable animal to its owner, or anyone else, and the compensation would not, naturally, be very large for that animal.

6611. Would you advocate the use of the tuberculin test?—Not as a rule. I may say that I should have very great hesitation in adopting it for my own herd of cows.

6612. For what reason?—I am not quite satisfied that it is absolutely reliable, and, as I heard pointed out yesterday by Mr. Stephenson, until you can tell by the test whether an animal is very seriously affected, or very slightly, I should not be prepared to adopt it in my own herd. I have a note here, if my views of compulsory inspection were carried out, that if there was any difference of opinion between the owner of the cattle and the inspector, in that case either party might insist upon the test; I would advocate it so far as that, but I would not advocate its being compulsory beyond that.

6613. Of course, the question of compensation makes the question of cost a much more weighty one?—I am only advocating the slaughter of animals obviously affected. There is not that enormous proportion of animals visibly affected that many people would have us believe. I think that the proportion is a comparatively small one of animals visibly affected. I have some record in my own herd in respect to that, and I find that during 15 years, out of an average of, perhaps, 60 to 70 animals in calf and milk during that time I have had 18 cows which either died or have been knocked on the head as too far advanced for slaughter for human food. That is not a very large proportion during that time. At the beginning of my experience as a dairy farmer I did not know much of the nature of tuberculosis, and several cows died before I realised what was the matter. Now it is very seldom that happens, and as soon as I am satisfied that a cow has developed tuberculosis, and she is in fair condition, I sell her to the butcher at once.

6614. Do I understand that you advocate an attempt to stamp out tuberculosis?—No, I am not prepared to advocate that. I think that the expense would be so enormous, that I do not think there is the slightest chance of the country at present being willing to bear that expense. I think if what I recommend were adopted it would minimise it to a great extent; besides it would remove the temptation to breed from animals which are tuberculous. The tuberculous animals would be slaughtered, perhaps, a year or two sooner than they would be in the natural course; and when, perhaps, they would breed one or

two calves; and if those were put down it should be beneficial.

6615. In advocating the notification you only advocate it to a limited extent where the disease is largely advanced, or where the animals are visibly affected?—As soon as it is clear that the animal has tuberculosis then out it should go.

6616. As soon as the animal begins to waste or shows signs of the udder being diseased, you mean?—There are many indications before the animal really begins to waste which pretty clearly indicate what is coming.

6617. On the other hand, there are cases in which all outward indications are wanting, and the animal after slaughter has been proved to be extensively diseased?—That is so. There are cases where no one could possibly detect it. I have had cases develop so rapidly that the cow has slipped away almost before I realised that she was ailing; but that is not the general experience.

6618. Have you considered, then, that what you advocate would imply a very considerable expense for an indefinite number of years without any appreciable diminution of the disease?—It would mean considerable expense, but I do not think it would mean the large sums that many people imagine it would. I do not think the percentage of animals visibly affected is so large that it would be a very enormous expense.

6619. At all events it would imply the payment of a large staff of qualified veterinary surgeons?—There is no doubt that would be a necessary expense. I think the end would justify that expense.

6620. What I want to ask you is this: Is the end sufficiently clear; would these measures tend to diminish the disease in any appreciable degree?—I think it would diminish it to some extent, but it would do nothing towards stamping it out. Still I think that it is called for in the interest of the consumer.

6621. You do not fatten cattle?—Except cows. An animal that is not breeding is sold to the butcher, but beyond that I do not feed any cattle.

6622. You have not given very much attention to the question of meat inspection?—Not so much as to the other part of the question. At the same time I do think something more should be done, and that it should be more systematic. In many towns it is carried out very strictly, and I think that the officers who administer it act in rather an arbitrary manner; in others it is carried out in a very perfunctory way, if at all.

6623. You advocate a uniform system on recognised principles?—Yes, on recognised principles. I could give cases of some authorities where, if there is the least trace of tuberculosis when an animal is slaughtered, the carcass is taken and condemned, and the owner gets no compensation. In others, unless it is in a very advanced stage, it is allowed to be sold. I think there ought to be one uniform system.

6624. Would you extend compensation also to the confiscation of carcasses?—I think when an animal is bought in the open market at its full value, and apparently healthy, that the buyer of that animal ought to be compensated when the carcass is condemned in the interests of the public. I would not go so far as to say that, when a man buys an animal in poor condition, which is very risky. When he buys it at a low price he must run the risk in that case.

6625. Do you suggest any limit of price below which compensation should not be given?—I think there ought to be a limit, but it should not be fixed too high. I heard some evidence given here two or three months ago in which, I think, some of the Commission suggested an 8*l.* limit, and one witness said that that was too low, and thought it ought not be less than 10*l.* If the limit was 10*l.* it would exclude a great many of the small breeds of animals altogether. A fat cow, even in good condition, is sold at a low price now, and anything like 10*s.* would exclude a great many of them—many a perfectly healthy cow does not make 10*l.*

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6626. Would 8*l.* meet your view?—I think about 7*l.* 10*s.* Take the small breeds of Ayrshire and half-bred cattle and the Channel Islands cattle, when they are fattened they barely make 8*l.*, when in fair condition and in good health.

6627. Have you any acquaintance with the butcher's insurance?—There is one borough in the north of England where it has been established entirely in consequence of what the butchers consider the very arbitrary way in which they are dealt with there.

6628. Will you tell us what borough that is. The reason I ask is that we have had several witnesses from the north of England about insurance?—Well, it is Hartlepool.

6629. Are you aware that in Newcastle there has been established for some years a butchers' insurance society, in which no animal below the limit of 8*l.* is taken?—I was not aware until I heard it in this room yesterday. Two or three years ago, if I had been asked to fix a limit, I should have thought 10*l.* was not an unreasonable sum; but since that time this class of animal has come down in value, and an animal which two or three years ago would have made 10*l.* would not make more than 8*l.* now.

6630. The price of cows as beef is affected, is it not, by the greater probability of the presence of tuberculosis?—I think so; a certain number of butchers will not run the risk of buying cows. I have spoken to several butchers who used to kill a very large number of cows, and they will not touch them now; and most people who do buy them know that there is a certain element of risk, and they insure themselves against the risk by the price they offer.

6631. (Sir Richard Thorne.) There is a statement in your précis of evidence to the effect that, even though the udder is not apparently affected, the milk is highly dangerous to human health. What is your precise meaning there?—I think that probably tuberculosis in the udder occurs when perhaps the owner does not suspect it.

6632. But, at the same time, I thought I understood you to say that you had long and great experience with regard to dairy cows, and that udder disease was rare in your opinion?—There are a great many forms of disease in the udder which are not tuberculous, and I think that it is quite possible that, except to an expert, tuberculosis in the udder may escape an ordinary observer.

6633. At any rate, the danger would only arise, in your opinion, when, without its being known, the udder is affected with tuberculosis; am I right there?—I think it seems to be clearly established by some investigations carried out under the order of the last Commission, that there is no risk in using the milk unless the udder is affected. In my opinion I would scarcely have gone as far as that. I should be very unwilling myself to drink the milk of a cow in an advanced stage of tuberculosis, even if the udder was not affected at all.

6634. Even if you could know that the udder was not affected?—Yes, if I could and did know that the udder was not affected, I should be very unwilling to drink the milk in an advanced stage of tuberculosis. I have a certain number of cows I knocked on the head myself long before I need have done because I thought it was dangerous to sell the milk, even though I knew that the udder was not affected.

6635. In the 15 years you mentioned just now you say 18 of your cows have died or been knocked on the head; were they all on account of tuberculosis?—Yes, altogether, those 18.

6636. Entirely tuberculous?—Entirely tuberculous.

6637. Now during the same period could you tell me the number of cows which you have ultimately sent to the butcher and in which the carcasses have been seized and condemned on account of tuberculosis?—I do not think there have been any cases where the carcass have been seized and condemned. There has been cases where the butcher has found on slaughter that they were in an advanced stage, and he

has come to me and said it would be better not to sell them, and, as a rule, we have shared the loss.

6638. Have you any idea of the number of those instances?—I do not think there have been more than half-a-dozen of those cases. I looked through my book to find out how many cows there had been during that time that I have sold, at a low price, in addition to those which have died. I find there are 24 during those 15 years which have been sold at a price not exceeding 8*l.*

6639. And notwithstanding that, there is this satisfactory result, so far as your own experience is concerned?—I have perhaps taken rather more care in buying cows than I did years ago, if there is any animal that I consider is risky at all, I do not take it.

6640. May I presume that it would be a very great disadvantage if anything were done to lead to careless buying?—I do not think it would lead to careless buying.

6641. My question relates to anything being done which would lead to careless buying?—But still there would be a great loss, even of the buyer, if he gets limited compensation. Nothing can be done to make it worth his while to be careless.

6642. We have had here two or three gentlemen who are evidently careful buyers, and they have had practical immunity from confiscation. We have heard of others, although we have not seen them, who are alleged to have been very severely treated; would you put these two sets of people on a par, those who have dairy sheds well and properly ventilated and who take care in buying, and the others who have their cowsheds in the most objectionable condition, as we have heard here, and who apparently do not take any care at all—would you put them on the same footing as regards compensation?—It would be difficult where to draw the line. I do not think that dairies in towns should be quite on a par. Personally, I think that the time has come when cows ought not to be kept in town dairies.

6643. Now that leads me to the last point in your précis, that where an animal is bought in the open market at its full value, and upon slaughter is found to be affected, and its carcass is confiscated in the interests of public health, its owner should receive full compensation—how is anyone to know that that was an honest transaction and that the animal was really believed to be unaffected and sold in the open market at its full value. We heard yesterday of animals that were under suspicion, and it is believed that they are deliberately sent from one part of the United Kingdom into another to be sold because they are suspected to have tuberculosis—how could you get them brought under your system?—I think if an animal is in apparent health and bought at the market price of the day—anyone would know whether it was a fair price or not—that shows sufficiently that it is a *bona fide* transaction.

6644. With the limit of 7*l.* 10*s.* for compensation, you think that would cover the danger?—I think so.

6645. I believe I am right in saying that you have 70 cows and heifers in calf and milk?—Yes.

6646. How long do you keep them? In other words, during those 15 years how many cows and heifers would you roughly say have passed through your hands?—I keep them on an average from two to three years. I buy most of my cows when they are about their third calf, on an average, and keep them two or three years, if they do well I keep them for three years, and in some instances even longer, but I do not think that I keep them on an average for more than two to three years.

6647. In those 15 years I assume you have had 400 or 500 which have passed through your hands?—Well, say 300 to 400, perhaps more.

6648. Do you agree with the Report of the Departmental Committee on Tuberculosis of 1888, where it is said that it is the female sex in the bovine race that suffers especially, and that it is the production of milk which conduces to that largely?—No doubt more cows are affected than bullocks. One reason of

that is, probably, the greater age; a steer rarely exceeds the age of three years.

6649. But still the fact remains?—A great many cows do not develop it till after that age.

6650. What is stated here is a fact, is it not?—Undoubtedly.

6651. With that acknowledged risk, you would not think your experience has been a particularly painful one as regards tuberculosis?—I have had a great deal of loss from tuberculosis, apart from what is stated here. A great many animals I have been compelled to sell a year or two earlier than I should have done; good cows that cost a big price, 23*l.* or 24*l.*, and I had to sell them for 10*l.* or 12*l.*, whereas if they had been healthy I could have milked them two or three years longer. There is another great loss; it is one cause of abortion, and I am convinced one great cause of abortion, and it also prevents animals breeding.

6652. Should I be wrong in assuming that the primary element of your business is the sale of milk?—Principally. I am an arable farmer in a general way; but still, principally, it would be that.

6653. I should probably be going too far if I asked you if it had been successful, so that I will not put the question in that form.

6654. That leads me to one other point, and that is the reference to London sharing in the expense of the inspection of cowsheds, in the Cleveland district, we will say; in other words, that the cost of inspection should come out of Imperial funds. Do the London people, who buy the milk from the Cleveland people, pay for it?—There is no Cleveland milk sold in London, it is sold in the neighbourhood.

6655. I took London because it was mentioned. Do the people in the districts to which the milk goes pay for the milk, and where does that money go to?—Of course they pay for it, and the money goes where the milk is produced.

6656. Does not that in itself very materially assist the neighbourhood, and the local rates too?—To some extent.

6657. Is not that the main principle on which this country is governed as regards rates?—I think that it is very unfair that one description of property should have to pay for charges which should be common to everyone—every consumer.

6658. Then you would like infectious hospitals to be supported out of the Imperial Exchequer on the ground that they are for the protection of the public health, as a whole?—I have not considered that.

6659. They are both for the prevention of disease according to your own statement; but I will not press you if you have not considered it. Just one more question and then I have done; you do not regard the tuberculin test as of sufficient value to apply it to your own herds?—I should be very reluctant to use it.

6660. Then I am not sure that I quite follow what you say; you say if the inspection decides that an animal is diseased, that either party shall be empowered to insist upon the tuberculin test being applied, and the result of the test is to be conclusive: what do you mean by that?—Supposing you had periodical inspection; and in the meantime you buy a fresh animal which you suspect, or a cow develops tuberculosis between the inspections. I think that notification ought to be sent at once to the inspector, who should come. It is just possible that he might not consider it was tuberculosis, and the owner of the cow, in that case, should have power to demand that the test should be applied and in the same way, if the inspector says that the cow has tuberculosis, and the owner thinks she has not, then the inspector should have the power to order the test to be applied, and in those cases it should be conclusive.

6661. Is it the compensation that leads you to accept the test which you do not believe in?—I do not say that I do not believe in the test.

6662. But you would not apply it to your herds, you say?—I think a great many people have not courage to apply it.

6663. Quite so. Is that your point, because the two statements are rather contradictory?—It is fairly accurate; it is not altogether reliable; in a very large percentage of cases I think it is.

6664. Should I put the case too strongly in saying that you believe in tuberculin, backed by compensation, but apart from that you would not run the risk?—Certainly, not without compensation. I am not prepared to go as far as to say, even with compensation, I would apply it.

6665. And yet you would impose it as an absolutely rigorous law when you say that if either party demands it, it shall be conclusive?—But that is only in a very rare case, in a matter of dispute between owner and inspector; that would not occur very often.

6666. (*Mr. Murphy.*) Would you propose to extend a system of compensation to other maladies, that is to animals suffering from other diseases than tuberculosis, which render them unfit for food?—I do not know. Is there any particular disease you mean?

6667. I am not referring to any particular disease, but it is common experience that a certain number of animals go to slaughter-houses, and the meat is found to be unfit for food?—No; so far I have not considered it. I have only thought of it from this point of view. It is in the interest of the consumer that this should be done.

6668. So is the prevention of the sale of meat when it is unfit from any cause?—But in that case an animal is, probably, obviously diseased. At present I am not prepared to go beyond tuberculosis.

6669. Is it the fact that meat is taken away from the owner that makes you think that compensation should be given. I notice the word "confiscation" is used in your précis of evidence?—It is ordered to be destroyed in the case which I refer to.

6670. Supposing the authority merely said, "You shall not sell this meat for food because it is unfit for the purpose," but left the meat in the owner's hands, there would be then no confiscation?—It amounts to confiscation if the owner may not sell it; it is no use to him; it is practically confiscation.

6671. Is it the fact that the meat is seized and taken away by the local authority's officer which makes you think this compensation should be given?—In the cases I have referred to, it is ordered to be destroyed—if it is not fit to be sold as food it is ordered to be destroyed.

6672. (*Mr. Cooke-Trench.*) You said that you would like all inspection to be by veterinary surgeons, and that it should be systematic and frequent. May I ask what you mean by frequent—roughly?—At intervals of not more than two or three months.

6673. Is it your opinion that there is a sufficient supply of veterinary surgeons in the country to make such an inspection at present?—I think so.

6674. Would you allow them to inspect private dairies?—Every dairy from which milk or any milk products are sold.

6675. Milk, or milk product is sold. Well, in your experience, does not every owner of a private dairy at times when milk is flush sell some of the butter?—In that case his dairy should be inspected.

6676. Would you inspect it if the owner of the dairy supplied his own workmen with milk as part of their wages?—I think so.

6677. I think you have already said that you have not at all considered what that would cost, the inspection by veterinary surgeons?—I know that it would be a great expense, I have not gone into the figures.

6678. I think there is a little misunderstanding as to what you meant when you said that compensation or the cost of this should not be paid by one class only. Am I right in assuming that what you meant was that it should not only be paid by owners or occupiers of real property who are the only payers of rates?—That is so. I want it to be paid by every taxpayer.

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6679. By every taxpayer, assuming that the taxpayers are all consumers?—Yes.

6680. That the man who pays income tax but does not pay county rates should bear his share in protecting himself?—Certainly.

6681. If compensation or the cost of this order is to be paid out of Imperial funds, what authority ought to condemn?—I should recommend that the Board of Agriculture appoint an inspector, and that the inspector should condemn if he is a qualified man.

6682. You think that the condemnation should be by an officer of the Government?—Yes, certainly not of a local authority.

6683. May I ask, are you a feeder of other classes of cattle as well as cows, do you fatten?—No, only cows.

6684. Do you buy cows to fatten?—No, certainly not, I never fatten a cow if she has done giving milk. As soon as the milk yield goes below a certain point she goes to the butcher; she is generally in sufficient condition to go to the butcher; it does not pay to feed them.

6685. We have heard a good deal about careful buyers. I suppose a careful buyer is a man who will not buy old cows; is that not pretty much it?—I do not say that. I sometimes buy old cows if I think they are healthy.

6686. But amongst butchers, we have heard that a careful buyer will not buy cows for fear of getting a tuberculous animal?—A great many will not buy cows at all.

6687. By a careful buyer, may I understand that you mean that a man will not buy old cows?—Not altogether. There are a great many butchers who buy cows, but who will not buy old cows; they use a certain amount of judgment as to whether the cows would be diseased or not, when slaughtered.

6688. You talk about tuberculin not being reliable; may I assume that by that you mean that it is not reliable as a test of whether the animal is fit for food or not?—No, what I meant was—so far as I have read, there are cases where animals have reacted, but which when slaughtered, were not diseased. In the same way, animals which were diseased have not reacted in every case.

6689. (Mr. Speir.) You said that in your experience you had had 18 cows that had died in 15 years. I have been at the trouble of working out the percentage of these; it comes exactly to two, presuming you had 60 cows. Well, then, you had also 24 which you say you had sold at a low price?—Not exceeding 8s.

6690. Then that comes on the same basis to 2·6 per cent. so that in reality you have had 4·6 per cent. animals that either died, or were sold at a very low price?—The whole of these 24 sold at a low price were not all tuberculous animals. A great many of them were sold from other causes, having lost a quarter or felon, or from having had rheumatism.

6691. But against that you might have some which really had tuberculosis and were sold at a little piece above this figure of 8s.?—A great many I know were.

6692. The extra ones in the one lot would probably make up for the lot that was allowed the most?—Much more than that.

6693. My own experience would lead me to the same conclusion?—I might say that I asked the butcher who kills nearly the whole of my fat cows if he could give any idea what proportion of the cows were affected, he is not an expert, and, from such examination as he made, he said there might be one in 5.

6694. Then, in answer to Sir Richard Thorne in connection with the matter of the percentage of disease in cows and bulls, is it not a fact that bulls are nearly always killed at or before the age that a female begins to give milk at all?—As a rule they are.

6695. In that case they are killed before three years old?—Generally.

6696. Whereas, very few cows begin to give milk at less than three years old?—As a rule that is so.

6697. Would not that be a sufficient reason for the very great difference in the percentage of the disease amongst females, from what it is amongst males?—To my mind it does.

6698. It accounts for the whole thing?—Nearly.

6699. Then you are not altogether very much impressed with the use of tuberculin; but have you had any personal experience of it yourself?—I have never used it at all.

6700. In that case, are not you expressing an opinion about a substance of which you have no practical experience at all?—I have read the records of a great many experiments.

6701. (Chairman.) You were also speaking on behalf of the Cleveland Chamber?—Yes.

6702. (Mr. Speir.) I know that he is, but a great many people express opinions who have had no experience?—I have read the records of a great many extensive experiments with the tuberculin test.

6703. Then, in connexion with what you expressed about only one-half of the people contributing to local rates, but are users of milk, and who might have that milk made pure for their own special benefit, is it not a fact that, say, take a stream which is polluted above a certain town, that now the town lower down the stream may compel the one above to look after their own sewage instead of conveying it on to their neighbour?—I believe that is so.

6704. Why should not the country districts look after their own milk and see that it is pure before they send it in a polluted state to their neighbours; why should not they bear the whole expense of it—is there any reason why they should not?—I think there is every reason that one set of ratepayers should not bear the expense of what is a national object.

6705. (Mr. Cooke-Trench.) You mean taxpayers?—No, I mean the ratepayers should not pay.

6706. (Mr. Speir.) It is your opinion that either you or anyone else may carry on a business which may be detrimental to the public, and that you should be allowed to carry that on, although it was causing a very big loss to the community, in fact, that you should be allowed to distribute poison without any check upon you at all?—If the public ask for protection, my opinion is that they ought to pay for it.

6707. I cannot exactly see it in that way. Then you have expressed an opinion favourable to compelling stock-owners to report every case of disease in the udder. I want to know at what time?—As soon as it is visibly affected with tuberculosis at all. I am strongly of opinion that no animal which is visibly affected with tuberculosis should be allowed to remain in a dairy.

6708. You also expressed an opinion that when that animal is sent out it should be compensated for?—Yes.

6709. Well, in the advanced stage, everybody can see that the cow is a source probably of danger; in the initial stages only an expert can see it. Would not that be rather a case for compensation than the other one?—No, I think even in the other case if it is not ordered to be destroyed, and the owner compensated, probably that cow might live for six months.

6710. Oh, for six years?—Scarcely that, but, say, from six months to 12 months, and even longer. In my opinion, this is dangerous, for it is only human nature that it will be allowed to live considerably longer than it should live.

6711. Take a case of typhoid fever breaking out in a household; certain restrictions are put upon a household, and no compensation is given. Is there any reason to give it to the stock-owner under those conditions when the risk to the stock-owner is not more than it is to the human being?—I think so.

6712. Would it meet your view if stock-owners were compelled to put in something like a log book a note of every case of apparent sickness that might conce

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up in their herd for future reference, or for the periodic visits of the inspectors to which you have referred?—I do not know that it would.

6713. (*Professor Brown.*) You send your milk away to different districts?—It all goes to one district, to one town.

6714. Is there any inspection of your cows?—Only of the cowsheds, not of the cows.

6715. You have an inspector who visits your cowsheds?—He is supposed to do so; it is very rarely he does; it is part of his duty.

6716. Is he a sanitary inspector?—Yes.

6717. And he comes for the purpose of seeing that everything is clean and kept in proper order?—That is so.

6718. He does not examine the cows?—I do not think that he has any business to do it. Probably, I should not allow him; he is an unqualified man, and I would not allow him.

6719. You have no veterinary inspection?—None at all.

6720. There is nothing in the case of your cowsheds, and most cowsheds, which is done for the protection of the public health in regard to the state of the milk of the cows?—The only thing is that there should be a certain amount of air space, and to see that the cows are kept in a sanitary condition.

6721. But nothing is done which would prevent you from using any number of cows with diseased udders?—Nothing at all.

6722. In answering a question on the subject of the danger to public health of milk from cows which are visibly tuberculous, but are not apparently affected in the udder, one objection you urge is that you personally would not like to drink it?—Yes, that is so.

6723. Would you have any objection to eat the meat of a tuberculous animal which had been passed by an inspector?—I should not be afraid to do so; at the same time I would prefer a carcass which was not affected.

6724. At the same time you are perfectly well aware that you must drink a good deal of milk and eat a great deal of meat from tuberculous animals?—No doubt I do.

6725. But you would rather not know it?—I would rather not know it.

6726. At the same time you have no evidence which you could offer that the milk of animals referred to in these stages is really dangerous, you have no proof of it?—I do not know. I am rather inclined to think, from one or two cases of young calves which I have fed on the milk of cows so affected, that it is so. I can give the case of a cow which was in a very advanced stage of tuberculosis, but I do not think her udder was affected, and I fed several calves on the milk of that animal, and I asked the butcher whether the calves, which were perhaps a month old, had shown any signs of tuberculosis, and they have done so in several cases.

6727. It must be taken for granted, although you did not see any disease, that there were tubercular bacilli in the milk?—I suppose it was so, but the udder was not visibly affected.

6728. You say that the present inspection of byres is done in a perfunctory manner, and that it is no use as a protection to public health?—Not from this point of view; it is none at all.

6729. And you go on to suggest that there should be a systematic and periodical inspection of all dairy cattle by qualified veterinary inspectors appointed by the Board of Agriculture?—Yes.

6730. And then you further go on to say that the carcasses to be sold, or otherwise, should be dealt with by the authority. What authority, the Board of Agriculture?—The authority which inspects and condemns.

6731. Did you say that it should be the Board of Agriculture?—They would appoint the officers, and it should be some officer of the Board of Agriculture who would deal with the carcass.

6732. Would that not be very much the system adopted with regard to pleuro-pneumonia, for example?—I think so. In the case of pleuro-pneumonia, the Board of Agriculture take possession of the carcass and realise what they can.

6733. Then you do consider that tuberculosis ought to be dealt with, with certain modifications probably, at least on the principle which is applied to the treatment of pleuro-pneumonia?—Yes, except so far as stamping it out. I am scarcely prepared to advocate stamping out on the lines of pleuro-pneumonia.

6734. In the case where, if the Board of Agriculture did appoint inspectors, and did undertake to sell all carcasses of slaughtered animals, and give the power to the inspector to order slaughter, it would come very closely indeed to the method of dealing with the contagious diseases of other kinds?—Very much on the same lines, except that you would not slaughter animals in contact.

6735. They do not necessarily do that in any case; they are not bound to do it?—In pleuro they have slaughtered all animals in contact.

6736. But they are not compelled unless they think it expedient?—It is always done; they think it expedient in every case.

6737. But you do not know of any law to make it essential that they should do it. Probably you have not noticed the exact terms of the Act?—No, I merely know that they do it in every case.

6738. I presume you would give them power to slaughter the animals in contact if they think fit?—I do not advocate that on the ground that I think that it is too large a question to be dealt with in that way.

6739. But you do recommend that in those cases where the inspector orders slaughter the owner should be compensated?—Most decidedly.

6740. That is intelligible, and it is in accordance with the system which has been long adopted?—Yes.

6741. Then you go on further to say that when the carcass of an animal which has been bought in good faith by the butcher is seized and condemned on account of being tuberculous, a disease in which there was no obvious indication during life, that compensation should still be paid?—Yes, I think so.

6742. Although no slaughter has been ordered by any authority?—No, but the animal is bought in an apparently fit condition for human food, and if it is condemned by some authority that authority ought to compensate.

6743. The authority which condemns the meat ought to be the authority to compensate?—Yes.

6744. Do you know what that authority is that does condemn the meat?—At present it is the local authority that does it when it is done.

6745. According to that, then, the local authority ought to pay the compensation?—Yes, but I advocate that it should not be done by the local authority; it ought to be done by the central authority.

6746. That is what I gathered, but your view is that the whole matter of tuberculosis should be taken in charge by the Board of Agriculture?—Altogether, entirely.

6747. At the same time you are probably aware that the Board of Agriculture has absolutely no right whatever to proceed on the ground of public health; that is a matter which belongs to another department?—Yes; but though it would be done in the interest of public health, I hold that the Board of Agriculture is the proper authority to administer such an Act.

6748. But not on the ground of public health, surely?—No, I think that they are the most fit authority to administer this Act.

6749. Would that be with a view of checking the progress of disease among the animals?—Undoubtedly it would check it to some extent.

6750. But should they undertake it with that object or with the object of dealing with public health. That question would certainly be asked in the House of Commons whenever a Bill was brought into the House for that purpose?—It is only on the ground of

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public health that anyone could ask for slaughter and compensation.

6751. Exactly. And, notwithstanding, you suggest that the authority which should take that action should be the Board of Agriculture?—It would seem to me that they were the best qualified to deal with the administration of it.

6752. You say, with reference to inspection by veterinary surgeons, which is admittedly a very desirable thing, that "the carrying out of these regulations would not cause such a serious expense as is commonly believed (in support of which contention I shall be prepared to submit figures)." Have you any figures with you?—I have taken the return of the number of animals, and what I consider is the percentage of those cows and heifers which are visibly affected, and which would come under the provisions of this Act. I do not think that it would amount to more than $2\frac{1}{2}$ per cent. of the cow population of the country.

6753. But have you any rough idea of the actual cost to the country, or to any authority, of inspection by veterinary surgeons all over the country?—There are about 4,000,000 cows and heifers in calf and milk in the United Kingdom, and $2\frac{1}{2}$ per cent.——

6754. But they would all have to be inspected?—I have not worked out the cost of inspection, but merely the number to be slaughtered under the provisions of the Act.

6755. But my question had entire reference to your remark here that the expense would not be so serious as people believed, and that you were prepared to submit figures with regard to that. But you have not any such figures?—I have just worked it out in this way. I think probably not more than $2\frac{1}{2}$ per cent. of the cow population have visible tuberculosis. We see statements of 20 to 50 per cent. of the cows of the country being affected. Certainly there is not that proportion visibly affected, a great many breeds of cattle have almost entire immunity from tuberculosis.

6756. (Chairman.) A great many?—Several breeds at least have comparative immunity, and especially animals that are kept as breeding herds rather than as milking herds—I do not think there is so great a percentage in them.

6757. (Professor Brown.) You say, "that the officers charged with such duties should be better qualified for their office than many of them are at present." What qualification would you insist upon for meat inspectors and inspectors of byres?—I think a meat inspector ought to have some previous training. All sorts of men are made meat inspectors—men who have no knowledge at all. I think a butcher or a veterinary surgeon would make the best inspector.

6758. Which would you prefer, if you had to select, the butcher or the veterinary surgeon?—I think the veterinary surgeon.

6759. But you think that he ought to have some training in meat inspection before he takes office?—He should have it.

6760. You are aware, of course, that meat is seized and condemned for other diseases than tuberculosis?—I suppose if it is in an unfit condition, not because it is diseased but that it is in such a condition that it is obviously unfit for consumption.

6761. Under those circumstances would it meet your views if compensation were given for the condemnation of those carcasses which were in perfectly good condition, and would have been passed by the meat inspector if he had not known that tuberculosis existed in some organ of the body?—I think that

such meat should be passed as fit for consumption if there is no tuberculosis in the carcass itself.

6762. But in the event of there being tuberculosis in the carcass, say, of high-class beef, for example; if the inspector knew nothing at all about tuberculosis, such meat is sometimes condemned, as you are aware—would you be satisfied if compensation were limited to such cases; that is to say, where good meat is taken, meat which would be taken as fit for food if it were not that there is a small deposit of tuberculosis, perhaps, in one organ?—I think any meat of that kind ought to be allowed to be consumed.

6763. But that does not answer my question?—Well, if it is condemned, the owner ought to have compensation.

6764. But you would not limit it to that?—I did not ask for compensation for a man who buys an animal at a low price, who knows that there is some risk, and that he buys at such risk; I do not recommend that he should be paid for it.

6765. I want to confine you to the point of tuberculosis; would you compensate a man when the meat is obviously in bad condition and unfit for food?—If the animal was apparently healthy I should compensate him.

6766. Is it not obvious that it would not be apparently healthy?—There have been cases—I have known a great many cases—where the animal has been perfectly healthy in appearance during life, and when slaughtered almost every organ was tuberculous.

6767. I am talking about the meat. Have you ever met with a case where an animal perfectly healthy has presented a wet, sodden, and pallid carcass that any meat inspector would at once condemn without any inquiry as to the cause of that condition—have you met with such a case?—Not such meat as you have described; but I have known cases where some part of the carcass has been tuberculously affected on slaughter, not flabby or wet, but still with tuberculosis in it.

6768. Under these circumstances the meat has been condemned, not because it was bad meat, but because the animal had tuberculosis?—Yes, but I have known one or two cases where the meat was actually tuberculous, and the animal was apparently healthy; at least I have had this reported to me by the owner of the cattle.

6769. (Mr. Speir.) In connection with that, you said just now that meat visibly affected you would not grant compensation for it?—If the animal was apparently healthy.

6770. Irrespective of the knowledge of the animal at all, and if you saw it alive and it was visibly affected or spoiling. But presuming that it was a carcass brought in from a distance for inspection and that it was visibly affected you admit that you would give no compensation there?—I think if the animal during life time was apparently healthy, I should.

6771. Supposing you did not know anything of the animal till after the carcass was brought in from the outside and it was wanted to be passed by the local authorities?—The fact of bringing it in for inspection shows that the person who brought it had some doubt—I scarcely would, because there is the element of doubt in the case.

6772. If there is no compensation in a visibly affected carcass, is there any reason to give it for a visibly affected animal?—Yes, because the visibly affected animal might continue for a long period to give milk, and the owner would naturally keep it on for some considerable time.

The witness withdrew.

[After a short adjournment.]

Mr. HAROLD SESSIONS called and examined.

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6773. (Chairman.) You are a Fellow of the Royal College of Veterinary Surgeons?—Yes.

(Chairman.) Professor Brown, as Mr. Sessions is a member of your profession, I think I will hand him over to you.

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6774. (*Professor Brown.*) You have had some experience of bovine tuberculosis, as a farmer?—Yes.

6775. That is in your own herd?—In my own herd, and on farms on which I have lived and in various counties in England.

6776. And during the time that you have been engaged as a lecturer under the county councils?—Previously to that, and during the time I was engaged as a lecturer for the Oxford University Extension in Shropshire and Somersetshire, then as a farmer in Herefordshire and Gloucestershire and Sussex.

6777. Have you a large herd?—I am not farming at the present time. I was until last Michaelmas. I had about 40 cows, short horns.

6778. And during that time you had tuberculosis among them?—Yes.

6779. About what percentage did you have?—Going by the tuberculin test, I forget the exact date, but in the herd at first I think about 30 or 40 per cent were affected.

6780. Were any of those animals affected in the udder?—Not as far as I am aware, but I tested them in the first place—I suppose about four years ago now—very sceptically, not quite believing in tuberculin, and particularly so when I found some of the apparently best animals reacting. In the first place I took no steps to get rid of them. I simply watched. I tested them again in six months time and the test was confirmed. I saw one or two killed, and the test was proved to be correct. After that I made up my mind that the test was sufficiently reliable to be acted upon; I isolated the animals, and gradually got rid of them.

6781. By getting rid of them, do you mean you had them slaughtered?—I sold them.

6782. You sent them to market?—Yes, I sold them fat.

6783. You represent the Sussex Dairy Farmers' Association, do you not?—I do.

6784. And you have some views to express in reference to that association?—Yes. The Sussex Dairy Farmer's Association asked me, if I had the opportunity, to put before the Committee the fact that they are quite alive to the importance of this disease, and they are quite prepared to do all they can to help to eradicate it, but they feel very strongly that if there is any interference with their business, or any control over their business, it should not be without a fair measure of compensation.

6785. Do you understand that to mean that if any regulations are made with reference to tuberculous animals, they would expect to be compensated for any loss?—For a certain portion of their value, not for the full apparently healthy value of the animals.

6786. Do you know if they limit their demand to compensation on the slaughter of the animal, or would they extend it to a question of compensation for milk lost?—I believe they think that the right thing would be for the animal to be taken, and that they should be allowed a certain portion of its value.

6787. That the animal, in short, should be seized and slaughtered?—Yes, seized and slaughtered.

6788. Very much in the same way as it is done in pleuro-pneumonia and cattle plague?—Yes.

6789. Did they express any opinion to you as to the authority which should undertake that work?—No, they did not.

6790. Do you consider that any scheme must be uniform, and not be optional in certain districts?—Yes, I believe at present the system of trade in the country is such that a healthy animal may be sent into the cow-sheds in a large town, and after being kept there for three or four years, may become badly tubercular, and it may emaciate to such an extent that it cannot be sold to a butcher. It is then sent, say, to the Midlands, and turned out on some of those rich pastures. It recovers to a great extent by the fresh air and food, proves to be in calf, and is resold into another cow-stall, immediately breaking down under the housing conditions.

6791. Your view in that matter still points to the principle of the whole treatment of tuberculosis being undertaken by a central authority?—In conjunction with the local authorities, I think each district should have its local authority, but that these local authorities should be bound to carry out some uniform regulation. I do not think it should be left to their discretion.

6792. Do you contemplate any attempt to stamp out the disease on the principle adopted with regard to pleuro-pneumonia and other diseases?—Not quite in the same way, but somewhat similarly. I think if the animals are tested with tuberculin (I do not think there is any need to go into the question of the reliability of the test) all those animals that re-act should be sent to a public abattoir in each district within 12 months of the time they are tested. They should be isolated during that time. The farmers should be given an opportunity to fatten them, to get them into marketable condition; they should be sent to the abattoir, and valued by two competent men, who understand valuing fat animals. They should then be taken over by the local authorities or imperial authorities at that valuation, and they should be killed. When they are killed, a certain proportion of the animals undoubtedly would be found so badly affected that the carcasses would not be safe for human food, but I gather from the last report of the Commission that a very large percentage of the carcasses would, if they are properly cooked, be quite safe for human food. This large percentage of carcasses might be either sold again as second quality meat, or sold cooked, or might be used by Government institutions which have to purchase meat. In this way I do not think there would be any very great loss, and there would be an outlet for tubercular cows.

6793. You consider, of course, that the value of an animal affected with tuberculosis is considerably depreciated?—Yes, very much so.

6794. To what extent do you think that loss reaches?—In an individual animal?

6795. No, in the total loss per annum which you have mentioned here?—I think the total loss, taking the statistics of the Board of Agriculture, to the farming community at present is roughly somewhere about 20,000*l.* per annum.

6796. In what way do you consider the agricultural community lose?—There is a large loss in animals from what is commonly called wasting, depreciation of health: there is a large annual loss from animals dying from tuberculosis. Then there are a great many animals that are tuberculous which, at certain times, when they are affected with colds or chills, or during parturition, instead of being able to pull through as they otherwise would, die, owing to the complication of diseases, and a large number of animals in the country, which veterinary surgeons hear nothing about, which die on the farms. There is always a certain percentage of loss.

6797. You consider that the existence of tuberculosis renders the animal more likely to suffer badly from a disease which it would otherwise recover from?—Yes, decidedly.

6798. But the deaths from actual tuberculosis, pure and simple, are very few?—Yes, but I think there are a great many more than is generally thought, especially in young stock.

6799. Have you any evidence of that?—I have seen a considerable number badly affected, and that die, in young stock particularly, those that are affected with tubercular abscesses in the throat.

6800. Have you taken pains to ascertain that those are cases of tuberculosis, yourself?—Yes, I have in all those instances.

6801. You have something to say about the cause of the disease, and the mode of detection?—Yes. I think the cause is undoubtedly contagion, and I think it is spread by purchasing fresh animals into sound herds, to a very great extent. What I want rather to emphasize is the difficulty people have in carrying on their ordinary business in purchasing sound cows. There is no means by which a man who comes into the

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market can tell whether he is buying a tuberculous animal at the present day or not.

6802. That is to say, when you speak of its detection, you mean to emphasize the fact that it is extremely difficult to detect it?—Except by using the tuberculin test.

6803. It could not be done in the market?—It could not be done in the market. It ought to be done before the market.

6804. Would you advocate the general adoption of the tuberculin test before animals are sent to market?—I should advocate the general testing of all herds where the milk is sold for human use, because it is largely in those herds we find tuberculosis.

(Chairman.) That is not quite an answer to the question.

6805. (Professor Brown.) I ask would you advocate the general adoption of a test for all cattle?—No, I should not.

6806. Before sending them into the market?—No, I should not, because there are many breeds in which we hardly see tuberculosis, and it would be an unnecessary expense to go to.

6807. What breeds in your experience prove to be exempt?—Largely the Welsh breeds, the Herefords in many cases, and the Sussex; practically the breeds that live an open out-door life.

6808. What breed or breeds would you consider to be most susceptible?—Shorthorns, Ayrshires, and, following them, Jerseys.

6809. You speak of the virulent nature of the disease in pigs?—Yes. I have seen several outbreaks of tuberculosis in pigs, in which 60 or 70 animals have been infected, arising from the introduction of one animal suffering from tuberculosis. The disease has spread very rapidly, other pigs that have been put into the styes, say a month after the diseased animal has been in the styes, taking the disease, many dying, and the others being sent to market in a poor condition.

6810. Have you noticed what organs are particularly affected in the pig?—The spleen, in almost every instance, is affected, with rather diagnostic large tubercles; in many cases the lungs, and very often the intestines.

6811. What condition have you found in the lungs?—Miliary tuberculosis.

6812. Does not that suggest that the infective matter has been carried by the blood stream?—Through the lungs, yes.

6813. That would probably result in the condemnation of a carcass in which miliary tuberculosis is found?—For human food?

6814. Yes?—Uncooked?

6815. Well, I do not know what you mean by uncooked. But I gather from that that you rely largely on the cooking to protect the individual, even when the meat is tuberculous?—Yes, certainly.

6816. You probably would not like to eat the meat yourself if you knew it was affected with miliary tuberculosis?—If it was thoroughly cooked.

6817. But you would prefer your pork from an animal that had not had miliary tuberculosis?—Yes, certainly; I should prefer all meat as healthy as possible.

6818. You speak of the necessity of dealing with all infected animals by taking them to public slaughter-houses?—Yes, because they could then be properly valued, and there would be somebody at a public slaughter-house that would see whether the carcass was fit for food or not.

6819. May I take it from that that you are in favour of the abattoir system?—Decidedly.

6820. As giving great facilities for the detection of disease, among other advantages?—Yes.

6821. You also are of opinion that general inspection of all cow-houses, and of all milk-producing farms, is desirable?—Yes, I think quite as much in the interests of farmers as it is in the interests of the community.

6822. Have you formed any opinion as to the persons who should be appointed to inspect in those cases?—Yes; I think veterinary surgeons certainly should.

6823. You are aware, of course, that that would be rather a costly business?—Comparatively, but I do not think the cost would be anything like the cost to the community of tuberculosis at the present time.

6824. You have something to say about power to schedule the disease. What do you mean by that exactly?—

(Chairman.) Might I ask the witness to explain his last answer? You say that the cost of inspection on the lines you advocate would in your opinion be not so great as the cost of the disease to the community now. In what way do you mean? Do you mean through loss to the farmer, or through disease communicated to the human subject?—No, I am not dealing with the sentimental value of human life. I mean purely with regard to the loss to the farmer.

6825. (Sir Richard Thorne Thorne.) In what way is there a loss to the community?—A loss of purchasing power to the country is a loss to the community.

6826. Then you mean that the consumer already pays the loss that is incurred?—Yes. In this case instead of having the use of it, and having the money for it, the animal is wasted.

6827. (Professor Brown.) You consider that in every district there should be a competent veterinary officer?—Yes.

6828. To advise and superintend local inspection, and supply tuberculin, and report quarterly to the central authority?—Yes.

6829. You mean that a veterinary inspector should be appointed for those purposes?—Yes, and at the same time I think that the veterinary inspector for each district—I say district advisedly, because in some cases a county might be divided into two districts, or in some cases two counties might be taken into a district—should have power to deal with any outbreak of contagious disease at once, that anthrax, or swine fever, or rabies, should all come under his control.

6830. Then you would leave to the central authority the power to issue general orders?—Yes.

6831. And to adopt the same machinery which they employ for dealing with other contagious diseases?—Exactly.

6832. (Mr. Speir.) What percentage of tuberculosis did you consider there was among your own animals, from your own clinical examinations, previous to this tuberculin test?—By clinical examination I did not think I had an animal.

6833. And by the tuberculin test you found you had over 30?—Yes.

6834. Then in connexion with the question which the Professor put, I want to know what you sold your animal as?—As far as I could as fat animals.

6835. And in selling them as fat animals I do not suppose you considered you were doing what I might call an immoral trade transaction?—Not at all, because I considered that people in authority (the Royal Commission, for instance) knew a great deal more about the subject than I did. They allow this business to go on in thousands of instances, and there was no more harm in my selling my animal with the knowledge that I had, than if I had sold it without the knowledge I had.

6836. The whole knowledge you had was that the animal was affected?—Yes.

6837. You had no knowledge whether the animal was suitable or unsuitable for human food?—Exactly.

6838. Therefore, you were just acting as the ordinary trader acts?—Exactly. I consulted one or two friends who are authorities on tuberculosis, and that was their very strong advice.

6839. What age were these animals that you had in your stock, on an average?—Most of them were from three to eight years old—shorthorn cows.

6840. Can you give me any idea as to the percentage of disease amongst, say, the three-year-old as compared with the six-year-old?—Yes; the older ones were certainly more diseased than the younger ones. I found them in groups. I have a table here drawn out showing a recent testing, and how they stood in groups.

6841. Could you give us a summary so that I might ask some questions in connexion with it?—I have a record here of 34 cows standing in a double cow-stall. There was a passage up the middle, and the cows were standing on either side. Nos. 1, 2, and 3 do not react; Nos. 4, 5, and 6 do react. Nos. 7 and 8 do not; Nos. 9, 10, 11, 12, 13, and 14 do react. Nos. 15, 16, and 17 react; No. 18 slightly. Nos. 19, 20, and 21 do not react.

6842. Have you any explanation why you have three or four in one group all reacting, and the others not?—Yes. I believe they take it from each other in coughing over the food, and, being tied up side by side, one animal was affected, and it passed the disease on to the others.

6843. Did you find any difference, say, in your three-year-old heifers, and bulls of about the same age?—I always purchase bulls.

6844. In that cow-house, what provision had you made for cubic air space, ventilation, and light?—The cubic air space was very good indeed, and the ventilation and light.

6845. What do you call very good?—I do not know the exact measurement. I should think, probably, it was a foot and a half to two feet per lb. weight per cow. That would be 1,600 to 2,000 cubic feet.

6846. You are not likely to have so much as that?—It was built as a model cow-shed. I think it is one of the best cow-sheds in Sussex.

6847. What about ventilation space?—The ventilation is very good. There is ventilation at the top, there is ventilation over the cows, and if the windows were kept open the ventilation could be very good.

6848. How much would that come to in square inches per animal, roughly?—I do not know. I have not worked it out.

6849. Have you a place above each animal or pair of animals, so that you could roughly guess it?—There was a small window above every pair, and big lever boards in the roof.

6850. The lower ventilation would always be closed. The windows would never be open in the winter time?—The windows were open on one side of the cow-house nearly all the year round. It is a cow-house in which tuberculous animals probably had been for a good many years, the ordinary typical milking shorthorn.

6851. In the animals you have been moving about amongst, have you any reason to believe that there are any stocks of ordinary milking animals, comparatively speaking, free?—Yes, I have got the records of 100 cows I tested the other day.

6852. Apparently free?—Apparently free. I tested with the same tuberculin, I used the same thermometers, and I used the same method as on the day on which I got a reaction of 40 per cent. in a herd.

6853. Taking those two herds that you have referred to, is there any opinion you can give us of any reason why one should be free and the other should be badly affected?—Yes, in the one case the animals are home bred, in the other case they are purchased.

6854. And have you found that where purchased animals have been brought into a herd there is usually 20 or 30 per cent. infected?—Yes, that is so, particularly in the breeds I have mentioned, the breeds we come into contact with principally.

6855. (Mr. Cooke-Trench.) You have expressed an opinion in favour of public abattoirs?—Yes.

6856. Have you considered the question of cost in connection with that at all?—No, I have not.

6857. (Mr. Murphy.) Do you think that a stock-owner could, by working on sound lines, practically eradicate tuberculosis from his stock?—Yes, I do.

6858. And then the risk that would remain to him would be from the introduction of tuberculosis from the outside?—That is the great drawback to the intelligent stockowners at the present day taking action in the matter. Many of them are quite willing to test their herds, and quite willing to get rid of their tuberculous animals, but they naturally say: "What is the use of doing it if we cannot be certain of buying sound animals."

6859. Is it impossible to test the animals before receiving them into the cow sheds?—It is in some instances. In some instances it is a question of a very few shillings. Hard business men buy at the lowest possible price, and any regulation of that sort would more or less interfere with their business.

6860. I do not quite understand?—A man goes away from Sussex, or any other county. I am taking Sussex as an example. He purchases in the Midlands a certain number of milking cows, and he buys them at the lowest possible figure he can get them at. He brings them back. He may want to sell a few of them to somebody else, and he may want to keep some of them. They come perhaps late at night; they are put with other animals almost at once. The testing would occupy 36 hours to two days before he could get any record, and that makes a great difficulty practically in testing.

6861. But still, that might be guarded against by the quarantining of any newly arrived animals until they had been tested?—Yes, but I do not think it will be done voluntarily.

6862. But surely it is very much to the interest of the stock-owner to eradicate tuberculosis if he can?—I believe it is absolutely to his interest.

6863. Then why would he not be prepared to take some trouble about the matter?—I think partly the reason is that some of them hardly realise the necessity for quick action, and the insidious nature of the disease, and some of them, perhaps, have not quite the quick business training of townspeople, and would rather leave it for a certain time, and so, possibly, it might get left altogether.

6864. Could you make any estimate of the number of years that it would take a stock-owner to get rid of tuberculosis out of his stock by rigidly enforcing his own regulations as to breeding and feeding?—He could get rid of it in the course of a very few years. It is quite possible that afterwards he would have occasional outbreaks from contagion that had been left in the cow-houses, but if he systematically tested the herd, and isolated those that were at all affected, and got rid of them, I do not think the time required would be more than five or six years before he could get his herd free, provided there was no fresh introduction.

6865. Then you think it is very largely a matter of education amongst stock-owners?—It is largely a matter of education and facilities. The question arises with them, what are you to do with your affected animals.

6866. How far do you think compensation would tend to make a man negligent?—I should put the compensation in such a way that it should not make him negligent.

6867. In what way would that be done?—I propose that the infected animals should be sent to the abattoirs, and a fair price be given for them, valued as they stand.

6868. But that would be the value that he would get for them in the open market?—Exactly.

6869. And then he would suffer no loss, and, therefore, it would not be to his advantage to take precautions to eradicate tuberculosis from the stock. Am I not right?—Yes, but I think the condition of his animals being tested should be that these animals are isolated and branded.

6870. So that if they were sold they would only realize the lower value?—If a man says, "I will have my herd tested," because I suppose it would be optional at first, I should give the local authority power to say: "You shall have your herd tested on the condition that all the infected animals are

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"branded." Then within 12 months, which time I should allow because cows may be in calf, or there may be other reasons why they should not be killed at once, they should be sent to the abattoir, and valued as they appear. It would be to the stock-owner's interest then to send them in good condition to the abattoir.

6871. On what basis would you compensate him then?—That would be the compensation, that he should have the value in that way, and his herd should be free.

6872. That he would have the value of those tuberculous animals?—Yes. He would have the value of the tuberculous animals just the same as he would get it in the market. He would have the advantage of having his animals tested, and instead of this certain number which every year he would lose as wasters, he would know which they were, and he could get rid of them at a fair market price.

6873. You think the price they would realise at the slaughter-house would be practically the amount that he would get by the sale of them as wasters?—It would be more than selling them as wasters. If they are sold as wasters they are practically of no value, but if he fattened them up and sent them to the slaughter-house he would get practically their full value.

6874. That is to say, he would sell them there?—Yes, he would sell them there. There would be two valuers whom the local authority and the farmers would have confidence in, and they would value the animals at a fair valuation. It could be done by live weight; such a class animal weighs so much. It might be taken in that way.

6875. And then the purchaser would be the local authority or the State?—Yes.

6876. Who would turn them to such account as they could afterwards?—Exactly.

6877. Have you thought of any system of insurance for covering the losses of stock-owners?—For stock-owners to insure themselves?

6878. Yes?—I do not think at present rates of insurance there is any possibility of it. The present rates that are asked, if you want to insure animals, are practically prohibitory.

6879. But we have had evidence given here which shows that stock-owners can insure for a comparatively small sum?—I am afraid I am not up in that. I do not know what price per 20*l.* cow they would have to pay.

6880. I am speaking of the insurance of animals that are in the slaughter-house, and are about to be killed for food?—Yes. I do not think that would affect them. If the State bought the animals, they might like to insure.

6881. I was thinking of a system of insurance by the vendor and purchaser, without the State purchasing the animals?—Yes, but then there would be no encouragement to test all the cows on a farm. In insuring in that way it would simply protect the vendor from the purchaser, provided the carcass was condemned.

6882. And you do not think if the Government undertook such a responsibility as buying up all the tuberculous cows that this would tend to lessen the efforts of the stock-owner in getting rid of tuberculous cows from the herd?—Not if it was properly worked. I think at the same time you want to bring in a regulation that if a man knows he has a physically diseased cow, if he does not give notice of it he should be liable to a penalty, because it is dangerous to his neighbours and the public.

6883. Supposing it were proposed to use public funds in some way, either as compensation or for purchase of cows, or as a contribution to local insurance, do you think there would be any advantage in limiting it to a certain number of years, so as to leave the stock-owner face to face with the necessity of depending upon his own exertions eventually?—I should think it would want some such regulation. I do not think we shall ever stamp tuberculosis out, so as to absolutely get rid of it. I do not think you can

deal with it in the same way as pleuro-pneumonia because there is human infection to be considered; but I am quite satisfied that by careful control it can be lessened to a very great extent, so much lessened, that we shall have practically very little of it. At the same time, I think with these regulations you want strongly to enforce inspection of cow-sheds, more air-space, and better drainage.

6884. But if so much is in the power of the stock-owner, is not it very difficult to administer any system of compensation that would deal fairly between the man who really took all the precautions he could, and the man who was negligent?—It would be very difficult, but I do not think it would be insurmountable.

6885. (*Sir Richard Thorne.*) I am not sure from what I have gathered from you whether you have had any personal loss from the seizure and condemnation of carcasses?—No, I have not.

6886. None at all?—No.

6887. Could you give me any idea how many animals from your place have gone every year to the butcher?—From my farm?

6888. Yes?—I never sold direct to the butcher, I always sold to a middleman.

6889. But you probably would have heard of the seizure or condemnation, should you not?—Undoubtedly.

6890. Could you tell me then about what proportion of the animals from your farm have gone to the butcher, directly or indirectly?—I should think about 8 or 10 a year.

6891. With regard to this question of compensation I should like to ask you two or three questions. In the first place you admit, to use your own words, that the ultimate loss comes upon the community?—Yes.

6892. Is not it a first principle that the person who suffers the loss should receive the compensation?—Yes, certainly.

6893. How would you compensate the community then?—The community would be compensated by the increased production of the country.

6894. And I should be compensated if you got a 10*l.* note on every bullock that was condemned?—Certainly, you would only get your share, which might be very small—inappreciable to you—but still it would come.

6895. I am still on this question of the butcher. Supposing a butcher finds, or any purchaser of pigs finds, that he has purchased animals which are measley, or which have got trichinosis, have they ever asked for compensation, do you know?—I do not know whether they have or not, but the proportion of animals that are affected with measles or trichinosis is, comparatively speaking, so small that I think it would not be a very great matter whether they were compensated or not.

6896. Yes, but unfortunately every gentleman who comes before us has either had no loss, or his loss has been even smaller on account of tuberculosis than the loss I have known sometimes to fall upon the pork butcher from those two diseases. What is the difference, if a man is compensated for the carcass of an animal which has tuberculosis, or for a carcass that is measley, or which has trichinosis. Do you know any difference?—Well, but are we asking for compensation in the same way? We are asking for compensation to suppress a disease.

6897. I thought we were dealing with the question you were talking of, of the danger to the community from the tuberculous animals?—I say independently of the sentimental value of human life.

6898. The sentimental value of human life. From milk from tuberculous cows?—Yes.

6899. Do you call that sentimental?—Yes; there is a certain commercial value for life, and a certain sentimental value, but I have tried to deal with it to-day principally from the point of view of commercial value, I quite recognize the sentimental value of human life, but it does not come into my department.

6900. The reference to us is in these words, that we are: "To enquire and report what administrative procedures are available, and would be desirable for controlling the danger to man, through the use as food of the meat and milk of tuberculous animals." That is not the question of the commercial value to the farmer, neither has it anything to do with the prevention of tuberculosis?—I may perhaps put it in this way. Any workable scheme must be acceptable to the agricultural community. Any scheme that you propose must be acceptable to them; it must be practically workable.

6901. I am not quite sure that I fully follow you there?—If you want to deal with the milk and meat as affecting human beings, any scheme that you draw out, must be practically workable under the conditions under which we live.

6902. We shall hope that we shall not propose anything which will be either unreasonable or unworkable?—I was rather speaking from that point of view.

6903. Do you think I have suggested anything unworkable?—No, I thought that rather put my evidence in order—about my dealing with human life.

6904. I will put my questions rather differently to you, then we shall understand where we are. One of the main points I want to get at is this. I am now speaking solely of dairy cows. Do you recognise a difference between an officer of any authority walking into a dairy and seeing an animal which is not for sale, and which the owner does not want to sell, and saying, "This animal is tuberculous, and you must no longer use it for the purposes of milk"—that is one case; and on the other hand, a man knowing perfectly well that there is a risk of tuberculosis in cattle generally, and an excessive risk of tuberculosis in milch cows; who buys cattle or milch cows under those circumstances. He himself kills them; he puts them on the market as an ordinary trade transaction, and then he finds that he has got a tuberculous carcass. With regard to compensation, do you draw any distinction between those two. I would rather you answered not as representing any association, but rather as giving me your own opinion. In the one case I will put it pointedly there is the seizure when there is no wish to sell; in the other case there is seizure of an article which for the man's own profit he has put on sale?—Yes, there is certainly a difference. There is the difference that in the one case an animal apparently healthy is seized, and in the other case a carcass which is proved, I take it, to be injurious to human health, is confiscated and stopped from being used.

6905. But the man has put it on sale at his own risk?—Yes.

6906. Do not you think that there is a very great difference as regards the desirability of giving compensation in those two cases?—Yes. I think in the one case the object of giving the compensation is to induce the man to get rid of animals which may prove dangerous. In the other it would be compensation for loss which could be covered by mutual insurance. Those cases could be covered.

6907. May I assume that you think the reasonableness of compensation is much greater in the first case than in the second?—Yes.

6908. Following that up, supposing an authority walked into a dairy and found a tuberculous cow, what would you think of this:—that the owner should have the option of having the animal at once slaughtered, and being compensated for it, or that he himself should at his own risk feed that cow for a period such as you have named—12 months—and then at his own risk put it on the market?—I think that would be reasonable. He would have a fair compensation at once, you mean?

6909. He would have fair compensation if the animal was slaughtered, but he would run the risk if he chose, on the contrary, to fatten it and sell it for meat?—Yes. I do not think owners would object to that in the slightest, but I think it would cost the country an immense amount.

6910. (Mr. Speir.) In talking about the value of these animals, you appear to have based that entirely on the meat value, not on their value as dairy cows at all. Is that correct or not?—Yes, on their meat value.

6911. On their meat value only?—On their meat value only.

6912. Do you think it possible to carry out the separation of sound from unsound on an ordinary farm?—Yes, quite.

6913. Do you think the buildings are quite sufficient to separate the one lot from the other, without any serious inconvenience or any serious cost?—Yes, I do.

6914. Either to landlord or tenant?—Yes.

6915. Then do you think they would agree to do so if facilities were given them?—I think a very great many would, and I think as the farmers understand this question more and more (and they understand it now very much better than they did five years ago), they will take advantage of their knowledge.

6916. Do you think it would be possible either now or later on, for farmers to buy from dealers under a certain guarantee?—Not now, later on, when the number of animals affected is very largely reduced.

6917. Sir Richard Thorne was speaking about the difference between the carcass and the living animal. I put it much like this, that the carcass is for sale, whereas it is the produce of the living animal that is for sale. Does your opinion hold to that? You take possession of the living animal. You admit that?—Yes.

6918. But it is not the living animal that is really objected to; it is its produce of milk?—No. I took it that when Sir Richard Thorne spoke about fair compensation—I think he emphasised the word "fair"—that compensation would be for the living animal.

6919. Then you based that value on its meat value?—No, on its actual marketable value, whatever it is; certainly not on its meat value.

6920. Why do it in that case and not in the other to which you referred a minute ago, when you said these animals would ultimately go to the slaughterhouse?—Yes, because you then give the owner the opportunity of making the animal in the best possible condition for selling; in the other case you take his animal at once which may be in very poor condition, as far as meat goes, but in very good condition as far as milk goes, and he has to bear the loss.

The witness withdrew.

Adjourned until to-morrow at 12 o'clock.

Mr
H. Sessions,
F.R.C.V.S.
1 July 1897.

TWENTIETH DAY.

No. 7, Whitehall Place, Westminster, S.W.

Friday, 2nd July 1897.

PRESENT:

THE RIGHT HON. SIR HERBERT E. MAXWELL, BART., M.P. (CHAIRMAN).

SIR RICHARD THORNE THORNE, K.C.B., F.R.S.
 PROFESSOR G. T. BROWN, C.B.
 SHIRLEY F. MURPHY, Esq.

T. COOKE-TRENCH, Esq.
 JOHN SPEIR, Esq.

T. M. LEGGE, Esq., *Secretary*.

SIR THOMAS D. GIBSON CARMICHAEL, BART., M.P., called and examined.

Sir T. D. G.
 Carmichael.

2 July 1897.

6921. (*Chairman*.) You are a landowner and a Member of Parliament for Midlothian?—Yes.

6922. And you appear on behalf of the Scottish Chamber of Agriculture, in order to give evidence on the question of tuberculosis?—Yes.

6923. You have taken considerable interest in the subject of recent years?—Yes, I have. I have always taken an interest in everything that has to do with cattle, and I own a fair number of cattle, and I have had my own cattle tested with the tuberculin test, and taken much interest in the subject generally.

6924. You are a breeder?—I breed Polled Angus cattle.

6925. Have you any dairy stock?—Yes, I have always had about a dozen dairy cows apart from the Polled Angus cattle. At present, I have 120 Polled Angus cattle including calves.

6926. Could you give the Commission an idea of the experiments you have been conducting, over what period of time they have extended, and what have been the results?—I think that members of the Commission have had this little paper which was drawn up by Mr. James Wilson, Fordyce Lecturer in Agriculture, Aberdeen University. It deals with the experiments on my Polled Angus cattle, which have been tested annually. The first tests were taken in March of 1895. I do not know that I need go very fully into this pamphlet, as I have had copies made for the Commission.

6927. If you could give us a summary of the results as to the tuberculin test in order to get it on the notes we should be obliged?—Well, I have no professional knowledge. I have never been brought up as a doctor or a veterinary surgeon, and, therefore, I rely on the test, I am taking it from what I have read in the papers, and heard, that it is a fairly correct test or as correct a test as we are likely to get. If the tuberculin test is not a good one, the results of my experiments are, perhaps, not of much worth, but I have accepted it as a fairly reliable test.

6928. Have you known of an instance of an animal which has reacted, and afterwards been slaughtered, which has shown no signs of disease?—I have not myself known of such an instance, I have collected information from other people with reference to it. A good many persons I know have had their animals tested and slaughtered afterwards, and I have got all the information I could about the matter. I always tried to get information as to the condition of the carcass of any animal which I knew had been tested, whether they were clear or not clear. I have known 37 cases of animals tested with the tuberculin test, but which did not react, in which the animal has been slaughtered, and not a single one has been reported to me as being tubercular. It is only fair to say that in only nine of those cases was the carcass examined by a veterinary surgeon, but those who saw the cases (and in some instances I was there myself) reported

on the carcasses. I have known 148 cases of animals which did react, some of them clearly, and others doubtfully. But I had reports that they had reacted, and after slaughtering I was able to get some report on the carcasses. Of those 148, 17 were said to show no traces of the disease; but, of those 17, 16 were not examined by the veterinary surgeon. The report was given to me by the man who slaughtered them, or by someone who was present. The 17th case was an old cow which certainly appeared outwardly healthy; she was a cow I had known for a good many years, owned by a friend of mine, a clergyman, and he had her tested, as he had the rest of the herd, and she did react to the test. He had her killed not long after, and she was carefully examined by a veterinary surgeon; who reported that she was absolutely free from tuberculosis. She is the only case that I have personally known of an animal which had reacted to the test, which, when examined by a veterinary surgeon, was certified, to the best of his belief, free from tuberculosis. It was a post mortem examination. Those 37 and 148 cases are the only cases where I have got the state of the carcasses of an animal which I knew about as having been tested; 37 had not reacted and 148 had reacted. The whole 37 cases which did not react were said by those who had examined them after the post mortem examinations to be free from tubercle. Of the 148 cases, 17 were said to be free; but I have noted, of the 37 cases which were free, only nine were examined by a veterinary surgeon. All the 17 which were said to be free had reacted to this test, but 16 were not examined by a veterinary surgeon. I have had a good deal of difficulty in getting post mortems made for me by veterinary surgeons, for the simple reason that it costs a good deal of money. Of course, if a beast is your own, you can have a post mortem examination made for you by whom you like; but I cannot afford to buy every beast that I hear of as being slightly affected, and have it killed and examined. I find a good deal of difficulty in getting owners to allow me to have post mortem examinations made for them by a veterinary surgeon.

6929. Have you made any systematic attempt to eliminate tuberculous animals from your herd?—Yes, I have. This paper describes the facts—it is written by Mr. James Wilson, Fordyce Lecturer—he is a son of my farm bailiff, and he wished to write some notes, which he did. I told him we merely wanted a bold statement of facts, and I hoped that he would not put any theories in, but merely state what I have done, so that people might know of it. This deals entirely with my pedigree animals. I have had them tested by Principal Dewar of Edinburgh. I suppose I got rather scared about it in the spring of 1895, and I thought I would have them tested by Professor Dewar then. At any rate, 30 of them were tested. Mr. Wilson's pamphlet says: "All the

" animals, male and female, that were intended then to be bred from cows, two-year-old heifers and bulls, as well as several of the yearling heifers. The results of the testing were fearfully unexpected and alarming, for, with the exception of the cow that had produced the dead calf (the cow with foul of the foot was not tested as she was not to be bred from) the animals tested had the appearance of being healthy and vigorous." They were all animals which I believed to be perfectly healthy, except this one particular one. " But instead of that one showing signs, there were 13 that showed decided reaction, and three which showed suspicious reactions." You will have the exact figures in those tables at the end with the temperatures which Mr. Wilson has given. The first table at the end shows the temperature in the first column in March 1896; the next column, the temperature in January 1896; and the third, the same animal in November 1896. I think you will easily understand these tables. All that I need say about them is that I believe these tables to be absolutely correct. I had the figures most carefully checked, I have all the original charts at home, and they were all most carefully checked, and I do not think there is any inaccuracy.

6930. Having ascertained what animals reacted, did you separate them from the rest of the herd?—I separated them as soon as possible from the rest of the herd. At first, I confess I did not carry out what I would do now, because I had not the same knowledge; I was not so careful then as to disinfection immediately, as I would be now. If you look at the bottom of page 7 you will see the sort of rules I have had. 1. That the tubercular animals must be isolated. 2. That they suckle their calves. My first idea was not to allow them to suckle their calves. In 1895 I thought that that would not help to get rid of tubercle; but I thought I would try it. I have allowed the tubercular cows, those that appeared tubercular, to suckle their own calves. 3. During the winter, excepting in stormy weather, they and their calves along with them are let out every day to get as much fresh air as possible. Then, fourthly, that they should have a bull to themselves. I confess that it was a somewhat unnecessary rule, but I thought perhaps that I would make that rule. It has been broken in certain cases, because you could not put a cow to her own brother, it has been broken in this sort of necessary way. As a rule, the tubercular cows have had one bull.

6931. That was to prevent outward contagion, not through hereditary, or through the male person?—Yes, I am afraid I did not believe that it is hereditary through the male. But I knew that some people thought so. Fifthly, I say that the calves should be weaned in the autumn, but still kept separate from the sound cows' calves until they have been tested and found to be sound themselves; and, sixthly, that all the premises in which cattle have been wintered should be newly disinfected. Those are the rules on which I have gone. Mr. Wilson says it is not always possible to carry out the regulations to the very letter; but the difficulties in the way have gradually diminished, and he tells you the only breaches of these regulations which have taken place.

6932. You separated the reacting animals, and how did you deal with them?—I got them at a different farm, entirely a different place, and they never went in the same fields in the summer time, and when in the house they were at a different farm steading. We treated them just as the healthy animals. They got a good deal of outdoor exercise but then all my cattle do. My own expectations was that their calves which they suckled would very possibly prove to be tubercular. I had read, of course, in agricultural papers, that in Denmark experiments had been made, by boiling the milk of cows affected, and that the calves brought up so did not themselves turn out to be tubercular. I thought my own would turn out to be tubercular. I had not boiled the milk, but I wanted to try it for experimental purposes, and when

the calves were tested, I found not a single one tubercular.

6933. At what age was that?—I do not want to make any inaccurate statements, and, therefore, I shall look into it. If you look at the tables you will find temperatures were taken in January 1896. As for the calves, I have not got the dates here. If I had the herd book I could give the exact date of birth. The calves in 1895, which may mean in December 1894—those calved in December 1894, are put in as 1895 because the Polled Angus year begins on the 1st of December and not the 1st of January. With very few exceptions all those calves tested in January 1896 would be calved between the 1st December 1894 and the 1st of April 1895. As far as I remember, all the young bull calves, whose mothers had been tubercular—every single one of them was born before April.

6934. And they would be from nine to ten months old?—Yes, that sort of thing. Well, that was rather surprising to me, and also I was pleased because I saw that at any rate it was possible that calves of tubercular mothers could be suckled by those mothers and yet not be tubercular themselves when they were ten months old. Of course, with regard to young bulls, one sells them off and you have not got them, and cannot follow them, but heifer calves have been tested at a year and ten months old.

6935. In no instance has the cow a diseased udder?—No, in no instance; and not one—it is fair to say—was a cow which in outward appearance was tubercular, and they were all in good condition.

6936. These cows were tested in 1896; what was their subsequent history?—The were tested in January 1896, and they were again done in November 1896.

6937. With what result?—That the whole of those cows that remained in my possession were still quite clear, as to those which have passed out of my possession I tried to hear about their history as much as possible, and I did not hear of one that has become tubercular since. The results of my experiments are that I am inclined to think that any cattle breeder might get rid of tuberculosis from his own herd, if the tuberculin test is an accurate test, by isolating the animals which are found to be tubercular and not allowing them to be in the same building with animals which are tubercular. I am inclined to think that he might get rid of it from his own herd in that way. I will just read you the last paragraph of this pamphlet: "The general result may shortly be expressed thus:—Since the first testing, in the winter of 1894-95, the herd had been allowed to increase or decrease in the ordinary way; to increase by the annual crop of calves, and to decrease by sales to the butcher, by sales of breeding animals, and by the slaughter of all tubercular animals that have become unfit for breeding."

6938. What does that mean, does that mean fattened and sent to market?—One or two were, but that was just at the very beginning or one may have them killed at home. It is not a very paying job, but, still, it is more interesting. "The only alteration in the management of the herd has been the annual testing and the separating of the unsound and the sound. "In March 1895 41 animals out of about 80 were tested, and 16—about 20 per cent. of the whole—were tubercular. In January 1896 the herd of 86 animals were tested, and 10—11·63 per cent.—were tubercular."

6939. In the second testing in January 1896, were the animals that had previously reacted tested again?—They were all tested again. "In November 1896, 83 animals were tested, and nine—10·84 per cent.—were tubercular," so that, you see, I began with 20 per cent. being tubercular, and I got down to 10·84. I have got no increase. None of the clear animals have become tubercular, with one single exception, to which I would like to draw your attention. She is referred to in page 11 of this pamphlet. Talking of the test in November 1896, eight animals, alive now, of the original 18 which had reacted on two previous occasions, those eight animals

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reacted again. "The number of animals tested with which we are concerned is 83, and of these, only eight—all now left alive of the original 18—had previously reacted. Those eight animals all reacted again, and, in addition to them, there was only one other animal. Had the case of this new reacting animal been an ordinary case—had she been in precisely the same condition as the other 85—the reaction of only one among so many would have been considered very satisfactory, but it so happens that this animal's case is such that the fact of her reacting is a very strong argument in support of the method adopted for dealing with the disease. This animal has never, like the other Aberdeen Angus cows, suckled her calves, but has been used since January 1894 as a dairy cow." She was a very good milker, and I wanted to use her in the dairy. "She has thus, for nearly three years, summer and winter, been with the other dairy cows, 50 per cent. of which were found to be tuberculous at the second testing in January 1896." I did not test my dairy cows the first time, but only those I was breeding with for pedigree.

6940. What kind of dairy cows have you?—Ayrshires principally; 50 per cent., I found, in January 1896, were tuberculous. I kept generally about a dozen cows. "This Aberdeen Angus cow now referred to did not then react, for which, in all probability, we must blame the tuberculin." That is what Mr. Wilson says. I must say, in fairness to Professor Dewar, who carried out the experiment, that he said we could not blame the tuberculin; she was clear then. That I did not know. It goes on to say: "Although there is just a small chance that she may have been infected since January last by another dairy cow that had in the meantime to be bought in, and was found at the recent testing to be 'unsound.' She had been standing with tubercular cows, and although I got rid of the tubercular cows immediately after, within a day or two after, I did buy another cow, because there was a baby staying in the house that wanted milk, and I bought a cow which seemed to be healthy; but it turned out to be tubercular, and it stood next to this cow. That is possibly the solitary instance of a cow becoming tubercular since I have been testing.

6941. Would you be inclined to say probably instead of possibly?—Yes, I think it is probable. Then he goes on to say: "A point of some interest in connexion with this new reacting cow, and bearing, perhaps, upon the hereditary 'predisposition' theory, is that she is one of the old Castle Craig stock," to which I succeeded, which was a very healthy stock, and never produced any tubercular animals; but they were not very fine in quality, and I bought in finer animals which would improve the herd, and it was among them that I found the tubercle.

6942. Well, now, I think, before asking you what your general recommendations are, it would be well to give the other members of the Commission an opportunity of asking any further information about your experiments?—About my own experiments. I should like to give some information. I have had my animals tested. Other owners have supplied me with notes on animals of theirs which were tested. I have sometimes managed to get persons to let me have animals which they intended to have slaughtered tested, simply to know in what state they were before they were slaughtered. When I could, I tried to get information as to the condition of the carcasses of animals which had been tested. I should have liked to have had a report in each case from a competent veterinary surgeon; but, for reasons which I will refer to later, it is not easy to get this. Generally I have had to rely on the evidence of the owner, or of the man who killed the beast. Then I quote the 37 cases which did not react, and the 148 which did react. I think that, in the interests of cattle rearers, it would be a good thing if a number of observations were made on the carcasses of animals which had been tested with a view to show how far the test is

reliable. Under the present way of administering the law in the south of Scotland, at any rate, it is not easy to get such observations; there is too much risk of loss in getting them. The way in which it seems to me that the present law or its administration tends to check observation on these points is this: If a person owns an animal which has been tested, and then sends it to a slaughterhouse to be killed, he runs the risk of that carcass being condemned by an inspector, in which case there is a loss to the owner of the carcass. That risk, under ordinary circumstances, is perhaps not very great; and if you set the right way about it, you can often get evidence from the people employed in slaughtering a particular animal, as to whether or not it was free from disease. That evidence is not professional evidence, it is evidence from the butchers. What I want, and what many others may want, is evidence from a veterinary surgeon as to the carcass. I have frequently offered to pay to have such examination made, but have nearly always been refused, unless I would pay for the carcass also, the reason being that there is a belief that if professional men examine a carcass at a slaughterhouse the inspector naturally knows that there is "something up," and, for the sake of his own reputation, condemns the carcass. I think there are grounds for thinking that this is so; several cases have been brought to my notice. I shall only quote two. In the first case, a butcher, who does not wish his name given, killed on the same day seven cows at the same slaughterhouse, all of which were tuberculous; that is, all which were found to have reacted. They mostly belonged to the same man, who had been testing his herd, but one belonged to a gentleman whose name I cannot give to you. This was a somewhat doubtful case, and I particularly wanted to have it examined, and he said I might by a professional man. It was, at my instance, examined by a professional man, who found evidence of tuberculosis in the thoracic and mesenteric lymphatic glands; but, according to the butcher who killed them, the carcass was one which he never for a moment would have expected to be condemned. However, the inspector found it tubercular and did condemn it. He was quite right.

6943. May we know where the inspection takes place?—I did not get leave to say that. Is your evidence published, because that might draw attention to the herd?

6944. Your evidence will be submitted to you in proof, and you can take out anything?—I do not want to say anything against another man's herd. The other six cows killed by the same butcher on the same day were not condemned, though, according to this butcher (and I can assure you that this man knows that class of meat thoroughly), they were all much more seriously affected. The six which were not examined by a veterinary surgeon were passed all right, and the seventh cow, which we had doubts about and which was examined by a veterinary surgeon, was found to be tubercular, and was condemned by the inspector. The second case which I may quote was a cow, the property of Mr. Munro-Ferguson, the member for Leith Burghs. She was tested in the byre at Raith and reacted. As she was fat and in good condition at the time, Mr. Prentice, Mr. Ferguson's agent, sent her to be slaughtered in Edinburgh, and had her carcass examined by Professor Williams, of the new Veterinary College, and by Mr. Baird, of the Clyde Street Veterinary College. They "found evidence of tubercle, though with difficulty." I am quoting from a letter from Mr. Baird about it to Mr. Prentice. That carcass was condemned. I happen to have one of Mr. Baird's letters here, written after the time. He says:—"I am sorry to learn that the carcass of the cow was not considered fit for food. Personally I would have had no objection to pass it, and I know that Professor Williams was of that opinion also; but, unfortunately, neither he nor I had or have any voice in the matter. Just before leaving the slaughter-

"houses that day the question arose, but Mr. Durie" (the inspector of the Edinburgh slaughter-houses) "did not express any opinion one way or the other. There are several inspectors employed, and which of them examined the cow I cannot say, but Mr. Durie would satisfy you on that point." I would not suppose that, in condemning any carcass an inspector does not act as he thinks right, but I know that the prevalent belief is that any carcass which has been examined by a veterinary surgeon may very possibly be condemned, however slightly affected, while a much more affected carcass not so examined may pass. That is a belief held by a good many owners of cattle, and this belief has made it impossible for me to get reports on some cases regarding which I might get reliable information. All these people would say, "Yes, if you buy the beast first"; but they do not want to lose the value of the carcass. In this case of Mr. Munro-Ferguson's cow, she was in excellent condition, a big fat cow, worth a good deal as she was standing in the byre. They were very disappointed when she did react to the test, and they sent her to be slaughtered. These two veterinary surgeons found it with difficulty, and I know that Mr. Prentice only got half-a-crown for the animal, and he possibly did not like to run the risk of that. Therefore they might not be willing to have post mortems made on their cattle at the slaughter-houses, because they believe, rightly or wrongly, that the mere fact of post mortems having been made leads the slaughter-house inspector to think that there is something up, and he had better condemn that cow, for the post mortem would not have been made unless there was some good reason for it. I think that if whole carcasses were not condemned, but only the parts affected in animals, where on slaughter tuberculosis is found in certain organs, this difficulty would be met, as then there would not be fear of loss on the part of the owners.

6945. Have you any special views you would like to have laid before us; to put forward on behalf of the Scottish Chamber of Agriculture?—Yes, there is evidence from them. I thought probably Mr. Dobbie would give you better evidence as to the recommendations than I could. Their recommendations are not quite what I should give as a private man. I have referred to them a little later in this paper.

6946. (Professor Brown.) Have you any impression on your mind as to the time and manner of the introduction of disease into your herd?—All that I know is, that I bought at the sales; they have draft sales in the autumn, and I went to all the best draft sales in Scotland and bought cattle, I think as big priced cattle as any going at that time in Scotland.

6947. Were they all of the Polled Angus breed?—They were all Polled Angus breed, and that was prior to the time when I first tested.

6948. You are aware, of course, that for a long time the Aberdeen Angus was considered to be almost proof against tuberculosis?—I think that people who did not know much about it thought so, and I think that people who knew Aberdeen Angus cattle had every reason to encourage the belief. I never thought so, and I have never yet met a breeder who in conversation told me that he had ever believed that.

6949. You do not probably remember that, when we discovered the case many years ago, the statement was strongly disputed by the breeders as an impossibility?—Can you give me the year?

6950. It was some years ago—somewhere about the early cattle plague time?—Perhaps that was before I bred Polled Angus. I can only speak of the time since I have bred them.

6951. You say in your pamphlet: "At a dinner in Perth in February 1895, two Aberdeen Angus breeders announced that they had tested their cattle with tuberculin." Is there any objection to say what the result was if they announced it?—As far as I remember, these gentlemen did not announce the result at all. I was not at that dinner. It was a dinner at bull sale time at Perth, and the two breeders,

as far as I remember, said that they had tested their cattle. I have read in the newspapers since that only one of them tested, and the other said he was going to test them.

6952. You say on page 7 of your pamphlet that: "A few weeks before the time of testing, one of the tuberculous cows had calved, and she was then seen to have a diseased udder. Her calf was at once transferred to another cow and the cow herself was slaughtered." Did that animal prove to be distinctly tuberculous?—This particular animal, I believe, was; but I have only the evidence of a shepherd and cattleman; there was not a veterinary surgeon. But this shepherd and cattleman—the latter had a good deal of experience in Polled Angus, and he said she was most distinctly tubercular. I was abroad at the moment myself, so that I did not see her carcass.

6953. You speak on page 11 in the second paragraph: "In all, 89 Aberdeen Angus cattle have been tested; but, as six of these were animals recently bought in, and as their condition in no way concerns the principles upon which the herd has been managed, the results they give are altogether left out of account." What is the meaning of that?—They are left out of account in this pamphlet—I did not wish to tell the public about other people's herds. Those sales that I had bought at—the draft sales—anyone by referring to the newspapers could tell where I had bought them, and I should not like to call attention to the herds.

6954. Did any of them react?—I may tell you that a certain proportion of them did react.

6955. You have not answered the question, and, therefore, the obvious conclusion would be that some of them did, in consequence of the way in which you fenced with the question?—Quite so. I can tell you further of those that reacted. One is now dead, and was certainly tubercular.

6956. In speaking of a case of abortion at page 14, you leave it open as to whether the abortions were the result of the fighting or of ergot, or, possibly, the existence of the tubercle. But presumably it would be one of those cases where the disturbance of the animals led to the whole of those disturbed aborting very rapidly one after the other?—Very possibly.

6957. The subsequent history does not suggest that it was contagious abortion?—No.

6958. At the bottom of page 15 you say that 10·84 per cent. reacted—were tuberculous—and then you go on to add that the spread of the disease was completely arrested. Have they been tested since that time, November 1896?—No; but this pamphlet was written in November 1896. It had been arrested up to that moment.

6959. Have any further evidence as to the state of the herd?—No, I have not tested it since.

6960. It is a conclusion that you could hardly state now, you would not guarantee that the disease has been completely arrested?—No. This pamphlet was not written by me, although I can substantiate every fact in it. Up to November 1896 one might say that the disease had not spread.

6961. Then, assuming that you discovered that the whole of the animals are now healthy, the extirpation of tuberculosis would be an extremely simple matter?—It would be.

6962. And I gather, from what you have said and have written here, nothing more is necessary than to separate the diseased from the healthy, put them into separate premises, disinfect the places which have been used by diseased animals, then treat the reacting animals as if they had not reacted. You breed from them, you allow them to suckle their calves as if they had not reacted?—I breed from them and allow them to suckle their calves as if they had not reacted, but I separate the calves from them as soon as I take them in. They suckle their calves in the fields, but when they are taken into the house in the autumn I take the calves away from them entirely; they are not in the houses with the reacting animals.

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6963. But still, if they could take the disease from the milk, you give them every opportunity?—Perfectly, but I do not believe one of those animals has tubercle in the udder.

6964. Did you get the udders examined?—Every one that I possibly could.

6965. Have you happened to wade through the experiments of the previous Royal Commission?—I have read them in the sense in which a non-professional man can appreciate them.

6966. Does it occur to you that the experiments which we carried on for some five years accord very much with your results, with your experience in this herd, that milk of tuberculous animals known to be tuberculous, provided that the udders were perfectly free from tubercle, produced little or no results except that one or two doubtful cases occurred?—That is what I believe.

6967. But it would be admitted that there is a certain amount of risk of the tubercle spreading to the udder, and the whole proceeding was an experiment with very interesting results. May I ask, would you, a breeder, with the knowledge which you have acquired by these experiments, adopt that plan systematically yourself and recommend it to others?—I should; until I see any new evidence, I intend to adopt that plan.

6968. You mean to go on with the experiments and watch the results?—Yes, and induce other breeders to do the same.

6969. You would not think it necessary to boil the milk as Dr. Bang is now doing or take any precaution at all?—I confess what made me think that it was not necessary was reading the evidence before your former commission, and I tried to see how it could be done without boiling, and the two years' result led me to think that I could go on without much fear of loss, and I intend to go on.

6970. I notice, in several of the cases, the temperatures of the animals were above the normal standard when inoculated, that is not usually done; what reason is there for that?—Can you point to a particular animal.

6971. Take the first case, 103 at the time of inoculation; that is certainly not an animal that would be ordinarily tested?—This was a particularly bad one, I rather think it had a bad udder. She was one of the only two cattle that I have had which anybody looking at it would have said was tubercular.

6972. And that animal was affected by the infection?—She rose to 106 and 107.

6973. $4\frac{1}{2}$ hours afterwards it got up to 105?—Yes. Those in heavy type are those which I believe to be tubercular, and I think if you look at the next one, number 2, in $4\frac{1}{2}$ hours she had not risen, but in $10\frac{1}{2}$ she had risen.

6974. Ordinarily you would not expect any animal to show signs in $4\frac{1}{2}$ hours?—Yes, but this particular cow did. Whether she was worse than the others I cannot say. She starts very high—abnormally so.

6975. (Mr. Speir.) Will you tell us whether there are any new reacting cows in the 10-84 per cent?—No, there is not one in that.

6976. Have none of the cows which did not react in 1894 and 1895 reacted in 1896?—No, the only reacting cow which did not react at an earlier date was that particular dairy cow that I have referred to. That is what I mean by saying that the disease has not, up to November 1896, spread. I have not a single one reacting in November 1896 which did not react when she was tried before.

6977. Then, from your knowledge of your own district and the south of Scotland generally, do you think that the separation plan that you have adopted out could be carried out by farmers generally?—Not so completely as I have carried it out, because they have not two steadings.

6978. But could it be carried out in a moderate way at a moderate expense, without any excessive expense, I might say to either landlord or tenant?—Well, it depends upon the landlord, and who the tenant is.

I should say, if I was the landlord and many men whom I know were the tenants, we would not consider it excessive; it would be worth the outlay, but some people would think it was not.

6979. But do you think it is possible to do it without any material change in the buildings?—I am inclined to think so; I intend to try a wooden partition, having the infected animals at one end.

6980. Is it really necessary in most of the steadings in Scotland to run up a division?—No.

6981. Because they have two or more buildings now?—Certainly.

6982. Would there be any great difficulty in the case of a farmer having one lot of animals in one building and keeping the others in another?—I am inclined to think not. Of course the difficulty might be—I am talking about my own part of Scotland, where the cows are not of a generally large size—the difficulty might be for a farmer who kept very large cows, his buildings might not be big enough for large sized cows.

6983. Would it be a serious inconvenience to make some temporary building, to accommodate larger or smaller animals, to carry that out—would you consider it any serious inconvenience in proportion to the value of the experiment?—If he had stock that was of fair value it would be worth his while, but if he only had a small, poor stock it would not.

6984. Have you any reason to think that fairly good results would arise from such a practice?—I believe they would.

6985. I would not expect such accurate results as you have got; but if you could get anything near it it would be worth the trouble, you think?—I think it well worth the trouble myself.

6986. Have you any reason to believe that there is much of the disease communicated in the pastures?—From beast to beast do you mean?

6987. Yes?—I think not. My own experiments lead me to think not, because of the fact that cows are running in the same field with their own calves which have not been affected. I have not done what I should like to do and hope some day to do, to turn some quite healthy cows into fields with the unhealthy ones, but I have had the unhealthy cows on one side of the fence and the healthy ones on the other side.

6988. If your calves are in closer relation than one cow is to another in the ordinary way, and these do not take the disease, surely there would not be great risk from one cow being beside another?—I think not, and I intend to turn the healthy ones with the unhealthy.

6989. From what you know of the cows in the south of Scotland, if certain facilities were given for having their animals tested, do you think farmers would avail themselves of it?—No.

6990. They would not?—I think very few.

6991. But you think if they did avail themselves of it, it would be to their own advantage?—I think so.

6992. (Mr. Cooke-Trench.) This pamphlet, as I understand, refers entirely to your pedigree stock?—Absolutely.

6993. But you did test your dairy cows?—Quite so.

6994. And with the result that about 50 per cent. reacted?—Yes, the first time that I tested.

6995. Did you treat those cases on the same principle as you did the others?—Not quite, because I did not think it worth the trouble. I did put, the next day or two days after, all the affected ones into a byre by themselves. I kept them there, and then, within the next two or three days, killed several of them for curiosity, and those which I did not kill I let them suckle the calves. Two of them happened to be in good milk, and they suckled calves and were then killed, and two were fattened. One was fattened and killed, and I got a post mortem about it. It was sold to a butcher who knew the history of the cow.

6996. You have gradually eliminated those that have reacted?—Yes, I have.

6997. And from the beginning you entirely withdrew them from the supply of milk to the dairy?—Yes. I confess that I did that more to meet the prejudice of the people in the house than on my own account.

6998. How have you supplied the places of those cows?—I have put in young animals, which I had myself, and which I knew.

6999. You had not to buy?—I bought one or two, I bought from farmers around, either tenants of my own or farmers who knew me, and I bought on the condition that that animal was tested first, and I was to give them a little more than the agreed price if the animal was clear, and if she was not I did not take the animal, but said nothing about it.

7000. You were able to do that dealing with your tenants and neighbours; would it be possible to do it in fairs and markets?—I have not tried it. I was told that there were dealers in and about Edinburgh who were willing to do it for an extra sovereign, but I am not sure that it is a system which I should believe in, because it might lead to a little fraud; I mean I would not go and buy.

7001. Just explain that. How is it likely to lead to fraud?—I think that you would have to employ your own veterinary surgeon and to know that the tuberculin was good. I had a letter from a man which I would have liked to have quoted to you; he is an agent to a gentleman in Scotland who got in a fright about it, and who had been to a cow dealer in Edinburgh who had offered to sell him cows at a guinea a head more than the stipulated price if they did not show traces of tubercle, and he told me that it was within six hours that the result would be shown. That shows that there are dealers who were telling buyers that, and this buyer had believed it and had bought a cow and paid the extra money, and some three months afterwards it had reacted.

7002. I did not understand your evidence as to keeping a separate bull for these reacting cows. Was it with any idea to contract tuberculosis and convey it to other cows?—Some people have that idea. I have not that idea. I merely did keep this separate bull for the tubercular cows in case there was any truth in it. That was the idea; in fact, this year I am using the same bull in certain cases.

7003. We have heard a good deal here about putting up moveable screens in sheds. Is it your opinion that moveable screens could be made sufficiently to isolate the cattle?—I have made no experiments in that direction, but I am inclined to think that they could be. I intend to try them.

7004. That has been a very costly business to you?—Yes.

7005. So much so that perhaps to a farmer it would be, of course, prohibitive, doing the same thing?—I think it would, but then I began in a much more costly way than if I were doing it now. I should not now kill any animal merely because I found it tubercular. At first when I began to try I thought that they ought to be killed, but now I should merely isolate them. It would be a cost to the farmer in finding a separate building. It would depend upon his place whether it was a cost or not. Of course there is the cost of the veterinary surgeon, which is something.

7006. But the great cost is that if he finds 50 per cent. of his cattle react he has a very heavy business on his hands?—Very.

7007. Would not that in these times, when farmers have not a great deal of capital at command, involve ruin in many cases, or something like it?—No, I do not think it would involve ruin to isolate 50 per cent. of the cattle. It might be more easy to isolate 50 per cent. than to isolate 10 per cent.

7008. But simply isolating them is not sufficient; you must withdraw them from dairy purposes?—I have been only talking about breeding. I have said

nothing about dairying. I can tell you my views about the dairying.

7009. But very few farmers except those who go in for pedigree herds, who are comparatively very few, and must be very few, who use their breeding cows as dairy cows?—I have only given my evidence as a breeder.

7010. But I want to elicit from you your opinion as to how far it is practical for an ordinary farmer to adopt the methods that you have, who is not a breeder of pedigree cattle?—I think it is perfectly possible to isolate the affected ones, and, as far as I am concerned, in a dairy, I do not see why the milk of the affected cow should not be sold and drunk by human beings. I must have drunk lots of it myself, and I suppose we all have done so, and I am not the least afraid to drink it now. But I do think that a cow which shows obvious signs of being tubercular should be withdrawn. How far that would be very expensive I cannot say, because I do not know the business well enough to say how many obviously affected cows there are in dairies as a rule. I go into as many dairy byres as I can, and go round with the owner, and in going round with the owner he will say: There is a cow which you think perhaps ought to be out; and I agree with him. It ought to be out, but there is no law to put it out. Personally, I think it would be a very good thing to have them out.

7011. You spoke of the practice of Edinburgh in condemning cattle. Did I rightly understand you that if there were any sign of tuberculosis in a beast that the whole carcase is condemned?—I think Mr. Dobbie will give you more correct evidence on that, but I believe that is the practice.

7012. (*Mr. Murphy.*) Will you help me to understand the arrangements you made with respect to cows and their calves when the latter reacted to tuberculin. The calves were born at the early part of the year, and allowed to be with their mothers in the fields?—Yes.

7013. Were both mothers and calves out of doors night as well as day?—Yes.

7014. So that they were never housed together?—When first born?

7015. How long would that be?—Perhaps a couple of months, but I forgot to say that one thing I try is to make my mothers, which I know are affected, to be late calvers. They calve rather late. They do not calve in January and February in order that they should be as short a time as possible. But still, they are in the house; it is only fair to say for a varying number of weeks according to the weather at the beginning of the season; but as soon as possible, in fact, all my cattle are got out into the fields, because I prefer them being there to remaining in the house.

7016. So that the isolation in the house is practically a winter arrangement?—Yes, but I have them in a different field. They are at a different farm steading, so that there is no difficulty about it. I have several farms, and they have at one place all the healthy ones, and at another the unhealthy. At this moment, owing to the fact that I am having a draft sale in the autumn, I am keeping some together, and I have some affected going in the same farm with healthy ones, but going in a different field. I have isolated them to that extent that there is a hedge between them.

7017. Broadly speaking, do you think that it would be to the financial advantage of dairy farmers to adopt precautionary arrangements of the same sort?—No, I would not say that, because I have not gone into the account; but I think that it would be to the advantage of any breeder of cattle at this moment, because there is a growing desire on the part of buyers to buy cattle, especially in other countries than Britain, which they believe to be free from tuberculosis. I notice that several American buyers who buy Polled Angus are inclined to come to me because they know my cattle are tested, I mean I have known individual cases in which the man gives you a better price than he would be inclined to do, because he knows the beast is tested,

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and you can show him a certificate. Therefore, as far as breeders of pedigree stock are concerned, financially it is worth doing.

7018. (*Sir Richard Thorne*.) I notice, in the interesting pamphlet that we have before us, that whilst you have increased and decreased your herds in the ordinary way, the result of the use of the tuberculin test has been that the unaffected animals have dropped from 20 per cent. to 10·8 per cent; and it is added: "The spread of the disease has been completely arrested." Could you at all give us an idea, speaking quite generally, whether the result of attempting to eliminate tuberculosis from your herds has been to you personally a financial success, or the reverse. I would ask you to exclude the cost of special slaughtering, which were done for purely experimental purposes?—You asked me whether I believed that if I had not tried to eliminate I should have been a poorer man at this moment.

7019. I am speaking in respect of that one practice as regards your herd?—I think I would have been poorer, because I believe that tuberculosis would have spread, and that many cattle which I have sold would have become "piners," and I would have had to have sold them at a lower price.

7020. The decrease in your herds has included sales to the butcher?—Yes.

7021. In how many cases which you have had over a series of years have you had carcasses of your own seized and condemned by reason of tuberculosis?—I have never known one seized and condemned belonging to myself. You sell them by auction, and you frequently do not know. I have heard—and it was at the time of the last general election, and one hears things then which may be true, or may not be true—that eight cows from my Castle Craig estate had been seized.

7022. I am talking of carcasses seized?—Well, as to those eight cows. I could not find the particular individuals to whom they were sold, and I sent to a salesman, to whom they were said to have been sold, and asked him if he had had any inquiries, and he said that he had heard nothing about it. I asked my overseer to inquire as far as he could, and he was not able to hear of it. It was merely because the matter of tuberculosis was before the public at that moment, and some man was heckling me, and asking if I was aware of the fact, and I said I was not.

7023. We have had, amongst others, evidence from Mr. James Kay, President of the Lancashire Farmers' Association, and he tells us of two methods that he adopted: he took special precautions during recent years in the purchase of his cows, his heifers, and he also modified his practice by improving his byres, and giving extra cubic space, and so on, and I asked him if he would compare the two processes which he had gone through financially, and he told me, as the result of the latter practice, it cost him more, because he gave more for his cattle. I said: "Now, on the whole, are you a gainer or a loser by the modern process?" and his answer was: "A gainer, decidedly." Would you kindly tell me your general impression, if farmers and graziers did take precautions by purchase, by carefully housing their cows, and in other ways eliminating tuberculosis, would they be gainers or losers?—They would be gainers. They would have healthier stock, and I think they would certainly be gainers, as they would not lose any animals which were tubercular. If it is, at all of an advanced stage, an animal becomes a pinner, and sometimes a man would lose it altogether, or, at any rate, a good part of its value in many cases.

7024. Mr. Cooke-Trench asked a question as to your own results on 50 per cent. of dairy cows being found to be suffering from tuberculosis. I rather gathered from his question that some people would be inclined to think that it was a very ruinous thing to find it out. Would the finding of it out be a disadvantage to a man?—I think it is an advantage to know.

7025. The ignorance would not pay because the fact would remain?—Yes, and it is not necessary that every buyer of dairy cows should have 50 per cent. suffering from tuberculosis. Here is a letter from a dairy farmer in Midlothian. It was written on the 23rd February 1897. It comes from a man who sells milk in the town of Edinburgh, and who has been testing his cattle, and he has got 1d. more per gallon for his milk in Edinburgh. The letter was not addressed to me but to Mr. Dobbie. He had a larger proportion affected than I had. On the other hand I have known a dairy buyer, a friend of mine, who tested, by my suggestion, and they were all free.

7026. (*Chairman*.) Is that in Edinburgh?—This is in Midlothian, White Hill Farm.

7027. Where there was a free dairy?—No, it was in England.

7028. (*Sir Richard Thorne*.) I want to know whether the process of eliminating tuberculosis from your own herds has been accompanied by any improvement in the accommodation you have given to cattle, especially in housing them, by increasing the space in ventilation?—No, my buildings were all put up, they were enlarged when I succeeded to my property, but it was before I began anything of this sort.

7029. Have you any idea as to the amount of cubic space?—I cannot tell. My own are housed on a rather large scale.

7030. You do not see any need for improving those?—No.

7031. If there is improvement in the housing of the cattle, if buyers are careful in the purchase of animals, if by taking these known precautions against tuberculosis it actually pays, and we have abundant evidence that it does, what, in your opinion, would be the effect of compensating people who are found to have sent tuberculous cattle to market in such a form that the carcasses have to be condemned, would it promote the elimination of tuberculosis or would it not?—I should not think it would have that effect. It certainly would not promote the elimination of tuberculosis, but it would make them less careful about getting rid of it. The only person I am inclined to compensate is the butcher who buys an apparently healthy beast from me, and has it condemned in the slaughter-house.

7032. Because you know that your own arrangements are not conducive to tuberculosis?—At least, I think so.

7033. And the outcome of that is that you do not know of any such instance?—No, I have not had such an instance. I do think that a butcher who goes into a market and buys a beast, whether from me or any other farmer, which looks absolutely healthy, which the farmer does not know is tubercular, because the only way to form an idea would be the testing by tuberculin, which he probably has not done. I think it is rather hard upon that butcher to pay 20l. for the beast, and then have it condemned; and then not get more than half-a-crown for it.

7034. What compensation does a man get from buying a pig that turns out to be measly?—None.

7035. Is not it a trade risk?—It is decidedly a trade risk and it could be covered by some form of insurance. The butcher is the only person I can see who has anything to complain of.

7036. (*Mr. Cooke-Trench*.) Are you aware that that covers the whole demand of the butchers?—I do not know their demand; it certainly does all the butchers in Scotland.

7037. (*Sir Richard Thorne*.) We have had it rather implied in answers given to us that the ordinary butcher going to a market to buy a beast for slaughter has no means of ascertaining whether it is healthy or whether it is not. I have been with agricultural friends into markets again and again, and

I have seen the butchers going round and punching the beasts in the ribs and looking at them, and the beasts have been standing there sometimes two hours before the auction takes place. Is it a fact that the butcher has no means of making himself acquainted—he is a practical man—as to whether an animal is diseased or not?—I think there are a good many animals he would know were in certain stages of disease, but I certainly think that he would not and could not know of all animals in that state.

7038. You say a good many?—Well, there are those that he could form only a suspicion of, and others that he could not form the slightest judgment, because they would be the incipient cases.

7039. Would such carcasses be condemned?—It would depend upon the system adopted at the slaughter-houses where he slaughtered. We have, of course, to remember that at every slaughter-house there are a very large number of the animals passed which probably, according to the rules adopted by that inspector, ought not to pass. The inspectors have not time to examine every carcass carefully, and the butchers who have animals which they know are bad, and which anybody can see are bad, those are the chaps that get them through the slaughter-house—they are expert slaughtermen and kill rapidly.

7040. But if it was possible to formulate rules which would prevent the seizure of carcasses unless there was advanced or a generalised tuberculosis and which would not allow of seizure in cases of trifling tuberculosis, do you think that an ordinary or careful purchaser would be running any substantial risk?—No, and I think that would be quite sufficient.

7041. (*Professor Brown.*) In stating that milk from tuberculous animals might be sold, I presume you mean under those circumstances which obtain in your herd; that is to say, where there is a regular inspection of udders, with the intention of eliminating any animal from the dairy which shows she has been even in the earliest stage of tuberculosis?—Even under those circumstances it might very easily be so.

7042. If you found that a herd was tested once to see what was the matter with them and you found that 20 of his cows reacted you would not allow the man to sell the milk without any precaution at all, and continue to sell it as long as he pleased?—All the length I would go is this, that the milk from any cow which is to the naked eye tuberculous ought not to be sold, because that cow is probably in an advanced stage, and if not in the udder to-day it may be in the udder to-morrow. But a cow that looks in good condition and is fit, and yet reacts to the tuberculin test, I think in most cases, or at any rate in a large number of cases, that milk is quite healthy. I should not go so far as to recommend that the milk should be forbidden to the public.

7043. But that implies constant supervision?—It does.

The witness withdrew.

Mr. JOHN DOBBIE, called and examined.

7054. (*Chairman.*) You come here on behalf of the Scottish Chamber of Agriculture?—Yes.

7055. You are yourself a farmer?—I am.

7056. I think you have heard the evidence of the last witness?—Part of it.

7057. He also was here on behalf of the Scottish Chamber, and therefore we shall be glad to receive from you anything that you think of importance that we should hear?—Anything I have to say is not of a scientific nature, but I am also Chairman of the Local Authority of Midlothian, and it is principally in that way that I can speak as to how the meat traffic is conducted throughout the country. With that object the Chamber drew up a report, and I would like to apologise to the Commission for our Secretary

7044. And presumably, on the score of perfect safety, you would consider it generally desirable to eliminate from a dairy herd all animals which reacted with tuberculosis?—Yes, certainly. What I should like if the public would stand it would be to see animals tested compulsorily, all cows tested whether they are meant for breeding or for milk supply. If they are found to react we should see that those animals are branded, and anybody buying them would buy them with their eyes open. What happens at present is when a herd is tested that the owner puts all those that he finds—I do not say that he always does, but I have known men say that they have done so—are tubercular on the market and you do not know where they go.

7045. That is really the usual system of getting rid of them?—That is so. It does not get rid of them.

7046. Only the individual does?—Only the individual.

7047. (*Chairman.*) When do you propose to test your herd next?—My intention is to test them when I take them into the byres in the autumn. My idea would be to test at that time every year. In my own county, where cows go out every summer, I would test them in the autumn.

7048. May we ask for the result?—Certainly; if it would be of any use to the Commission I would have them tested sooner.

7049. I have just another question. On what source do you rely for the supply of tuberculin?—I simply put myself in the hands of Professor Dewar. If it is not good the whole thing falls to the ground. I have accepted Professor Dewar as a good experimenter, and I fancy that he gets the tuberculin from France.

7050. (*Professor Brown.*) Yes, from the Pasteur Institute?—Yes.

7051. (*Chairman.*) Has your Chamber any views of the action to be taken by the Government in order to supply tuberculin?—I do not think they have. I may say that the chamber, as a chamber, have not got very much knowledge about tuberculosis. They asked me to appear because I had made those experiments, and they asked me to give my own experiments quite independently of the Chamber's. Mr. Dobbie has a statement which was drawn up by the committee of the Chamber of Agriculture, dealing principally with slaughter-house inspection and facts, as far as they know, of the prevalence of tuberculosis in Scotland, and the recommendations that they would like to make. But, as I said, they are against any compulsory testing.

7052. (*Mr. Cooke-Trench.*) What does it cost each time per head for testing?—I am sorry to say I cannot tell you.

7053. Not approximately?—Not even approximately.

having neglected to send up the report which he was instructed to do a fortnight ago.

7058. Well it puts me rather at a disadvantage in examining you not having had this report earlier?—I apologise for the neglect. I can give the percentage of losses as the Chamber prepared it; the number of animals slaughtered and the proportions condemned as affected with tuberculosis in various towns of Scotland; in the large towns the number of cows condemned in those towns; the extent to which carcasses affected are condemned; the qualifications of the meat inspectors; the process of examination of the dead meat and the inspection as carried through in the county of Midlothian and all the burghs and towns in it and as to the sale of milk in our dairies.

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7059. The first heading that you have mentioned is the percentage of losses; does that mean the percentage of losses absolutely?—In the case of the Scottish Chamber the losses have been set down thus: Breeding herd, losses about 5 per cent.; mixed breeding and feeding herd, 3 per cent.; and feeding herd, 1 per cent.

7060. When you talk of losses does that mean deaths?—Financial losses, “piners” being killed.

7061. You do not mean losses in the stock, but financial loss?—Financial loss.

7062. From the presence of tuberculosis?—Yes, by “piners” dying.

7063. That loss must be more or less of course a rough estimate?—It is just a rough estimate; it is the opinion of the Chamber.

7064. But under the following heading “number of animals condemned,” what do you say to that?—That is a statement of fact.

7065. You have put down “the number of animals killed”?—The number of animals slaughtered and condemned and affected with tuberculosis in the various districts. Those are matters of fact. I have letters from every slaughter-house.

7066. Would you state them?—Do you want them *seriatim* as I have got them? Edinburgh has 30,156 cattle slaughtered; shall I give the cattle under the different heads?

7067. Perhaps you will hand in this paper and we shall have it printed?—Yes; it is noteworthy that Aberdeen has 42,000 slaughtered and only 32 condemned; in Edinburgh there are 30,000 cattle killed, and there is only 152 cattle condemned, plainly showing a very wide margin in the *modus operandi* of condemnation. In Glasgow there are 30,554 cattle and 578 condemned.

7068. That is a much larger proportion?—Yes.

7069. Do you attribute the disparity to the system of inspection or to the class of cattle in the different towns?—To the class of cattle, because I hold that Edinburgh is far and away ahead of Glasgow in inspection.

7070. You do not put down any part of the disparity to the greater stringency of inspection in Glasgow?—In this also I have a report how the meat is inspected, and you will find in page 7 that you have the qualifications of the inspector and on page 9 the process of inspection. As to the inspectors of dead meat and their qualifications you will find at Clause 5, on page 7, that in Edinburgh there are veterinary inspectors and in Glasgow there are none.

7071. I do not quite understand. You say there is a different class of inspection in Edinburgh as compared with Glasgow and a different class of cattle in Edinburgh as compared with Glasgow?—There must be an inferior class of cattle sent to Glasgow, otherwise there would not be that large percentage of condemned carcasses. It is an open secret that you can dispose of those doubtful carcasses in Glasgow much easier than in other towns in Scotland.

7072. But in Glasgow they are not veterinary inspectors you say?—They are not. In Glasgow there is a division of jurisdiction in meat inspection. The inspection in the corporation abattoirs and dead meat market, and in certain large private dead meat auction markets in the neighbourhood of the corporation market (Moore Street) also, and in this regard of the foreign animals abattoir, it has been placed by the corporation in the hands of the police. Under this division there are eight inspectors, all of whom are police constables, and it is said they all know about cattle “having been farm servants or such like.” They are supervised by their inspectors, namely the inspectors of police. The other division of jurisdiction in Glasgow relates to the inspection of meat in shops, sausage factories, in transit at railway stations and elsewhere. That division is in the hands of the Public Health Department to which are attached three inspectors, two of whom are practical butchers, while the other had a mixed experience in handling meat in trade as a ham curer and provision

merchant; the work of those inspectors is entirely detective. Edinburgh has four meat inspectors who are fully qualified veterinary surgeons. In addition there is a superintendent of the slaughter-houses with his assistants. The superintendent and his assistants are experienced butchers and have been engaged in the trade, but they possess no veterinary diplomas.

7073. Have your Chamber any observations to offer on these figures?—Nothing except the general recommendation they have at the end.

7074. Perhaps you will give it?—The various towns are treated in the same way as Glasgow and Edinburgh in this report. Then as to the procedure on examination, I have letters from the city of Edinburgh at the bottom of page 5 in my proof, under the heading “Extent to which carcasses must be affected before being condemned: In Edinburgh ‘The practice is to condemn any carcass which shows any sign of disease.’ In Aberdeen ‘There is no distinctly defined limitation in condemning tubercular carcasses, each case being judged on its own merits, but generally speaking the carcass will be allowed to pass if well fed, and if the tubercle is not great in quantity and is confined to internal organs. All others are condemned, especially, as almost invariably happens, when the glands are tubercular.’ In Glasgow ‘As to the standard in dealing with tuberculous carcasses the Public Health Department has been guided by the decision in the well known case of the Glasgow Local Authority v. Hugh Couper (1889). The following extract from the note appended to the Interlocutor by the Sheriff shows generally what this standard is: “In Glasgow the practice has been, in cases where the disease so far as appeared to the naked eye, was confined to the internal organs to ‘dress’ or ‘strip,’ the carcass, that is to say to strip away the pleura or lining membrane of the chest cavity and the internal organs, and to allow the rest of the carcass to pass into the market for food.” My conclusion from the evidence is that that is not a sufficient protection against the risk of communicating the disease by ingestion.”

7075. May I ask you, when you say “my conclusion” is that your conclusion?—No, it is an interlocutor from the Sheriff. “In Perth the officer of health condemns carcasses affected with tuberculosis of the internal organs, as lungs, liver or bowels are affected, and the disease general, but if only the pleura are affected and the disease is limited, he passes the carcasses; that is to say incipient tuberculosis is assumed fit for human food; while advanced and general tuberculosis is not. In Dundee all carcasses found to be tuberculous are condemned. In Kirkcaldy ‘It is the practice of the inspector to seize meat whenever it is affected.’ That is all the towns.

7076. Then Dundee, Kirkcaldy and Edinburgh have a more rigid system than any other town?—That is so. Sir Henry Littlejohn condemns any carcass if there is the least trace of tuberculosis upon it.

7077. Now go on to “Inspectors of dead meat and their qualifications”?—I have read the Edinburgh one and Glasgow, and Edinburgh, has a very large slaughter-house. “In Aberdeen in addition to the chief sanitary inspector, who is also chief meat inspector, there is one inspector who devotes his whole time to the duties of meat inspection. This inspector, previous to being appointed to the post, had been for several years an assistant inspector in the nuisance department of the sanitary office, but had become acquainted with meat inspection by assisting his predecessor in the post of meat inspector whenever required and acting for him in his absence. Neither the chief sanitary inspector nor the meat Inspector is a veterinary surgeon.” In Aberdeen there are 30,000 cattle, and in addition to the chief sanitary inspector, have only one man to inspect.

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7078. They have no public abattoirs in Aberdeen?
—None I think in Aberdeen at all.

7079. There are private slaughter-houses?—Yes.
In Perth the superintendent of the slaughter-house department inspects all dead meat, and he has had 40 years' experience. He is not a veterinary surgeon. In Dundee there are two inspectors regularly employed at the slaughter-houses, one of whom has had 26 years' experience as an inspector of meat, the other has had 20 years' experience, and holds a certificate that he is qualified to make microscopic examinations of meat. In addition to these two there are two sanitary inspectors and two sanitary officers, who visit the butchers' shops. Their qualifications are general experience of sanitary duties, one of them having had experience as a butcher and cattle dealer; none of them is a veterinary surgeon. In Paisley 'There are four 'sanitary inspectors, all of whom are inspectors of 'meat, in terms of section 26 of the Public Health '(Scotland) Act, 1887. Their training consisted 'in examining meat while they were in a subordinate 'position (this they had great facilities of doing), 'and their qualification is the certificate of the 'Sanitary Association of Scotland.' In Kirkcaldy the only meat inspector 'is the sanitary inspector, 'who holds a certificate of the Sanitary Association 'of Scotland. He was trained at the Edinburgh 'slaughter-house.' Then as to the 'Procedure 'adopted for examinations of dead meat and the 'detection of disease. In Aberdeen the system of 'inspection is a detective one, and is worked mainly 'by a single inspector. It is not possible for him, 'having regard to the large number of slaughter- 'houses, butcher shops, and provision works, as 'well as the fish market, which he has daily to 'inspect, to personally and thoroughly examine 'more than a proportion of the carcasses. With a 'larger staff, or with all the slaughtering con- 'centrated in a single public slaughter-house it 'would no doubt be found that the number of 'tubercular carcasses is considerably beyond that 'above indicated. In Perth, under Regulation 19 'of the Slaughter-house Bye-laws, it is the duty 'of the superintendent of the slaughter-house, in 'every case where he has any doubt as to the quality 'of the carcass of a slaughtered animal, to ask 'whether the same is intended for human food, and 'if so then to state that it must be examined by a 'veterinary surgeon appointed by the Police 'Commissioners along with the medical officer of 'health. In Dundee all dead meat brought or sent 'into the burgh for sale or consumption there shall 'first of all, be brought or sent to the slaughter- 'houses of the Commissioners at Carolina Port, 'Dundee, and the said meat and the meat of all 'animals killed in the said slaughter-houses, shall 'be examined in the slaughter-houses by an inspector 'appointed by the Commissioners. If such dead 'meat be found sound and fit for human consump- 'tion it shall be passed by such inspector. If, on 'the other hand, it is found unsound, it shall be 'forthwith destroyed by or at the sight of the 'inspector. A specified slaughter-house is set apart 'for the slaughtering of suspected animals and for 'the examination of suspected carcasses. In Paisley 'there is a resident superintendent of the 'slaughter-houses, who is an experienced flesher. 'His duty is to detain any carcass or meat he con- 'siders diseased or unsound and unfit for human 'food, or which he has any ground for suspecting, 'such as the carcasses of animals brought into the 'slaughter-house dead. There is also a specially 'appointed veterinary surgeon who is called in to 'inspect all such carcasses or meat. If, after 'examination, he is of opinion that the meat is unfit 'for human food he sends a certificate to the 'sanitary inspector to that effect. The sanitary 'inspector then deals with the owner, so that the 'meat is either destroyed with his consent, or if 'the owner disputes the unsoundness, he is entitled

'to get someone to examine for him, and on the 'advice of such person the meat is either destroyed 'with the owner's consent, or should the question of 'unsoundness still be at issue, an order requires to 'be got from a Sheriff Justice or Magistrate, on 'satisfying him that the meat is unsound, unwhole- 'some, or unfit for human food.' Then follows the inspection in the various towns. There is simply no inspecting, it is totally in the hands of the sanitary inspectors. Portobello and Musselburgh have each one slaughter-house.

7080. I will not trouble you to go through that; we shall have it printed. Has this information been collected?—Yes. There is none of this a matter of opinion, but it is a statement of fact as to the various towns.

7081. Those particulars are furnished to you?—Yes, by the town clerks or the sanitary officers. In the county of Midlothian we are obliged to go to the sanitary officers, because they are the only people. In the case of the city of Edinburgh and Glasgow it comes from the town clerks.

7082. Have you any information as to the regulations as to the sale of milk?—Yes. "Except in the cases where cities have private Acts of Parliament dealing *inter alia* with the sale of milk the only regulations applicable are those imposed under the Public Health (Scotland) Act, 1867. All keepers of dairies both in town and country require to be registered."

7083. What are those private Acts of Parliament?—So far as Edinburgh is concerned they have not the power to stop the selling of milk in a farm in the county, but if I send milk to Edinburgh they have power to come out and look at my dairy, and if they think it is not good they can prevent me selling milk in the city of Edinburgh. They have only power to prevent my selling it in the city.

7084. And they have no power to inspect your animals?—None.

7085. Has the subject of the connection between milk and tuberculosis been under your consideration?—To a certain extent. There is only one case in the county, and this the case of Mr. Thomas Fisher, a dairy farmer who has started to supply milk from tested cows; he is the only gentleman who has tried it, and, so far as he is concerned, it has not been a financial success. Shall I read his letter?

7086. If you please?—Mr. Thomas Fisher, of Whitehill Home Farm, Rosewell, Midlothian has issued a circular in the following terms "Having regard to the prevalence of tuberculosis in dairy cows, and the declaration of medical men that the disease is communicable to man through the milk of infected animals, I have called in Principal Dewar of the Royal (Dick) Veterinary College, along with the local veterinary surgeon, and had my cows tested with 'tuberculin,' and am now in a position to supply milk from a dairy in which all the cows are certified to be sound, price per imperial gallon 1s. 5d. (Signed) Thomas Fisher." Mr. Fisher gives Principal Dewar a free hand to test any or all of his cows at any time. Mr. Fisher writes on the question of how his business has been affected by the course he has adopted. "I have lost customers through it, and I am informed by others that they will leave when I raise the price of milk. On the other hand, I have got a few customers who are paying the price in my circular, and thanked me, and expressed the wish that I might succeed. Apart from the loss on the cows, the reducing of the output from the dairy leaves me working in the meantime at a loss, as dairying is the principal industry of the farm."

7087. How long has that experiment been in operation; do you know when Mr. Fisher started?—He was Mr. Wardlaw Ramsay's manager, and he is now carrying this business on for himself, Mr. Fisher has been carrying it on for two years on his own account. If I may be allowed to make a remark about Sir Thomas Gibson Carmichael's reference to

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the percentage of cows suffering from tuberculosis, I may say that Mr. Fisher buys his cows now tested, as far as he can. He tested the whole of his herd and 64.5 per cent. reacted and were condemned at the beginning; 22.5 per cent were clear, 12.9 per cent. were doubtful. He took all these reacting cows and put them into a shed and does not use the milk, he only sells the milk from the cows which are perfectly sound. He is now buying the cows from the seller on the guarantee that they have been tested.

7088. Why should he charge a higher price?—On account of the eliminating of those cows that are affected. He had got 34 cows and he had them tested by Professor Dewar and he had to eliminate them from his dairy, and he sells them to anyone, but he will not sell the milk himself.

7089. What is the size of the herd?—He has about 33 or 34, but I shall send the exact data which I have at home.

7090. I suppose once the owner of a herd had succeeded in eliminating diseased stock there would be no reason why he should charge more for his milk than another man?—You cannot get them re-stocked. In this case Mr. Fisher bought 13 cows in the vicinity of Glasgow. Tested during a certain number of months, something like 12 months, and he had sold 13 of his stock, and among the 13 cows four cows, which had been tested at Glasgow, reacted when re-tested within nine months, plainly showing that they had contracted the disease either in coming from Glasgow or that it was latent in the cows.

7091. Now we come to the remedies suggested by your chamber?—On page 17 we say "(1) That a 'more uniform and thorough system of inspection of animals for slaughter, carcasses and dead meat generally should be made compulsory, and that all inspectors should be properly qualified veterinary surgeons.'"

7092. "All inspectors should be properly qualified veterinary surgeons"; that would add considerably to the expense for the inspectors?—I do not see it. It appears in Edinburgh we have four qualified veterinary surgeons, and I think strongly that before a man should condemn a carcass he should know something about it.

7093. I think that is reasonable?—Then we say "(2) That private slaughter-houses should as far as possible be abolished."

7094. Does that apply to rural as well as urban districts?—It does.

7095. That slaughter-houses should be provided at the public expense?—That is to say authorised slaughter-houses.

7096. That you will admit would probably involve a good deal of expense?—It would.

7097. But you think it is worth it?—Yes. "(2) That private slaughter-houses should, as far as possible, be abolished, and that it should be compulsory on local authorities to provide properly equipped slaughter-houses in their respective districts. (3) That all animals intended to be slaughtered, and carcasses intended to be sold for human consumption must be sent to a public slaughter-house, and passed by the inspector there, unless where there is no public slaughter-house 'within seven miles distance'—(within 12 or 14 miles distance; that is a misprint; that would be equivalent to a six miles drive of a carcass)—'in which case the carcass, if intact, may be inspected and passed by a veterinary surgeon approved by the Board of Agriculture. (4) That tuberculosis should be scheduled under the Diseases of Animals Act, and compensation paid to the owner where the carcasses of apparently healthy animals are condemned as affected with that disease. This resolution was unanimously approved of at a conference of agriculturists held in Edinburgh in October last, at which there were present representatives of the chamber, the Highland and Agricultural Society, and also of 41 district agricultural societies."

7098. With what object was that passed; with the view of stamping out tuberculosis?—It was to obviate a complaint of the butchers that they buy healthy animals and that they were condemned for tuberculosis, while they considered the meat perfectly healthy themselves, and they say that if the public want this, the public should pay, and not the individual.

7099. Was the question fully considered by the chamber?—It was.

7100. Was there any limit of minimum value suggested?—As to the value of the fat bullock.

7101. There is nothing about fat bullocks in this resolution?—I do not quite understand.

7102. What I want to know is this: Did your chamber advocate compensation for all animals of which the carcasses are seized, no matter what the condition of the animal is or the quality of the meat?—It is stipulated here: "where the carcasses of apparently healthy animals are condemned," and it is in my private opinion. I hold that where a man buys a "pinner" he should not be compensated.

7103. In some cases the farmers and butchers have an insurance?—There is only one case.

7104. You are aware that in some societies formed for the insurance of farmers and butchers against confiscation a minimum limit of 8*l.* value has been established so as to exclude decidedly inferior animals?—I am only aware of this one case, in which the 6*l.* is the limit. I would not say 8*l.* for the limit, because there are plenty of good animals sold for 6*l.* I have seen perfectly healthy stock this year sold at 7*l.* 10*s.*

7105. But you must recollect that you are proposing an extreme measure of compensation for an unsound article?—I am.

7106. For which I think you will allow there is no precedent?—In the way of compensation?

7107. Yes?—Take pigs for example.

7108. Do you mean pigs in swine fever?—Yes, but that is the case in stamping out.

7109. But you say you have no intention of stamping out tuberculosis?—The whole drift of the thing is in favour of stamping out.

7110. Compulsory slaughter of all tuberculous animals do you mean?—Not so, but gradually.

7111. Do not let us have any obscurity; either your chamber goes in for stamping out, which cannot be gradual, which must be effectual, or it does not, which is the case?—So far as I understand clause 4 more especially refers to fat stock.

7112. There is nothing about fat stock in it?—Still that is the meaning of it actually. It is to overcome in the public interest the objection to fat stock being confiscated which are apparently healthy, and the butcher or the farmer losing the whole carcass.

7113. I quite apprehend the grievance, but what I mean is that this resolution seems so loosely worded that it suggests that the question has not been thoroughly considered by your chamber?—Well, that is the meaning of it.

7114. That is the way it puts it however. Well, go on to the next recommendation?—"(5) That all dairy cows should be periodically inspected by a veterinary surgeon appointed by the Board of Agriculture. That milk should not be allowed to be sold from 'piners' or from cows with tubercular udders, but that the owner should be allowed to call in a veterinary surgeon and have the tuberculin test applied where he disputes the case. The Chamber is strongly against any compulsory general testing with tuberculin. They do not think it necessary and it would be a troublesome and expensive business."

7115. The periodical inspection would be also an expensive business?—It would, much the same as the inspection during the pleuro. At present certain dairies have periodical inspections just now.

7116. Some dairies at the expense of the owners?—At their own expense.

7117. But this is to be at the public expense?—That is so. The next is "(6) That no one shall be allowed to sell milk in any town or district without

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"first obtaining a licence from the local authority of such town or district, and that where the cows are housed outside the district in which the local authority have jurisdiction the local authority of the district in which the cows are housed should be bound when required to supply to any local authority to whom application for a licence has been made full information and veterinary reports regarding the condition of the cows, byres, &c. of the applicant. Further that a local authority should have power summarily to suspend any licence to sell milk within its district where there is reason to believe that the cows are affected with pronounced tuberculosis or tubercular udders, provided that the local authority shall pay compensation for loss sustained in consequence of such suspension where it is found that the cows were not seriously affected with tuberculosis or other disease, and that the milk was wholesome. The Chamber does not approve of the officials of one district going into another district and making an inspection there."

7118. (*Mr. Murphy.*) I think you said at the beginning that the Chamber had estimated that the loss sustained by the stock owner due to tuberculosis amounted to something like five per cent.—The breeding herd was put down at five per cent.; the mixed breeding and feeding herd three per cent.; and the feeding herd one per cent.

7119. How did this loss occur?—Principally by "piners." We call it pronounced cases of tuberculosis. In my own case I am a feeder of about 50 cattle in the year. What I would put down as a loss is, perhaps in two years an animal evidently shows tuberculosis, and that beast is killed and buried, and I put that down as a loss.

7120. I find, adding up the total number of cattle that are killed in the various towns contained in your list and the total number seized on account of tuberculosis, that the seizures amount to something like 0·8 per cent.—Of fat cattle.

7121. I include all the cattle slaughtered under those circumstances that are on your list, so that one may take it roughly as being somewhat about 1 per cent.—That is so; that is for the feeding you mean. I am speaking of the feeding; the loss to an individual feeder is 1 per cent.

7122. I am speaking simply of the cattle killed in the different towns, and it comes out somewhere about what I said. I had to omit Perth because there was no record of the numbers condemned, but as they stand they come to 0·8 per cent. I think the figures are right?—Those figures that are here are correct.

7123. The difference between the 8 per cent. and the percentage that you speak of in the beginning are losses that are the result of circumstances which are not the outcome of the action of a local authority

(*Chairman.*) Pardon me; there is a little misapprehension here. The figures in the first estimate given by the witness are those of losses by tuberculosis. The figures returned from the different towns of animals condemned are condemned from all causes.

(*Witness.*) That is so.

7124. (*Mr. Murphy.*) So that the 0·8 per cent. represents a great deal more than the loss from tuberculosis?—Yes, it may be from broken legs or anything else, or putrefaction—anything in fact.

7125. I had not understood it so, but it makes what I want to bring out the more striking, namely, that the figures that you give of the stock owners' losses from tuberculosis are almost entirely due to causes which do not result from the action of a local authority?—The public health are local authorities, and of course the public health look after the condemnation of the meat.

7126. But even when the meat is condemned from all causes—other causes besides tuberculosis—it only amounts to 0·8 per cent. of the carcasses of animals that are killed?—I take it that you are right. If I may

be allowed to make a statement I would say that of course the mode of inspection is most imperfect.

7127. In those towns?—In the whole place. I hold that the meat inspection is next door to being almost nil.

7128. You are satisfied with Edinburgh?—Yes.

7129. And Glasgow?—I will not say that I am satisfied with Glasgow, because you have not trained veterinarians there.

7130. You think that you are satisfied with Edinburgh, but you are not satisfied with Aberdeen because the animals are killed in private slaughter-houses?—Yes, and because they have only one man. If you come to the county of Midlothian and all those boroughs in which there are large populous centres—mining districts—there is no further inspection than the sanitary inspector.

7131. I quite see your point as to the insufficiency of the inspection?—I have here a return from the sanitary inspector which might give you some information on this point. Shall I read it? During 1895 there were killed in the Edinburgh slaughter-houses the numbers which I have already given. The numbers are rather different:—30,137 cattle, 6,923 calves, 173,467 sheep, 6,248 swine, of which there were condemned for human food 282 cattle, 113 swine, 39 calves, and 137 sheep. Outside the slaughter-houses there were seized the carcasses of four cattle, one pig, and three sheep. Of the cattle condemned 259 were cows, 25 bullocks, and two bulls, 44·78 per cent. of the cows, 52 per cent. of the bullocks, 50 per cent. of the bulls, and 12·28 of the swine were condemned for tuberculosis. This is taken from the City of Edinburgh Reports. The number of cows in Midlothian dairies in 1877 was 7,270, in November 1896; the city extension took 29 dairies, which held nearly 900 cows. It is unfortunate that there has been no record kept in the slaughter-houses of the number of cows killed and condemned.

7132. At any rate shall I be right in saying that with such inspection as now exists the loss that the stock owner sustains from the seizure of meat—the seizure of carcasses—is nothing to what he suffers in his business generally from the effects of tuberculosis on this stock?—I hold as feeders we do not suffer very much from tuberculosis; we only suffer 1 per cent. The other losses are from breeders and dairymen. As a pure feeder we only suffer 1 per cent; that is from the pure and simple condemnation of tuberculosis, but if it be carried out that a single tubercle on a carcass condemns it, then, of course, the loss will be infinitely greater.

7133. As you point out the 0·8 per cent. that I find seized in this total number of towns includes seizures for other conditions than tuberculosis, and the proportion seized for tuberculosis would be very small?—But I hold that there is a great quantity of carcasses that now will be seized under the new Act which could not be previously seized.

7134. (*Chairman.*) Which Act?—This new Public Health Act.

7135. Do not speak of it yet as an Act?—Well, if there was a uniform inspection the same as in Edinburgh, and a uniform condemnation, the percentage would be much greater.

7136. (*Mr. Murphy.*) Would you be anticipating any great amount of loss if the sanitary authorities only seized carcasses when the disease is generalised or of considerable extent?—There would be a decrease of the loss.

7137. If the sanitary authorities only seized animals in which the disease was considerable or generalised—would you then think that the loss would be small or great?—In the city of Edinburgh it may not be less, because at this present moment the least tubercle condemns the carcass.

7138. But I am assuming that Edinburgh falls into line with other towns where it is not the practice to seize carcasses in which the tubercle is localised and limited?—The loss would be smaller in those other

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towns, where they do not condemn for single tubercle, it is left in the hands of inspectors to condemn either a very bad case or a case of a secondary class.

7139. You are not taking exception to those towns in which carcasses are only seized when the tuberculosis is generalised?—No, I approve of that.

7140. You are not taking exception to their action, but you are finding that the loss is severe on account of seizure when the tubercle is localised?—As to the passing of incipient tuberculosis, I do not take exception to that, because that is what we are driving at.

7141. You have yourself owned a number of cattle which go to the slaughter-houses?—Yes.

7142. Within the last two or three years how many of those have gone to the slaughter-houses?—They all go.

7143. How many per year?—About 50.

7144. How many of those cattle have been seized?—None.

7145. You mentioned Mr. Fisher, who sold milk at 1s. 5d. per gallon coming from cows tested with tuberculin?—Yes.

7146. What would be the ordinary price of milk?—He is charging 1s. 5d. per gallon now, and the retail price is a shilling.

7147. We have been told that it is to the interest of the stockowner to eliminate tuberculosis from his cattle and to take the precautions for that purpose; how is it that this man comes to charge 1s. 5d.?—For example he buys 20 cows at 20l. apiece, and his neighbour buys 20 cows at 20l. each, and he has had his cows tested, and out of those 20 cows perhaps 12 are condemned. It is impossible for that man to sell his milk at the same price as the other man who has not had them tested.

7148. He is not engaged in breeding?—He is breeding, but I am speaking of his dairy cows. He buys the dairy cows, milks them, and feeds them.

7149. Does not he take any precaution to have them tested with tuberculin before he purchases them?—Yes, he has them tested at home, for when he cannot get them bought tested, he does so himself. From Glasgow he has them tested, and pays 2l. extra, but the result is not satisfactory, because they sometimes react. When the ordinary commercial value of a cow is 20l. he would have to pay 22l. for the cow that is tested.

7150. Do you know whether his cows react less and less, or are they practically the same?—He is always buying them in; he buys them in regularly.

7151. Does he have them all tested with tuberculin before he buys them?—I understand so. He bought a cow about two months ago, and he had it tested at home.

7152. Therefore he loses and makes up by asking people to pay 1s. 5d. per gallon?—No he does not; he sent circulars to the most eminent medical men in Edinburgh, and not one has given him an order for milk.

7153. So far as can be judged at present, people are not very much influenced by fears of tuberculosis?—In the medical profession they are evidently not.

7154. In the agricultural returns there is a column which shows the number of cattle in the three Kingdoms in each year; would it be possible to form any estimate of the number of those cattle slaughtered every year?—Not the milch cows. A good milch cow goes two years, and some not more than nine months.

7155. For the United Kingdom in 1896 they amounted to 10,942,423, and the figures are given separately for Scotland, Ireland, and England; could any estimate be formed?—The rough estimate for feeding stock is three years. In three years I should say all the stock feeding is killed now. It is the exception for a three-year-old bullock to be killed. That is the only way you could come at an average; the great majority of the bullocks are fed at 2½, a good many under that, but all under three years old;

at all events that is so in Scotland, but I do not know whether it is so in England.

7156. Do you think that 25 per cent. of the animals are killed every year?—I should think that is so, fully.

7157. You would not be disposed to put it at 50 per cent.?—I would not. 25 per cent. would be nearer a fair average I think.

7158. (Mr. Cooke-Trench.) Do I rightly infer from some of the answers you have given that your Chamber has taken it for granted that the result of this Commission must be a greatly increased stringency in the application of the confiscation for tuberculosis?—That is so.

7159. And your recommendations are founded upon that assumption?—I reckon so.

7160. (Chairman.) That is a very remarkable opinion, are you quite sure of that?—As this Commission just now is sitting for that purpose.

7161. We must be careful about this, because it involves the whole weight of those recommendations. You are asked whether those recommendations of your chamber were come to under the impression that this Commission was about to recommend greatly increased stringency of inspection, and other regulations dealing with tuberculosis, is that so?—That is so.

7162. (Mr. Cooke-Trench.) Well now your chamber recommends the establishment of public slaughter-houses everywhere?—No, at stated intervals.

7163. Well, but I mean the abolition of private slaughter-houses, the total abolition of private slaughter-houses?—Yes, I think "so far as practicable" are the words that are used.

7164. Have your chamber entered into the cost of that?—Not the question of cost, but the question of inconvenience.

7165. They have not entered into the question of cost?—They have not.

7166. They have not formed any opinion as to whether it would cost one million or one hundred millions?—We have a very good idea what a slaughter-house would cost; they have a rough idea what a slaughter-house should cost.

7167. But a slaughter-house every 14 miles in the country, have they formed any opinion what that would cost. For instance, have they formed any estimate or made any calculation as to whether it would double the local rates?—None whatever, because we say an authorised slaughter-house within 14 miles, and that would fulfil the obligation of this clause. If there is a village seven miles distant, from my farm where an authorised slaughter-house is, that slaughter-house would take in my stock without making any charge on the rates.

7168. Then as to the abolition of all private slaughter-houses; I suppose the owners of these slaughter-houses would have to be compensated?—I do not approve of that individually. I do not see why they should.

7169. Have your chamber considered that question?—Not at all.

7170. (Chairman.) As a matter of fact they have been abolished in Scotland without compensation. We have that power in Scotland, and you have not got that in England?—I may remark I am up here upon the Public Health Bill for Scotland. There is a clause in this Bill which will modify this clause on public slaughter-houses. There are two proposals, one, instead of having public slaughter-houses we say that all animals killed except in an authorised slaughter-house shall be inspected by a veterinary surgeon and a certificate granted. If that clause is carried, there is no necessity for having those authorised slaughter-houses, because the certificate from the veterinary surgeon would condemn at once a tuberculous carcass, which would greatly modify the present system.

7171. (Mr. Cooke-Trench.) A certificate of a veterinary surgeon on an examination when alive?—And dead.

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7172. And the application of the tuberculin test?
—I am speaking of a carcass.

7173. When was the veterinary surgeon to examine, before or after death?—After death.

7174. Well there again have you considered the question of cost of having veterinary surgeons to examine every carcass that was killed?—Otherwise than in a public slaughter-house.

7175. Have you considered the cost?—I have.

7176. At what do you estimate it for Scotland?—I have not gone into such a broad question. We pay veterinary surgeons under the Swine Fever and Pleuro-pneumonia Act.

7177. But you have not entered into the question of cost?—Not the total cost.

7178. You proposed slaughter-houses at distances of seven miles?—Twelve or 14 miles.

7179. This proof of yours says it is not to be more than seven miles from any butcher. But would you be very much surprised to hear that it has been given in evidence before us that carrying meat even two miles from a place of slaughter very much interfered with the length of time that meat would keep afterwards?—It would depend very much upon the mode in which the meat was carried. If the intestines were cut out and put alongside the carcass there is nothing to prevent the carcass being carried six miles without injury.

7180. You will be surprised to hear that it was given in evidence by a practical butcher that he has had two shops, one at his place of slaughter and another two miles from it, and that he found that those carried two miles would not keep nearly as long as those sold at the slaughter-house?—I do not happen to be a butcher. I am not up in the butchering trade, but as chairman of the local authority during the pleuro-pneumonia outbreak we authorised the killing of 170 cattle in one farm, ten miles from Edinburgh, and these carcasses were all carted up to Edinburgh dead, and were all right. If I may be allowed to give an opinion of another gentleman, Mr. William Kelso, sanitary inspector for Paisley, I will do so. He says, "Doubtless objections on the ground of inconvenience will be offered to this suggestion. In Govan, Partick, Kinning Park, Pollokshaws, and Clydebank there are neither public or private slaughter-houses. These places are supplied with dead meat from Glasgow. Or, as a gentleman situated in one of them very characteristically remarked, 'It is supposed to come from Glasgow or America, or some place else.' A good deal of dead meat is carted from Glasgow, distances of from 10 to 20 miles. Apparently there is no difference at this distance."

7181. I will pass from that. You propose again to have all dairy cows inspected do you not?—We are in favour of compulsory inspection; the Chamber are.

7182. You are against the compulsory inspection of all dairy cows?—The Chamber is strongly against any compulsory general testing.

7183. You say "all dairy cows should be periodically inspected by a veterinary surgeon appointed by the Board of Agriculture." That is their recommendation?—I thought you said tested.

7184. No. You say "all dairy cows should be periodically inspected by a veterinary surgeon appointed by the Board of Agriculture"?—That is so.

7185. That is applicable to all dairy cows whether in private byres or public?—I speak of public, we do not call my two cows a dairy.

7186. But you say that "all" dairy cows?—I keep two cows and I do not keep a dairy.

7187. Surely they are dairy cows?—But they are not under the inspector.

7188. That is not intended to apply to your cows?—No, to public dairies.

7189. How would you define a public dairy?—A registered dairy.

7190. If a dairyman has a little more milk or butter than he wants and sends it to market would that constitute him a public dairy?—He is not allowed to have a dairy at all unless he is registered.

7191. (Mr. Speir.) Do you know of your own knowledge that the Scottish Chamber were under the impression when they passed this resolution that this Commission were likely to recommend more stringent regulations; was ever that discussed by the chamber?—That was the understanding at the meeting.

7192. Do you know of your own knowledge that it was or was not?—In as many words, do you mean.

7193. Did you hear it raised either directly or indirectly?—I cannot exactly follow you. The object of the meeting was to consider this Tuberculosis Commission, and the object of the Commission is to eliminate tuberculosis, I understand, as far as possible, and I think that is the general understanding of the meeting.

7194. Are you quite sure that the members of the Scottish Chamber discussed that matter at any time before coming to this resolution?—That it was to be more expensive do you mean.

7195. That this Commission would recommend more stringent regulations?—I did not say that they would recommend more stringent regulations.

7196. I understood you to say so to the Chairman; that they were under that impression when they came to the resolution?—The general understanding at the Scottish Chamber was simply this, that this Commission was sitting on this question, that it was likely to enforce a certain code of inspection; that was the feeling of the meeting, and that it was more than likely to have compulsory inspection of dairy cows.

7197. But might not that inspection be less than we have at present?—It may be, but that was the feeling of the meeting.

7198. You expressed an opinion that a decided case of tuberculosis should not be compensated. I understand that to mean a case which would be evident to anyone having a knowledge of stock?—It means a "piner" in fact.

7199. But that you would like to see owners compensated for stock that they could not themselves detect?—Yes, which were apparently healthy.

7200. I am very pleased to hear you say so, because I have put the same question repeatedly to the witnesses, and some want the "piners" paid for. You also said that the Chamber estimated the losses from tuberculosis at 5 per cent. to farmers; is that correct? Mr. Murphy has pointed out to you that the losses at the slaughter-house are only 0·8 per cent. The inference, therefore, would seem to be that the difference between those two figures are the losses at home; the losses at home would be 4·2 per cent., deaths or otherwise?—It is the other way about according to this; they lose 5 per cent. here by tuberculosis.

7201. They have only two ways of losing; they must lose them at home or when they are in the slaughter-house?—Very well.

(Chairman.) I have tried to show that these two figures have no common factor, for one is losses by tuberculosis estimated by the Chamber of Agriculture, and the other is the losses from all causes, and therefore you cannot compare the two.

(Mr. Speir.) I am not making a comparison, but the difference between the two is this loss at home.

(Witness.) Or confiscated.

7202. You said the Chamber were very much in favour of professional inspectors?—Yes.

7203. Has it ever occurred to you that probably the lay inspector might be condemning a great amount of food that would otherwise be quite valuable?—That is so.

7204. And that the amount of food so condemned might have paid all the difference in salary between the lay inspector and the professional inspector?—And more.

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7205. More in some cases, in fact. Then what is your opinion about excluding milk of one local authority from going into another?—That is to say contaminated milk, do you mean.

7206. At least suspicious milk?—What I am advocating just now in our own county, in which I am against the city of Edinburgh; they have power to come out to the country and say to me "You cannot sell that milk in Edinburgh." I say they have a perfect right to do so; but what I object to is, that if I have fever, I am bound to report that case of fever to our own medical officer of health, and Sir Henry Littlejohn asked that we should give a daily report of those cases to the city, and that is agreed to. At 10 o'clock every morning those cases are reported to the county authorities. I hold that if I am sending in scarlet fever, that Dr. Littlejohn has no business to come, unless he comes to Dr. Brock, the County Medical Officer of Health first, and if he is at fault then he should have power.

7207. Is that not very much like the system of protecting one local authority against another, or one local authority protecting a man against his neighbour?—On what line?

7208. Against disease?—I do not follow you.

7209. Well, Edinburgh may say that none of the local authorities on its boundaries are safe, and we will accept no milk from any authority outside of Edinburgh; would not that give the ratepayers of the city of Edinburgh an undue preference in the production of milk?—I think so.

7210. Should that exist in your opinion?—I do not approve of the protection, but I do not see how to get over the difficulty of one local authority interfering with another.

7211. You will then have every local authority raising up something in favour of its own people, and saying that we will produce everything within our own borders, and I think that it will dangerously interfere with the trade of the country, if you admit it. Then you expressed a decided opinion as to the slaughter-houses, that these should be compulsory and should only be public?—Yes.

7212. You have expressed an opinion that seven or eight miles, or six or seven miles, was not too far for those to be apart?—No.

7213. Do you think that there would be a difficulty in having carcasses examined when placed in a rural constituency?—None whatever. If this was adopted these slaughter-houses would be compelled to take them in; if they had power to keep us out, we would be as bad as ever.

7214. There would be no difficulty in having dead meat inspected when brought into a municipality?—What we propose is that the dead meat should be inspected at the place at which it is killed, and examined by the veterinary inspector.

7215. The very point with regard to the local authority having the power to refuse the produce of another does away with that?—Not in meat.

7216. In milk you give them the power, why not in meat?—They have the power in meat. At this present moment in Midlothian with the certificate of the county veterinary surgeon it frees the feeder of all risk, but the moment that the carcass comes into the city of Edinburgh it comes within the jurisdiction of Edinburgh and may be condemned though it has passed in the country.

7217. That is the point. You bring in that carcass and free the owner of it of being penalised for exposing

it, but still you ask that the carcass shall be inspected?—Yes.

7218. Is it not right that something of the same kind should be carried out in regard to milk?—I think that it is identical; I do not see the difference.

7219. But in one case you do not give the outside authority any power at all?—The city of Edinburgh can condemn any meat that comes into it. Of course you have the case carried on by applying to the sheriff, and the very same thing in milk.

7220. (*Professor Brown.*) I gather from your examination generally that your Chamber are in favour of the Board of Agriculture taking the whole charge of tuberculosis?—That is so.

7221. That they should deal with tuberculosis very much in the same way as they deal with pleuropneumonia?—They say that it ought to be scheduled.

7222. Do they express any opinion as to the object which the Board of Agriculture could have in taking it in that way?—I suppose the object is simply this, that it should relieve the feeder of the loss at this present moment.

7223. You know that the object that they have in view in dealing with disease generally is to stamp out the disease by sometimes very violent measures?—That is so.

7224. Is it with that object?—Both with the object of stamping out and with the object of relieving.

7225. (*Chairman.*) That is hardly consistent with the object of stamping it out?—Partly.

(*Chairman.*) You had better look at the proof and see that it harmonises with what you have said.

7226. (*Professor Brown.*) Do you say that it is with that object?—With the object of freeing the country from tuberculosis?

7227. Yes?—Most decidedly.

7228. You do not know of your own knowledge that that is the view?—I cannot say.

7229. In that case I cannot understand why you say that the carcass of an animal should be passed by an inspector approved by the Board; that has nothing to do with the stamping out of disease; that is a matter of public health?—That is so.

7230. Do you mean that they should undertake the stamping out of tuberculosis and the preservation of the public health at the same time?—No; they should not be there; that is a mistake; that is a public health clause.

7231. But you do not really know what their idea on the subject is?—As to stamping out?

7232. As to whether the Board is to take charge of stamping out tuberculosis and for the preservation of public health at the same time or not?—I understand that is the feeling of the Chamber, that the stamping out, if it is to be done at all, should be done by the Board of Agriculture, and that compensation should be paid as in the case of swine fever.

7233. What idea is in their mind when they suggest that the carcass of an animal should be passed, in other words that the Board of Agriculture should appoint meat inspectors; what connection is there between the two things?—I cannot say. Of course the idea of the inspector was simply this, to relieve the owners of this loss where the carcasses of apparently healthy animals were condemned.

7234. It must be with the view to preserve the public health?—That is so.

7235. Then they are to undertake two duties according to that view?—That is so.

The witness withdrew.

Mr.
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MR. WILLIAM HUNTING called and examined.

7236. (*Chairman.*) You are a Fellow of the Royal College of Veterinary Surgeons?—Yes.

(*Chairman.*) In that case you will not object to be handed over to Professor Brown to examine you.

7237. (*Professor Brown.*) You were also a Member of the Council of the Royal College?—Yes.

7238. And you have been President of the Royal College of Veterinary Surgeons?—Yes.

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7239. And you also have been for a great many years one of the inspectors of the Board of Works District, which is now the District of the County Council?—Yes.

7240. And among your duties has been that of visiting cowsheds from time to time?—Yes.

7241. Have you had any opportunity personally of meeting cases of tuberculosis in cattle?—Yes, some as a private practitioner, and some occasional cases found in looking for pleuro-pneumonia years ago.

7242. Have you thought over the question of suppressing the disease?—Yes. I have given a good deal of thought to it.

7243. Can you give the Commission any scheme which has occurred to you?—What occurs to me is that a slight modification of the existing glanders regulations would do a great deal towards suppressing and controlling the disease of tuberculosis.

7244. What modification of the regulations would you suggest. First, with regard to notification?—I should apply compulsory notification to all cases.

7245. And by that you would mean that the owner must judge from the clinical signs?—Certainly, the same as he does now for glanders; when the case is developed, he can notify; when latent, he cannot.

7246. You would not insist upon a veterinary surgeon to test all his cattle?—No, but there is a clause in the Animals Diseases Act which throws the proof of not knowing upon him, and I should like that applied. A man is summoned for working a glandered horse, and he says, "I did not know." The Act says: "You are supposed to be guilty unless you take every measure which would enable you to know," in other words employ a veterinary surgeon to tell him.

7247. Are you aware that that section of the Act has proved a dead letter in nearly every case that has come before the courts?—On the contrary, I have heard Metropolitan magistrates fine different people on that clause.

7248. In those cases in which the clinical symptoms were developed?—Yes, but the man himself said: "I did not know what they meant"; and he was told by the magistrate that he ought to have known.

7249. But in tuberculosis all our evidence is to the effect that it is almost impossible in many cases for anyone but an expert to detect the disease without the tuberculin test?—Of course, I should not have punished that man, nor would any magistrate do so under the Glanders Order.

7250. But your proposition would meet all those cases which are in various dairies throughout the country, and where animals are palpably tuberculous and in the wasting stage, and nevertheless give a good deal of very poor milk?—Yes, it would catch all those.

7251. If they enforced notification, it would ensure the reporting of a certain number of cases, probably the worst; what would you do in the way of dealing with those cases?—Then I should inspect the premises upon which the diseased animals were, and separate them from the other animals there, and the trained inspector who did that would be able to detect probably more cases. All the cases that he could detect I should require to be isolated, but I would leave the isolation to the inspector a good deal, because I do not believe it would be practicable to isolate in some places all the animals, for instance, that react to tuberculin, to isolate them in the most pronounced meaning of the word "isolation." I should say that the animals that reacted to tuberculin might be called isolated if they were in a field by themselves.

7252. You would not insist upon the actual separation in some of the dairies in the slums?—In a dairy, I believe, for all practical purposes, a case that was not well developed would be isolated by leaving 6 or 8 feet between it and the next animal.

7253. Without any partition?—Yes. Or you might have a canvas partition, which would be perfectly effectual.

7254. What you suggest you consider could be found probably in all places in which cows ought to be kept?—Yes.

7255. Of course, the difficulty would arise of diagnosing the disease in the earlier stage?—Yes, I acknowledge that difficulty.

7256. And you would have to leave those cattle untouched, or insist upon the tuberculin test?—I leave tuberculin to be used in the same way that mallein is now; that the local inspector should be permitted to assist his diagnosis by using it if he thought it necessary.

7257. And probably it would happen in many cases where you would necessarily shut up the premises as you do in glanders, to prevent the movement of the animals, that the owner would wish it tested in order to bring it to a crisis?—You might force it in that way; but there would be very few cases in which a man's premises would be shut up, or his trade interfered with, except so far as clinically diseased animals are concerned.

7258. Would you allow him to remove the rest away?—Yes; I think so. If they had not been tested, and had not clinical symptoms, just as we do horses. I know some are moved, and we cannot watch every one.

7259. Do you distinguish between the different degrees of tuberculosis?—Distinctly, I do.

7260. But you do consider then that all cases are equally dangerous to cattle and the human subject?—No. I, myself, have milk from a cowshed, which is drunk raw, where I know some 8 or 10 animals have reacted to tuberculin.

7261. Perhaps you have taken pains to ensure yourself that there is no disease in the udders?—Yes.

7262. Do you have the milk boiled?—No, I do not like it boiled.

7263. What do you propose to do with all the visibly diseased animals?—The clinically diseased, I should say, should be killed, and you should pay compensation for them.

7264. Would you leave that, as at present, in the hands of the local authority to destroy the animals if they decided that it was best to do so and to pay compensation?—Yes.

7265. You would not insist upon his being paid from the central funds—from the Exchequer?—I know the central body would not pay unless they had full control of it, and I do not think that it is possible for this disease to be stamped out in the same way as pleuro-pneumonia or the other diseases, and therefore they would not pay, I am sure.

7266. You would pay compensation for slaughter?—Yes.

7267. Have you any idea of the range of the compensation which you should give?—Thirty pounds would be, I think, a maximum that any animal should be valued at, and I think one-fourth the value would be a fair payment.

7268. Do you think that any animal that gave visible signs of tuberculosis would be worth 30*l.*?—Oh, no, and the worst I would pay for. I think that it would be expedient to pay for even "piners," because if you do not there is always the tendency to surreptitiously remove them and cut them up and let people eat them.

7269. In fact you would rather bribe the owner to let you know of the worst case?—Exactly so, because as soon as I bribed him with one of those bad cases I would enter his premises and in that way I should know if he had got more.

7270. Would you propose to compensate for interference with trade and compulsory isolation of the animals?—No, because the interference of that kind would be entirely to the cattle owners' advantage; he would have the gratuitous opinion of an expert, and the isolation would prevent the spread of disease in his place.

7271. Would you make the use of tuberculin compulsory?—I do not think I would.

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7272. Would you give the inspector the same powers that he has now with regard to glanders?—Yes, of assisting his own diagnosis.

7273. And it could be done easily by the orders of the local authority as it has been by the County Council?—Yes, by agreement with the owner. In a bad case you would put on the screw by isolation arrangements a little, and he would immediately allow you to do it; that is my experience with horses.

7274. The expense of the whole procedure would, of course, fall upon the local authority?—Yes.

7275. The use of tuberculin would not be a very costly business?—No. Of course local authorities do not care about spending much money any more than the central authority, and I think that the central authority might contribute; they might supply the tuberculin and appoint an agent, a veterinary surgeon, of course, in each district to use the tuberculin, and they to pay him. Supposing the Board of Agriculture to be the central authority, the Board might have a man in each district who would be paid by them to test, on a large scale, any herds with tuberculin, supplying the tuberculin and the time.

7276. You know that every veterinary surgeon in Great Britain can get tuberculin for nothing at all?—I know they can now, but only through the courtesy of the Royal Veterinary College.

7277. It would be an advantage having a skilled man to work a whole district?—I think it would be a great advantage. It is a distinct disadvantage to employ a veterinary surgeon, and to use all makes of tuberculin; they vary in exactitude.

7278. This is a thing, though comparatively simple, which requires knowledge?—It requires an expert to interpret what he sees; it is only an aid to diagnosis.

7279. I may take it for granted that you would make disinfection of premises absolutely compulsory?—Yes.

7280. In regard to compensation as it applies to butchers and dairymen for trade losses, have you proposed to pay for anything?—No, I think there may be some difficulties in my plan, and it is a novelty too. But my idea is that it would prevent a good deal of complication, and do a good deal of good, if we were to compensate the butchers and dairymen in a different manner altogether. Let the producer be compensated by the local authority for the disease among his cattle, but let the man who buys for meat or milk be treated on something like the principle in the Sale of Goods Act, which requires that there is nothing in anything sold which is deleterious for the special purpose for which it is sold. Now, if a farmer should sell a bullock for meat, or a cow for milk, that animal should not be tuberculous, therefore, I say, we should have a clause put into any Act that might be passed for this purpose to the effect that when a man sells an animal for meat or milk, he sells it with an implied warranty for eight days that it is free from tuberculosis. That would eliminate all trouble with the butcher and dairyman. They would have no claim unless they acted on this clause within eight days. If they did act upon it you would have an automatic detector of the disease. There could be no possibility of a farmer hiding the existence of the disease whenever a carcass was condemned.

7281. (*Chairman*.) It is not always a question of hiding?—I believe in some steadings it is a question of hiding.

7282. The grievance complained of is that it is very often impossible to detect disease?—If the producer of the meat would use tuberculin, he can always detect it himself.

7283. He knows that the disease is there, but not to the extent to make it unfit for human food?—No, and if the medical officer or meat inspector, or whoever examines the dead carcass, does not reject it, there is no loss, and the butcher and farmer would go on amicably. It would be only in the case of the carcass being rejected that the butcher would come back upon the other man.

7284. (*Professor Brown*.) The next point is compensation by central and local authorities. You have said that the local authorities should pay the compensation. That is the case, is it not?—Yes.

7285. Do you think that the local authorities would object to pay compensation when the purchaser was responsible?—Some of them would. You would have exactly the same trouble as you had with pleuro-pneumonia, and with other diseases; some authorities would act and some would not, and there would be a good deal of negligence, but you would get the thing started and the thin end of the wedge would be put in.

7286. But there would be a general demand of local authorities that the central authority should undertake the work, and pay the cost?—I have no doubt that the local authorities would recommend that.

7287. But I think in your own mind, you still think that it would not be better to place it in the hands of the central authority?—I do not think that it is practicable. I believe that they should have a supervising power to produce as much uniformity in the action of local authorities as possible. It is impracticable to stamp out the whole herd because one case of tuberculosis is discovered. Cases will arise occasionally, and must be treated as they are detected.

7288. The great objection to proceeding on that system would be the enormous cost?—I do not think that the cost would be so much with my system, because no local authority would go for an excessive action.

7289. But I am referring to the objection to the central authority dealing with tuberculosis as with pleuro?—Oh yes, the cost would be so great, that no government would face it.

7290. Have you made an estimate of the cost during the first year?—I reckon it would be about 50,000*l*.

7291. Would you be surprised to hear that the demand, which was formulated after very careful enquiry, was five millions for the first year, and a million a year for the next 10 years?—But I do not think that these calculations are anything like correct, or that there is any proportion of truth in them. They are founded upon the mallein reaction, or post-mortem detection of disease. Well, animals live a long time with a few nodules in their lungs, and may not be dangerous whilst alive.

7292. Taking it to be the case that the disease were dealt with on the ordinary principle of exterminating the herd for a single case of disease, which must be done necessarily, what would you say?—There would be no animals left.

7293. Probably there might be a few, but in any case the cost must necessarily be enormous?—That system would be utterly impracticable.

7294. (*Mr. Speir*.) In recommending compulsory notification of all diseases, have you made any estimates as to how many stocks might give notification?—No; in some districts breeding herds would have to be notified. I am told on very good authority that in some parts of Wales, and the far north of Scotland, and the west of England, that many herds are not affected at all.

7295. Would not that throw a very great crush of work at one time, for the first notification, at any rate?—No, I do not think that the owners would rush at the matter at all. My own opinion is that, as under the Glanders Order, there would not be very much done the first year.

7296. Presuming that a farmer had one or more diseased cows, how are you going to find out?—You would probably not find it out. As in the case of glanders, an outbreak may continue a long time undiscovered; but we find it out some day. The very fact of starting these regulations is an educational process for the owner of stock. Everybody requires this educational process, and it had to be undergone in the stamping out of every other disease.

7297. And it is very necessary in this disease as well as the others?—Quite so; and my plan would do it gradually to start with.

7298. You expressed the opinion that in fairly bad cases, where the owner did not believe that probably there was much wrong, that the veterinary surgeon might then use tuberculin?—Yes.

7299. But is it not the fact that in many of the worst cases you would get no re-action?—Quite so; but in those cases, as a rule, the veterinary surgeon would find sufficient clinical symptoms and suspicious history to guide him.

7300. And on which he would act as against the diagnosis?—Even against the re-action of tuberculin.

7301. You expressed the opinion that a division between the healthy and re-acting animal of six or eight feet in a cowshed might be sufficient?—I believe it would be.

7302. Have you any direct evidence that such would be the case?—I have no direct evidence. I argue somewhat from an analogy with glanders. I do not believe in the aerial infection at all of either disease. I do not believe that it is the dry germ floating about the shed that infects the animal, but the living bacillus which is expectorated from one manger to the next. The suggested partition would keep the infected cow from its neighbour.

7303. Are you aware of direct experiments?—Yes, I deny them, and say that no experiment has been made in this country or anywhere else showing that the dry germs are inhaled into the lungs.

7304. I will not discuss it, but there have been direct experiments on re-acting animals in one end of the shed, and healthy ones in the other, with a considerable distance between, and infection has resulted?—I do not dispute that. You find the same with glanders, but there are so few cases that probably there is direct contamination, if you could trace it, either through water or food. I do not say that an animal may not breathe those germs, but they lodge in the pharynx and are caught by the first lymphatic glands. The pharynx is a place likely to be excoriated and so allow infection, and it leads to the œsophagus, down which germs may pass.

7305. Would you instance, in carrying out these suggestions, anything as to the compulsory cubic space, ventilation, and so on?—No, I should leave those to the local authorities.

7306. Would you make it compulsory on local authorities to carry them out?—No, I do not trouble very much about the ventilation of sheds; I have seen ridiculous things, such as when there has been no roof on a shed, and inspectors have been talking about the cubic space.

7307. You believe in allowing this class of animals to be housed in any way provided there is room inside?—No, not this class of animals. I should separate clinically diseased pretty quickly. Overcrowding certainly favours the spread of contagion.

7308. What is overcrowding?—It is a comparative term.

7309. What is your idea of it?—I would rather not attempt to define it.

The witness withdrew.

Adjourned until Thursday next at 12 o'clock.

TWENTY-FIRST DAY.

No. 7, Whitehall Place, Westminster, S.W.

Thursday, 8th July 1897.

PRESENT :

THE RIGHT HON. SIR HERBERT E. MAXWELL, BART., M.P. (CHAIRMAN).

SIR RICHARD THORNE-THORNE, K.C.B., F.R.S.
Professor G. T. BROWN, C.B.

T. COOKE-TRENCH, Esq.

JOHN SPEIR, Esq.

T. M. LEGGE, Esq., *Secretary*.

Mr. MORGAN HOPKIN called and examined.

7310. (*Chairman*.) You are a salesman and cattle-dealer of Swansea?—I am.

7311. And you are vice-president of the National Federation of Butchers and Meat Traders?—I am.

7312. And you are also a member of the Swansea Corporation?—I was for two years, but I am not now a member.

7313. You have come here to tell us of certain losses which you have suffered owing to seizure or surrender of cattle on account of tuberculosis?—I have.

7314. Will you give us the particulars?—Yes; you will not confine me directly to those particulars, I hope; I should like to have an opportunity of explaining the manner in which the cattle were bought. The first animal that I had to surrender was a cow, part of a number of cattle I bought in Devonshire. I bought the cow of a dairyman in the

town of Ilfracombe, and it happened to form one of about ten other cattle which were bought in other parts of North Devon. When the animal was slaughtered at the public slaughter-house I discovered that it was suffering from this disease.

7315. What breed was it?—The North Devon breed. This occurred about 10 or 12 years ago, when the surrender of animals suffering from this disease was not so pronounced, and the attention of the authorities was not so carefully called to it. Doing a business with the better class of the inhabitants of Swansea, I felt that I would not prejudice my reputation by keeping that animal for sale, and I surrendered it, and called the attention of the officer of the slaughter-house to the fact, and it was destroyed at the manure works in the town of Swansea. For that I received nothing from the man that I purchased the animal from. He felt that having sold the animal

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alive that I ought to be sufficiently man enough to know, and that I ought to stand by the loss.

7316. What was the appearance of the animal?—It was simply, in every sense of the word, similar to the other cattle.

7317. It looked quite healthy, I suppose?—Perfectly so.

7318. About what age was it?—I should think it was a cow that had had about two or three calves, and that would make it six or seven years old. The second instance was that of a pure-bred shorthorn cow which I purchased from the representative of the late Lord Swansea, at Parkley Bruce, near Swansea. I may say that that cow was one of the shorthorn herd of Lord Swansea, and, I believe, from the catalogue that was published at the sale when he dispersed his herd, that they belonged to the Moss Rose breed of shorthorn cattle. I believe it is a well-known breed in the shorthorn herd. That animal suffered from this disease in a very pronounced manner, and I had to surrender that animal. I was partially compensated for the loss of that animal by the agent of Lord Swansea.

7319. Did that animal also appear healthy when it was alive?—It was perfectly so. In fact, I may say that she, amongst other cows, had been exhibited at our local shows, like the Glamorgan Agricultural Show.

7320. Do you remember to what extent she was diseased?—The lungs were in a very advanced stage of the disease. The whole of the ribs—what we call the skirting part, right up under the loins—was diseased.

7321. (*Professor Brown.*) Do you mean the diaphragm?—It is what we call in the trade the skirting part.

7322. Do you mean the fine membrane which you strip off?—Yes, and a fleshy part. The third instance was that of a shorthorn heifer purchased at the sale at Parkley Bruce, near to Swansea, where Lord Swansea disperses the whole of his cattle. It was a three-year-old heifer which cost nearly 11*l.* or 12*l.*, and I am very pleased to say that when the loss was brought to the attention of Lord Swansea he immediately refunded the money; but I pointed out to his lordship at the time that the fact of his refunding the money simply established, not a principle with regard to compensation, but merely goodwill on his part to compensate me for my loss. I cannot too strongly speak of the difficulties which we inexperienced men have to face in the purchase of those cattle. The manner in which we buy our stock in Wales (and our medical officer of health will bear me out) is very different from what you have in England, especially in the North of England. We have to visit the various fairs throughout the whole of South Wales, and those who go to Ireland visit the fairs there, and we have no opportunity in examining our cattle to charge the persons from whom we purchase our cattle with regard to a guarantee in the event of the animal suffering from disease. We are, therefore, absolutely powerless to protect ourselves in any shape or form, and it is utterly impossible for us to do it. I may tell you that I gave 72*l.* for two shorthorn steers belonging to Mr. John Thomas, of Cowbridge. These animals took first prize in Cowbridge Fat Stock Show, and these steers showed the tuberculous disease in a primary stage.

7323. (*Chairman.*) It was not extensive?—It was not by any means extensive, but simply to the extent that we saw the tuberculosis adhering to the ribs. What I wish to emphasise by that remark is this: that it is possible for a man to give even 30*l.* or 40*l.* for a good bullock, and still that bullock may suffer from that disease, and the animal be seized and he would have to suffer the loss.

7324. Were those animals seized?—They were not, because they were only in a very primary stage. I happened to show them to our manager, who was appointed by the corporation to be an inspector, and I said, "If you choose to exercise the strict letter of the

"law you could seize these animals"; but I take it that the point which is debatable is whether the flesh of the animal in a primary stage of disease is fit or unfit for human food.

7325. You have given us the particulars of three animals, I think, in the course of 10 years, which you have had to surrender after slaughter?—That is so as regards myself as an individual.

7326. Can you give the Commission any idea, approximately, as to how many animals, in the course of those 10 years, you have slaughtered?—Speaking of 10 years ago I would have to go back to my father's time with whom I was a partner in the business, and he bought as a dealer somewhat largely, and sold alive to other butchers. What we would sell for our own particular business would average about two cattle a week. But I ought to put this point: that I also take Government contracts for volunteers; and I may say that last year, in August, I had upwards of 6,000 soldiers to supply with meat at Denbigh. They take a considerable number of bodies of beef for their consumption for eight days. I was in hopes of contracting for the same number of volunteers at Aldershot next week.

7327. Would it be 120 cattle per annum that you have killed during the last 10 years?—I would rather put it within 100 cattle.

7328. Or 1,000 cattle in the 10 years?—Yes, about that.

7329. Of which you have lost three?—I should not like to put that construction upon it, but you might put it in that way. It happens to be that I deal in very good cattle, and the inspection of cattle for this disease has been only carried into what we may call strict examination within the last three years.

7330. It would greatly facilitate our inquiry if you would give direct answers. The first animal you spoke of was 10 years ago?—At least 10 or 11 years ago.

7331. And since then two surrenders have taken place?—Yes.

7332. Out of at least 1,000 animals?—Yes.

7333. What I want your opinion about is this: You have expressed it that you are utterly incapable in any shape or form of protecting yourself against such loss?—Quite so; that is to say that I, as an ordinary dealer, would be unable to identify an animal.

7334. No, no, I must keep you to what you have said. I took down your words—that you were utterly incapable, in any shape or form, to protect yourself?—That is against the identification of the animal suffering from the disease.

7335. Not against the loss?—And against the loss. I ought to put my answer in this way: First of all, we could protect ourselves against the loss; that is, supposing if I were to insure an animal.

7336. Precisely?—But my answer to you was this, that I was unable, as an ordinary man, to protect myself against the loss sustained by identifying the animal whilst alive. I would go into a fair—Haverfordwest fair—which is an important fair in South Wales, and supposing I wished to buy half-a-dozen cattle, and the man has about 10 or 14 cattle, and I take out six of them that suit me, I am utterly unable to tell by examination of a bullock whether it is suffering from disease or not. I should not like to go so far as to say that a medical gentleman would be unable to do so. I might say that it would be difficult for him to do so, but myself, being unable to identify an animal, I am placed in a very serious position with regard to protecting myself.

7337. Speaking as a business man, would not the ordinary course in other businesses be to insure yourself against this risk?—I do not think it is practicable at all—in this sense I do not think so.

7338. Would you answer my question; would not the ordinary course taken by business men in another kind of business be to protect themselves against a risk which you have shown is only 3 per 1,000?—Yes, but I do not like to do so.

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7339. Would that not be the ordinary course for a business man to take? I will not press you for an answer?—But I should like to give you an answer. I simply give you specific cases of my own.

7340. Precisely?—But if I were to tell you that there are 22 animals seized and surrendered in 12 months (which averages 1 in 200) in Swansea suffering from that disease, you would gather from that that it is rather—well, it is unfortunately a common occurrence, and it is not the custom for men to insure cattle against this disease.

7341. You are aware that systems of insurance, mutual insurance by butchers' associations, have been established in various towns?—Yes, I believe such a thing has been adopted in the Isle of Man, or, at least, a system of protection by getting a guarantee from the seller.

7342. That is another thing altogether, I said a system of insurance by butchers?—I am not aware of that.

7343. Would it be worth while your inquiring into it?—Well, if such a system is in existence.

7344. Do you think it would be worth your while as vice-president of the National Federation of Butchers and Meat Traders to inquire into the existence of such a system?—I am surprised that the fact was never brought before my notice, and I think it would be worth while for my own information, but after having obtained that information I do not think it would be applicable.

7345. How can you possibly tell when you have not made the inquiry?—Well, I have brought the question of insurance before the notice of some of our dealers, because they have read in our journal that such a system was in existence on the continent, and I have brought that fact before their notice, and they did not think that it was feasible or workable in South Wales.

7346. Would you be surprised to hear that in Newcastle such a system exists, and that the members of the association so insured receive back upwards of 90 per cent. of their premiums every year?—The representative of Newcastle has been at our federation, and I have never heard that declared. How long has that been in existence?

7347. I am not in the witness box, but I commend the matter to your attention?—The reason I ask the question is that we hold our meetings only three times in 12 months at various points, and I do not remember that the Newcastle delegate has made that statement to us.

7348. I would answer the question if I could trust my memory, but the witness who gave that in evidence certainly gave the details for a series of years. The association's fund began in 1892, and since that time we were informed that the members had received back at the end of each year upwards of 90 per cent. of their premiums?—I shall carefully note your remark. At the same time I do not think—speaking now as a public man, and on behalf of the trade—that that is, in my opinion, sufficient protection for us, and I will tell you why I do not think it is. The Government in their wisdom have thought it wise to compensate farmers for animals lost from pleuro-pneumonia—they have deemed it expedient on behalf of the various producers of cattle in this country. With what result? That the disease has been practically stamped out, or it only recurs at very long intervals, and thereby you immediately isolate the disease. I maintain, speaking of public policy, that the same method should be adopted by the Government. How that compensation should be paid, whether from the local rate or from the county rate or the Imperial fund, is a matter on which I would not like to express an opinion, but I maintain that this disease is not confined to any particular county, or particular section, but it is shown that it affects the very important and the best breeds of our cattle; and it does not devolve upon us as a trade to show the best means of protecting ourselves, or removing the evil, but the means should emanate

from the Government, and they should assist us to remove the disease.

7349. Do you advocate the stamping out of tuberculosis?—I believe it could be done.

7350. Do I understand you to advocate the stamping out of tuberculosis?—Most certainly.

7351. Have you calculated what the compensation would amount to for the slaughter?—I would give that answer in this sense—

7352. Have you calculated it?—I have not taken the calculation; but there are 22 cattle and sheep surrendered in Swansea annually. I think that that disease could be stamped out.

7353. Is every animal seized, slaughtered, or condemned, which shows the slightest trace of tuberculosis in Swansea?—Every animal that shows the symptoms in a manner, that is to say, to any marked extent.

7354. Is it the case that every animal, showing the slightest trace of tuberculosis, is either surrendered or seized in Swansea market?—I think I should answer the question by saying "Yes."

7355. And it amounts to less than one per cent.?—Yes.

7356. But you have already told us of a case in which some heifers, I think, of yours?—One heifer and two cows.

7357. No, no; some that were suffering from the disease were not seized?—This is about four years ago. I bought these cattle at Cowbridge show for 37*l.* apiece.

7358. They were not seized or surrendered?—The symptoms they showed were not on the lungs.

7359. You have stated, in reply to a question, that every animal showing the slightest symptoms of tuberculosis is seized in Swansea?—You are quite right. What I understand you to mean is this, that where the animal shows the symptoms of tuberculosis to our manager, the course he would pursue would be this: If the manager or our inspector did not observe that the lungs and liver were healthy, and that there were simply those tubercular spots that were observed on the ribs, it would be going rather too far to imagine that that was tuberculosis. I understand by your question that where the animal was suffering, and shows it upon the lungs, and upon the liver—

7360. I never mentioned the word lungs or liver in my question. I put the question again: In Swansea, is every carcass seized, surrendered, or condemned, which shows the slightest trace of tuberculosis?—I shall answer that question by saying "No."

7361. Well, then, if the Legislature decide that tuberculosis were to be stamped out, it would be necessary, would it not, to destroy every animal that shows the slightest symptom of tuberculosis?—No.

7362. That is your opinion?—No; it is not necessary.

7363. But with pleuro-pneumonia it is necessary?—Yes; I take it that that is so.

7364. And why should it differ in tuberculosis; what is the meaning of stamping out?—Eradicating from the country the disease. What I would like to impress upon the Commission is this: that tuberculosis is a disease which I am afraid is almost inherent amongst the shorthorn breed. You can hardly ever see a shorthorn animal, especially a cow, that does not show some symptoms of it in some slight degree or other; and, therefore, if you were to carry out the idea of stamping out by killing every animal, the shorthorn breed would cease to exist.

7365. That is what you were advocating—the stamping out of tuberculosis?—Yes, I do; and the manner I suggest for stamping it out is the manner in which the cattle are brought to our market, and also the manner in which cattle could be reared and bred in our midst. I maintain this, speaking as a butcher, I do not believe in keeping the one existing shorthorn breed of the so-called Booth or Moss Rose, in the manner in which they are brought up in our country, and it is more specially in shorthorn breeds that this disease is to any great extent. I am fully aware of the fact that it is a very difficult matter, and I

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should like if I could to impress the Commission with my views in a manner that would indicate this. As a butcher and cattle dealer, I think that we ought to render the Government every assistance in this direction. We ought to condemn the method of butchers in obtaining cheap cattle—men who go about buying old cast cows for 3*l.* 10*s.* or 4*l.* and bringing them to market. That ought to be punished severely. I certainly would never advocate that they should have compensation, I would only give it in cases where a man pays 13*l.* or 14*l.* for a beast, and I think that man deserves protection from the governing body—the town or the county. That is what I should like to impress upon the Commission, and I think that the various associations throughout the country would most loyally support the Government in that direction. Of course, I am not in a position to give an opinion from a scientific standpoint; but as a practical man I think that we ought to receive some assistance.

7366. (Sir Richard Thorne.) You were good enough to give us the price paid for the three heifers which were condemned—11*l.* or 12*l.*?—Yes.

7367. Would you give us the price as to the second cow?—The one I bought in Devonshire cost me about 11*l.*

7368. And the second?—About 10*l.*; and the third, 10*l.* or 12*l.*

7369. Roughly, about 30*l.*?—About that.

7370. Are you aware, or does not your evidence prove that you are aware, that there is a substantial amount of tuberculosis in the bovine race?—Yes, especially in the shorthorn; I believe it is more so than in the Hereford.

7371. And when you buy cows, heifers, and bullocks, you buy with a knowledge of that risk, do you not?—No, we do not; we do not buy them knowing that those particular cattle have tuberculosis.

7372. I did not ask you that. You know that there is a certain amount of tuberculosis in the bovine race, do you not?—Yes.

7373. When you buy individual members of the bovine race you buy with the knowledge of your risk?—That is so.

7374. And you have been lucky enough, in 10 years, with 1,000 cattle, only to lose 30*l.* Do you not consider yourself a most fortunate man?—I do in that sense, for the simple reason, I take it, that when a man buys first-class animals that are well-fed animals—to an ordinary observer that disease in a well-fed animal would not show itself.

7375. Well now, you have never had an animal seized?—No, I surrendered them.

7376. And you told us just now that you bought the best class of cattle and did a very high-class business, and am I not right in saying that, in surrendering voluntarily, you did it largely out of business considerations?—Quite so.

7377. And because, for the benefit of your business, you lose 30*l.* in 10 years, do you really want the nation to compensate you?—Not me as an individual. I think, when you speak of me as one single individual, that the same argument ought to apply to the whole of the country.

7378. So do I; and I am putting it to you whether if any man does a thing for the sake of business prosperity he ought not to be dealt with on the same lines that you consider that you should be dealt with?—But having only lost 30*l.* in ten years you think it was infinitesimal; but if you multiply my loss throughout the United Kingdom, I think you will come to a very different opinion when you distribute that loss throughout the United Kingdom.

7379. Take the whole cattle market of Swansea, you think that one animal is condemned every week for tuberculosis?—I do.

7380. And you tell us at the same time that there is a most mischievous practice of buying cast cows, and that people purchase in such a way that, in your opinion, they ought to be punished, to use your own words, and yet you tell us that there is only one single animal, once a week, that is seized or sur-

rendered for tuberculosis?—I do not think that I ought to apply that to the town of Swansea, but, I should say, to the whole of South Wales.

7381. That makes it even worse?—I ought to say this, that I think men who purposely go and buy cast cows should not have the same consideration shown to them, but that only those who give a fair price for cattle should be considered.

7382. But even with such a class of people, and such a mischievous thing going on in Swansea — ? —Not in Swansea; in South Wales.

7383. Swansea is in South Wales. I am only mentioning the part of South Wales in which the practice goes on?—But I am pleased to inform you that that practice is not carried on to that extent, on account of the various surrenders which have taken place, and the close inspection of the inspector under the doctor, so that it is not so prevalent as it was a few years back.

7384. How many bullocks, cows, cattle, pass through Swansea market every week?—About 100 to 120.

7385. Now in each of your cases of surrender they were cows or heifers?—Two were cows and one a heifer.

7386. What are mostly seized or surrendered in the Swansea market?—Mostly cows.

7387. And I suppose that you admit, as nearly everyone else does, that there is a special risk attaching to cows, and especially to cows which have served for dairy purposes?—I should think so.

7388. The Chairman was asking you about insuring, and you had a good deal of hesitation about the merits of it; may I take it that your loss is not worth insuring against?—I should not think so.

7389. May I ask now, what is the meaning of your saying to us—I am using your own words—that you are in a very serious position?—I am speaking now as representing the trade.

7390. Not yourself?—Not myself as an individual, but speaking for the trade.

7391. But I would rather stick to your trade, because we shall have others and because we have had others before us. Can you tell me any tradesman in Swansea who deals with a matter that involves risk who has anything approaching the luck that you have had in the 10 years?—In my own trade?

7392. No; take any trade where there is a real risk such as you have?—You put those questions to me in such a way that I cannot reply to them except by stating that where a man buys the best article for his trade, whatever it may be, I think that the risk that that man runs should be nil. I do not think that he ought to be expected to risk anything when he deals in the very best article, whatever it may be.

7393. If I buy a horse and it turns out badly, you do not think I should run the risk?—Not providing that you give a fair price for it.

7394. Would you, as a late member of the corporation of Swansea, say that I should be compensated for such loss?—If that horse was to be used for human food —

7395. You did not say anything about food?—We are dealing with food; we are not speaking of other things.

7396. Then if a man buys bad fish, thinking he has got good fish, you would compensate him?—No. If he bought good fish that was suffering from a disease that he knows nothing about, and it was injurious to the public health, I think that man should be compensated.

7397. And if a man buys oranges in Covent Garden Market, and when he opens the cask finds a lot of them not good, would you compensate him too?—If the man bought the oranges after being exposed —

7398. They are sold in a wooden box, and only the upper oranges are shown?—Yes; and if those oranges are suffering from a disease, I think that man might say, "I have given the best price for the best class of oranges," and on their turning out to be bad he should be compensated.

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7399. Who should compensate him?—I do not care whether it comes out of the local rates or out of the Imperial taxation. It should rather be taken out of the Imperial taxation, and that money distributed in proportion over the country.

7400. And that everyone who, in good faith, buys an article of food which turns out to be bad, he knowing that he runs a certain risk, you think that the State should step in and compensate him?—I repeat that if that article of food is suffering from the disease which that man cannot tell, and the State thinks that it is detrimental to the public health, I think that man should be assisted by the State.

7401. Then you put the butcher on the same footing as other people?—I do.

7402. If others do not get it, might I assume that he ought not to get it?—No; for the simple reason that the others do not suffer from the disease.

7403. I am not speaking of disease; but you spoke of anything for human food?—And I am speaking of food suffering from a disease which the party purchasing cannot identify.

7404. I asked you about oranges and you said nothing about disease which you could identify. Would you give compensation in the case of fish?—Yes, and in oranges too.

7405. With regard to the heifer and the two cows that you surrendered, was the meat in any way affected or was it only the internal organs?—And the portion of the skirting and right up to the loin.

7406. Do you consider that meat is injurious as a food supply when there is only tuberculosis limited in that way?—I am afraid I cannot answer the question. I have my opinion upon the matter.

7407. I want your opinion?—I will tell you at once. With regard to the heifer—the last heifer that I bought at the Parkley Bruce sale—I am strongly of opinion that the hinder portion of the heifer ought never to have been condemned.

7408. Then you did not solely surrender on the ground of a desire to protect the public against injury?—It was entirely on that ground that I surrendered the animal.

7409. Not entirely on that ground, if you say it was good meat?—For the simple reason that the fore part, where the meat was affected most seriously, I contend should not be used, but the hinder part was not affected in the same degree, and I was of opinion that the hinder portion should have been retained, if only for the purpose of our medical officer examining the same from a bacteriological point of view.

7410. As regards the other two, was the whole animal so diseased as not to be fit for human food?—It was so, the hinder portion and the fore part.

7411. Then I am quite willing to go further and ask whether your object in surrendering was only a matter of personal business considerations?—I should not like to have that animal on the stall.

7412. I think I understood you to say that you cannot take any precautions against tuberculosis in the purchase of animals for your business?—We cannot; I have no means of ascertaining the disease.

7413. One of the cows in question had advanced lung disease?—It had.

7414. You know, I suppose, that it is a practice in buying a horse to get skilled assistance when people cannot judge of a horse themselves?—Quite so.

7415. Supposing you had got skilled assistance as to advanced lung disease, do you think that the veterinary surgeons who are available could not have told you that that animal had lung disease?—Well, I should not like to give an answer to that question, but in my opinion I do not think that they could, for this reason, the animal was a well-fed animal and a well-bred shorthorn cow.

7416. I suppose I am right in saying that you never do employ anyone to examine a bullock as you would when you buy a horse?—No, we could not do so for the simple reason that our fairs commence at 6 and 7 o'clock in the morning, and I have to make my purchases and get them ready to catch a train.

It is practically impossible for this to take place, if, when there are half-a-dozen or two or three cattle before you, and there are two or three men watching you, and if you step out they will step in; and consequently there is no opportunity of having these examinations such as you suggest.

7417. (Mr. Speir.) In talking of compensation, the Chairman asked you if you had ever considered what the cost might be. If I were to tell you that there are six and a half millions of animals in this country, you would have some idea what the cost might turn out?—Yes, but what is that proportion as regards fat cattle?

7418. There are about six and a half millions altogether, and you have said that there are about one per cent. diseased, as far as your experience is concerned with South Wales. Supposing you make that considerably larger and take all animals, you would then have some rough idea of the cost?—Are you speaking of sheep as well as cattle?

7419. No, I am speaking of cattle alone?—Do you mean what percentage of this is fat for the butcher?

7420. They all go to the butcher?—Eventually?

7421. Decidedly. Take, for instance, your own figures of one per cent., that would be, on six and a half millions of animals, half a million sterling really destroyed every year, even putting these at 10*l.* apiece. You have a very large margin to go down the hill, and yet that would be too big a sum for any Government to take in hand?—But I do not think six and a half millions of animals only —

7422. (Chairman.) What has the butcher got to do with it? We are talking about stamping out the disease?—I believe that Mr. Hunting, in the "Veterinary Record," wrote an article to stop it by injecting tuberculin, and according to his idea it is possible to cure the disease. But my point is this, that assuming one per cent. on six millions—I am dealing with cattle produced for the butcher, I am not dealing with the whole breed of cattle in the United Kingdom.

7423. When you said that disease was to be stamped out, you only wanted it to be stamped out to save the butcher's risk?—In stamping the disease out, I take it, where an animal is suffering from tuberculosis it would be unnecessary to destroy that animal in order to cure it.

7424. (Mr. Speir.) Well, you mean stamping it out when the animals come to the slaughter-house; but that would have no effect whatever in controlling the disease; you would still have the same number of diseased animals year after year; would that not be so?—Yes, that is so; but what I understand you to mean by my saying stamping it out was not in the same sense as in pleuro-pneumonia, to slaughter the animals to stamp out the disease; but it is possible, I take it, to cure those animals from this disease of tuberculosis. I do not believe you will cure it by slaughtering the animals.

7425. I am afraid that I have no information that the disease can be cured by any system that has been introduced—I do not know whether you have or not. Is it not a fact that in purchasing animals, or anything where you have a certain risk, you purchase it at less price than you would reasonably do if there is no risk?—Does not that happen with you as with every other body?—I should answer that in the negative. When I go to a fair or show I look to buy the best class of animals or bullock, but do not look for any with a tuberculous risk; and I go to suit my trade, and as I go to my farmer's sale I look at the cattle and I assume when I look at a good class of bullock that it is healthy and fit for sale.

7426. But even when buying the very best-class animals you assume there is some risk?—Well, when the question was put to me as to the whole of the bovine race, there were traces of tuberculosis, I suppose there is a certain amount of risk, but it ought to be reduced to nil. Supposing I go to the Agricultural Hall next Christmas, and I buy any animal by a noted breeder, I ought not to take any risk.

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7427. But the risk still remains?—I suppose the risk is there.

7428. The risk is 1 per cent. ?—That is about the average.

7429. If you buy 100 animals at 1,000*l.*, you would calculate that one, at least, of those might be lost?—But cattle are not sold at 10*l.* apiece, but at 25*l.* sometimes.

7430. But still it is 1 per cent. Really, in your own mind, in purchasing, do you not, in great part, discount the loss—you purchase at so much less than if there was to be no loss?—I am afraid that does not prevail amongst the farmers of South Wales. If a man has got 10 good animals to sell, he does not think that they have got tuberculosis, and he sells them for the best price.

7431. He sells them at the best price that he can get, but the butcher or dealer anticipates that there must be some risk, and he buys them for less than he would otherwise give?—I distinctly say "No," for the simple reason that the farmer sells according to the standard price in the Central Meat Market in London, and he assumes that his cattle are worth the best price going.

7432. Taking your manner of expressing it, the dealer or butcher would, therefore, buy, deeming it was not worth his while to take any note of the risk seemingly, it is so small?—Certainly not; that is not the idea that I wish to convey to your mind. The butcher or dealer, in coming to a farmer's sale to buy the farmer's cattle, and if he is a man who is in the habit of buying cattle for years of that farmer, he naturally thinks that that man's cattle are healthy or fit for the butcher, and fit for human food, and he never calculates that anyone of those animals will suffer from the disease to necessitate his surrendering the animals.

7433. Presuming that you were buying from the farmers direct instead of in the fair?—But the farmers take them to the fair.

7434. Even if you were buying at the fair from one farmer for a number of years, and one man had given you all his cattle, and there was no loss, and another had sold you stock where you had had considerable loss, presuming that you were at a certain fair where both these farmers had stock, would you give both the men the same price?—I mean to say this: if such a thing occurred, that I would not buy from the man from whom I had suffered a loss; I should simply buy from the farmer from whom I had suffered no loss at all.

7435. You could not do it all at once—the thing would dawn upon your mind that you were running a risk by buying from such a person, and you would buy at a less price, and you would be quite agreeable to take it in that way?—In our country, farmers turn out the cattle at certain seasons of the year. At one season I find a valuable bullock suffering from this disease; I lose it. I should take very great care the next time my turn came round that I would not buy from that man and take a risk, unless I had an understanding at the time that I bought from him.

7436. That is, I believe, what would be done by every other commercial person, presuming that that is the case the loss comes back upon the original purchaser. He must either sell his stock at a reduced price or otherwise he cannot get it sold at all?—But that case would not be applicable for that. The producer would take his stock to a fair, where there may be hundreds and hundreds of fat cattle there, and a stranger would come along who did not know the circumstances, and he would find the man's bullocks standing there, and would give the same price as he would for stock that is perfectly healthy.

7437. You come to this fair knowing that there is a certain amount of risk amongst a certain number of cattle, and you do not give the same price that you would if you knew they were perfectly healthy?—I do not accept that theory at all for the simple reason that where there is a case of a man losing a bullock suffering from this disease, he goes to that fair as a matter of

course. I will accept your theory that if a man who has been in the habit of taking cattle from a farmer for a few years, and finds one suffering from disease, he would be apprehensive of the result.

7438. Decidedly so?—I will take an important fair that may be well-known to you, Dunster, which is a good fair. Now Colonel Luttrell is a producer of fat cattle; do you mean to tell me that if his agent has 20 cattle, and if he offers to sell me them, and if I come from Wales to buy them, and I see the cattle are prime Devon steers or heifers, and I buy them at the very best price because they are good cattle, and I have been in the habit of buying these cattle in previous years, and one of them had suffered from disease, you would naturally refrain from buying. I give to him the very best price for these cattle. If I was a stranger, now, I think that the State should assist the average man by paying him the loss that he sustains.

7439. Well, I am sorry to say, if such is your way of dealing in Wales, it is scarcely the way of dealing all the world over?—I do not know. I may tell you this; we very seldom have auction sales of fat stock, as they obtain in Scotland. Our fairs are the general means of selling our stock, and consequently we have not the same opportunity of taxing the auctioneer with a guarantee, or the individual so much in a fair as you have.

7440. You have still the same power in your hands; you know you have a risk, and you do not give the extreme price you would otherwise do?—I am afraid I cannot agree with that theory. I certainly cannot agree with it, because if I were to suggest the idea to Colonel Luttrell's agent that I am not going to give 25*l.* for a beast as I must take a certain amount of risk, and I will only give 20*l.*, and there is a short supply of cattle, what is the natural result? The man will say, "If you do not want them, walk away"; and there are two or three waiting to buy them, and if I do not give the man his price I lose the cattle.

7441. But there are plenty of others to go to?—But there are not. There are certain seasons of the year when there is a short supply of good cattle, and we are not in that position to say, "We can go to someone else." I admit that it is true within the last 8 or 10 years there has been a big supply of Canadian cattle from Birkenhead and Deptford where butchers might be able to buy dead meat.

7442. (*Professor Brown.*) There is one point I should like to have cleared up. You said that the disease of tuberculosis is inherent in the shorthorn breed?—I think it obtains more in that breed than it does in any other breed.

7443. That is conceivable, but does the word "inherent" express the meaning that there is a larger degree of prevalence only?—I think I should rather accept it in that way.

7444. That is not the ordinary meaning of the term "inherent." But that is what you really mean, that there is more disease in shorthorns than in other breeds?—That is my experience.

7445. Under these circumstances I suppose you would admit, because I do not see how you can deny it, that a man who buys shorthorns incurs greater risk than in buying Welsh cattle?—Or cross-breed cattle.

7446. Then he does not incur a greater risk than if he bought Welsh cattle?—I do not think that the disease is so prevalent in our Welsh breed.

7447. Does not the man, according to your own statement, who buys shorthorns, incur a greater risk in getting tuberculous animals than if he buys Welsh cattle?—That is my experience.

7448. There is a certain amount of risk in buying shorthorns?—I think so; pure-bred shorthorns—pedigree shorthorns.

7449. You would not consider that the man who buys shorthorns takes so much care to protect himself as the man who buys Welsh cattle or other breeds which are comparatively free?—I have made it rather a study for some time past with regard to this disease

—for the last few years—and I have discovered it generally amongst the pedigree cattle, that the disease is more prevalent there.

7450. But that does not answer my question?—Well, then, I should say No, he does not take as much care.

7451. And, therefore, on the question of compensation, you would not consider his interest so much as you would the interest of a man who does take the extra care in buying animals which he knows, from experience, to be comparatively free from the disease?—If that is the way you put it, then I am afraid I must not buy shorthorn cattle.

7452. I am not putting it in that way; I am only asking you for an answer to my question?—You put the question in this way: Is he as much entitled to compensation as the man who buys Welsh cattle? If the man, in buying shorthorn cattle, bought what he considered healthy animals, and he paid a fair price for them, and they were sound to the best of his knowledge, I think that he is entitled to the same compensation.

The witness withdrew.

MR. EBENEZER DAVIES called and examined.

7457. (Chairman.) You are a member of the Royal College of Surgeons?—Yes.

7458. You are also medical officer of health in Swansea?—Yes.

7459. We shall be obliged if you will give us, very briefly, some account of the principles which are observed in meat inspection in Swansea, more especially with regard to tuberculous carcasses?—The practice, I suppose, you mean?

7460. The practice?—It is that the inspector, who is the inspector of nuisances under the Public Health Act, and also inspector of the slaughter-houses, inspects carcasses, and if he finds reason to condemn an animal he calls the attention of the owner to it, and usually if the owner consents to the surrender of the carcass the case ends there. If the opinion of the inspector is disputed then the veterinary inspector is called in, and sometimes the medical officer of health.

7461. In how many cases has your opinion been called for, say, in the last 12 months?—I have made an analysis of the return of the number of carcasses condemned and surrendered during the last three or four years.

7462. From all causes?—From all causes. Shall I confine myself to carcasses of cattle?

7463. If you please?—In 1893 there were seven carcasses condemned or surrendered; two for tuberculosis. In 1894 there were nine carcasses of cattle, and five were condemned for tuberculosis.

7464. Only nine?—Yes, only nine carcasses, and five were condemned for tuberculosis in 1894.

7465. That does not correspond with the return which we have got. What date does that return end; do you make the year end with the 31st December?—Yes.

7466. Then will you continue your statistics?—In 1895 there were eight carcasses condemned, and three of them were from tuberculosis; in 1896 there were five carcasses condemned, and three from tuberculosis; in 1897 up to the end of June, there were two.

7467. Have you seen a return, dated August 1895, of the number of carcasses seized by medical officers and inspectors of nuisances in England and Wales?—No.

7468. You have never heard of that return?—No.

7469. It includes a return from the borough of Swansea, in which the details do not correspond with those furnished by yourself?—Are those of all animals, or of cattle only?

7470. Of all animals?—I am afraid there is a discrepancy there.

7471. Have you any returns to show the carcasses of other animals?—No, but I could make it out.

7453. But, surely, if it is a matter of notoriety that shorthorns have more tuberculosis than other cattle that would not be the case?—I do not know that it is a matter of notoriety. It is only my experience in my own local knowledge. I do not think that it is a matter of notoriety.

7454. Then, under those circumstances, you would be the fortunate person who would be protected by not buying shorthorns?—I certainly would refrain from buying cattle from Lord Swansea, from the so-called Moss Rose breed. I would never buy fat cattle, or an animal from that breed, unless crossed with some other breed of cattle.

7455. Would you buy from other breeds of shorthorns, omitting only the Moss Rose breed?—I would not buy from the Moss Rose or Booth breeds, unless they were crossed with some others.

7456. If you were to inadvertently buy them, and knowing the risk, you would not be entitled to the same amount of consideration as you would have demanded if you had kept to your own method of trading?—I suppose I should not.

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7472. Could you give the impression on your mind as to what the proportion of animals of the bovine race is to the whole of the seizures?—I should think not more than one third, or one third to one fourth. I think I could give you the return for the last two years of all animals—there were 22 last year of all animals.

7473. What is the principle pursued in the case of tuberculous carcasses. Do you condemn for any degree of tuberculosis?—I cannot say that I have personal knowledge of all the cases. I probably do not see a moiety of the carcasses that are surrendered; they are surrendered without appeal to me; they are seen by the veterinary surgeon, and some are not seen by me.

7474. What is your opinion, by which, I suppose, the inspectors are guided, as to the extent of tuberculosis which renders a carcass unfit for human food?—I think if there was a very general distribution of tubercle throughout the lungs it would be condemned—if there were any cavities broken down or suppuration.

7475. But short of that?—Short of that I do not know what the practice is. I am afraid that all tuberculous animals, that is to say, slightly tuberculous, are not condemned. I think that animals very slightly affected may pass muster.

7476. But you cannot tell us the principle on which you go?—I cannot tell you.

7477. In the case of slight symptoms being shown what would your principle be then?—If there were any obvious tuberculous glands, or if the lungs were studded with tubercle, I should certainly condemn them.

7478. (Professor Brown.) Have you read the report of the last Commission?—No, I have not.

7479. You do not know that those cases that you speak of, where the lungs have been extensively diseased, the meat from such animals has been found to be perfectly harmless?—I understand that, but I think that the border line is very difficult to draw, and one must decide each case upon its merits.

7480. And therefore you would adopt a principle of being on the safe side?—Yes.

7481. And condemn a carcass even if it were in first-rate condition—what you would call good meat—in the event of your finding tubercles in any organ?—I think I should. But as a matter of experience I have never been called in to a case of that kind.

7482. But still you know what you would do when the lungs or the liver were decidedly in a tuberculous state—you would condemn the carcass without reference to the quality of the meat?—Yes, I should.

Dr.
E. Davies.

Dr.
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7483. (*Mr. Speir.*) Do you not think that a carcass itself might be quite good, and yet the lungs be extensively diseased?—I think that is a matter of opinion, as to which I should be inclined to give it rather in favour of the public than of the owner of the carcass.

7484. But we must all be guided by experience. The experience of the experts of the last Commission gives us a certain amount of information, which does not exactly tally with the course you have been pursuing. Do you not think that you, as a medical officer, should have kept yourself up to date in everything on that matter which has been done?—Yes; but as a matter of experience, I have not been called in to see any cases where the flesh of the carcass was apparently in good condition, but rather to cases where emaciation had set in, so that I do not think that anyone has suffered from my practice in the matter.

7485. You will be quite well aware that amongst the meat traders there is considerable discontent in connexion with the manner in which inspection is carried out?—Yes.

7486. That one town or city condemns what the other would quite freely pass; you are aware of that?—Yes, I know.

7487. Do you not think it would be a benefit, not only to the community generally, but to inspectors, medical officers, and the meat trades, that each place should have the inspection carried out exactly on the same basis, or as nearly as possible on the same basis?—I think so.

7488. Have you any ideas as to how that could be carried out?—I think there ought to be a qualified veterinary inspector to each abattoir.

7489. Suppose you had a veterinary surgeon, if every man acts upon his own experience, irrespective of what has been found elsewhere, you would be no better off than you are just now?—There ought to be general rules laid down by authority.

7490. If the Local Government Board or any other Department of the Government were to give you rough

general instructions as to what might be condemned, and what might not, would that be any guide to you as a medical officer?—I think it would be extremely valuable.

7491. (*Sir Richard Thorne.*) We have just heard from a previous witness, Mr. Hopkin, that on an average one bullock every week is seized or surrendered in Swansea market. You have just given us a return, limiting yourself to the bovine race, and you can only make 29 in four years; that is only seven a year?—I think he is mistaken.

7492. Do you know at all how many bullocks, heifers, and cows come into this Swansea market every week?—No. I cannot give you that information, because the slaughter-house is in the hands of the lessee, and we have tried in vain to get accurate information as to the number of animals. I think that Mr. Hopkins's information will enable him to say with probable correctness, or approximate correctness, what is the number.

7493. Can you tell me at all in how many cases your opinion has been called in upon the question of condemning or seizing a carcass for tuberculosis, say, in the last 12 months?—I think not more than an average of two a year—probably not as much.

7494. You speak of condemning a carcass if you find a general distribution of tuberculosis in the lung, cavities, and breaking down; and then again you would condemn if you get obvious tuberculous glands, and the lungs studded with tubercle in those cases. Have you met with any such cases in which meat itself was so far sound that it would otherwise have passed?—No, I have not.

7495. The tubercle has been advanced or in the meat itself, so as to make it unfit for human consumption; and even if it had not been known that the carcass was tuberculous you would have condemned it on other grounds?—I think it would have been condemned.

The witness withdrew.

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MR. CHARLES EDWARD PEARSON and MR. HENRY HIDES called and examined.

7496. (*Chairman to Mr. Pearson.*) You appear on behalf of the Sheffield Butchers' Association in conjunction with Mr. Hides?—I do.

7497. Have you any statement to make?—I do not know that I have any statement to make, I wish merely to answer any question that might be asked. I have no particular statement.

7498. We heard a good deal of butchers' evidence, and we have no question to ask you unless you wish?—(*Mr. Hides.*) I do not know that I have any statement to make either.

7499. You, Mr. Pearson, I think can give evidence as to personal loss owing to condemnation of carcasses for tuberculosis?—(*Mr. Pearson.*) I can.

7500. Will you give us the particulars?—I have a number of particulars. Is it necessary that I should give you them all?

7501. Yes, we should like to have them as fully as possible?—I can give the evidence as to beasts I have lost, and also in some cases the prices that I gave for them. On January 1st, 1890, I had a beast condemned which cost me 16*l.*, it was a heifer that had never had a calf, it weighed 44 or 46 stones. On February 3rd, 1890, I had another condemned which cost me 13*l.* In September, the same year—1890—I had one condemned which cost me 15*l.*

7502. Would you state in every case the class of animal that was condemned?—I can hardly recall whether they were cows or heifers, but they were all good-class animals, as you may gather from the price.

7503. They were not old cows?—Certainly not. Then on December 20th the same year I had one condemned that cost 17*l.* After that time this thing seemed to become very universal in Sheffield, and I did not take a note of all the beasts condemned after that time, but from that date up to the present date

I have had 30 beasts condemned. That is in the course of five years.

7504. Can you give us the correct prices paid by you?—The correct prices would be as near as I can tell for the whole of the beasts to the amount of 500*l.*

7505. What per-centage is that upon the whole of the animals disposed of by you?—I have not reckoned it up, but I kill on an average about 30 beasts a week. That is about an average, neither more or less, I should say.

7506. In these cases of condemnation had you any reason to suspect the soundness of the animal before purchase?—None whatever at the time of purchase.

7507. I suppose you do not buy animals of an inferior class?—I do not. If anyone has an animal of inferior class who wants me to purchase, I do not purchase it, but I take it on commission, and it has to be subject to inspection, and if passed by an inspector it is sold, and if not passed it is condemned.

7508. In the course of these seven years you have slaughtered very nearly 12,000 animals?—I have; the exact number condemned is 34. There is one omission I have made, I forgot to say that I had a calf a fortnight old condemned for the same disease.

7509. I see on your notes that you are prepared to give us instances of prosecutions?—Yes.

7510. For having a condemned article in possession?—I am prepared to do that.

7511. Can you give us particulars of any of these cases?—Yes.

7512. You yourself have never been prosecuted?—Never. On Wednesday, November 11th, 1896, there was a gentleman in our trade who belongs to our association, who had a beast that was purchased, I believe, at Lincoln, which cost 13*l.* At the time that these men were dressing this beast it was found

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I believe, to be affected with tuberculosis. The inspector for Sheffield happened to call into the man's slaughter-house, and notified that this beast was suffering from that disease. The consequence was that he made a seizure of it. This man did not at all object to its being seized, but objected to being brought before a bench of magistrates for having the article in his possession. This case came before the stipendiary magistrate at Sheffield, and after evidence had been brought to bear to prove that this beast was affected with tuberculosis, the magistrate dismissed the case by saying that this man had no intention of offering the article to the public. Supposing that man had not been a member of the Sheffield Butchers' Association, the probability is that he would have been fined. You are aware that as the law now stands a man can be fined for having this thing in his possession; but at any rate, being a member of our association, the magistrate dismissed the case, saying that he did not think that the man had any intention of palming it upon the public. That is one prosecution.

7513. Can you give us any instance of a fine having been imposed?—Yes, I will give you another case; this is in respect of two pigs. There was a gentleman, a pork butcher in Sheffield, who bought two pigs; it was a *bona fide* bargain, at full market price, and when those pigs were killed they were found to be affected with tuberculosis. But this man did not happen to be a member of any association, and the consequence was that when those pigs were seized he was fetched before the bench of magistrates for having the pigs in his possession. He gave the full market price for the pigs at the time, but the prosecution made the case so strong that the man was fined for having those pigs in his possession, besides having to give them up. The prosecution admitted in their evidence that they did not think that the man knew that anything was amiss with them, but for all that he was taken before the magistrates, and he lost the two pigs which cost him about 9*l.* odd, and he was fined besides. He was killing pigs in a neighbour's slaughter-house. As the law stands, the man keeping the slaughter-house is responsible for what is killed. The party to whom the slaughter-house belonged was fined for having them in possession.

7514. What suggestions have you to make in respect to tuberculosis?—Well, my own suggestion would be that we ought to have compensation, and I should strongly support it. I say this, when a thoroughly practical man goes into a market and buys to all intents and purposes an apparently healthy animal, and after slaughter it is found to be suffering from disease, and the inspector condemns it, he should receive compensation, as it is the man only receives the value of the hide 10*s.* or 12*s.*

7515. Do you consider it an ordinary trade risk which might be insured against?—No.

7516. On what ground do you say that?—For the very simple reason that it is an impossibility to insure them because there is a probability that in buying 20 beasts there might be 10 affected with this disease, and the risk would be too great, and no insurance company would insure them.

7517. Are you aware that mutual insurance by butchers has been carried out in more than one instance?—I believe in one or two instances it has been attempted—I do not know whether with success or failure. Speaking from my own experience I should say it has been a failure.

7518. You have not given the matter much consideration?—Not so far as insurance is concerned; but further, I think it is unworkable.

7519. Have you heard of the system of mutual insurance among the butchers of Newcastle?—Not the details of it.

7520. Would you be surprised to hear that it has been a success there?—Yes, I should be surprised to hear that it has been a success.

7521. And that upwards of 90 per cent. of the premiums have, for a number of years, been distributed at the close of the year among the insured persons?—I should be surprised to hear that; I should want direct proof to believe that.

7522. I suppose seeing the books would satisfy you?—I have not seen the books, but I accept the statement.

7523. (*Sir Richard Thorne.*) With reference to the questions that the Chairman has put to you, I should like to read two questions and answers that were given to the Commission in the evidence of Mr. Clement Stephenson, the veterinary surgeon of Newcastle. Question No. 6359 says, "You are able for a very small premium of 1*s.* for every bullock and heifer, and 1*s.* 6*d.* for every cow slaughtered, to return at the end of the year something like 80 per cent. of the money?" The answer is, "That is so." The next question is, "That implies that the risk only amounts to something about 3*d.* or 4*d.* a beast?" The answer is "Yes." If that is correct, you will see that there has been very great success as regards insurance extending over a term of years?—If that statement is correct, it is undoubtedly a success.

7524. You were telling us with regard to your own experience that you have personal experience of over 12,000 carcasses slaughtered in a term of about seven years?—That is so.

7525. It is really rather more than seven years; and of those, 35, including a calf, have been condemned?—That is so.

7526. I believe I am right in saying that that amounts to less than one in 300?—That is so.

7527. Do you agree with the Committee on Pleuro-pneumonia and Tuberculosis, that the bovine race tends to suffer from tuberculosis?—Yes.

7528. And that the female sex suffers more than the male?—Yes.

7529. And that amongst the conditions which predispose to it in the female are those depending upon lactation—milk-producing?—Yes, I say that.

7530. Knowing that, do you think that you have had a particularly bad bargain in life in only getting one out of 300 condemned?—Yes, I do.

7531. May I ask you, do you take no note of that well-acknowledged risk in the price you give for an animal?—Of course you will listen to what I say. The price that I gave for these beasts warranted a sound and healthy animal free from any disease whatever.

7532. You only gave the price of four of them; what is about the smallest price you gave?—The smallest price I gave would be about 10*l.*; that is the smallest price I ever gave for one that was condemned.

7533. When you say that these 35 beasts have been condemned, would you kindly tell me what you mean by condemned—what was the process of condemnation?—They were condemned for the simple reason that they were affected with tuberculosis.

7534. Does it mean that you hung them up, and someone came and seized them?—Well, Dr. Littlejohn will tell you.

7535. Excuse me, I do not want the Sheffield butchers' experience, but your own personal experience as regards the 35 beasts—how were they condemned?—When I find an animal affected with this disease I call the inspector's attention to it and leave myself in his hands.

7536. Then they were rather surrendered than condemned?—Yes, and that is a term that I should like the authorities to use instead of seizure.

7537. They were in your case all practically surrendered?—They were all given up of my own free will.

7538. Do you consider that the meat in all those beasts was not fit for human food?—In some cases it was unfit; in the majority of cases it was fit, so far as my practical knowledge is concerned.

7539. You believe it was fit for food in the majority of cases?—I do.

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7540. Why give them up then?—Because if I had not given them up the authorities would have instituted prosecution, and the probability is that I would have been fined or sent to prison—it would be one of the two things.

7541. May I take it that your answer means that the authorities seize, and prosecute people for, carcasses that you regard as perfectly fit for human food?—In some cases the articles taken away from me, so far as my opinion is concerned, were perfectly fit for food.

7542. Was anything the matter with the meat of the animals?—The disease in many cases was localised, and the first beast that I had condemned was one of the most beautiful beasts possible for a man to put his eyes on, and so were most of the others, but the first beast, especially.

7543. When you say localised, do you mean localised to the internal organs?—To the internal organs.

7544. And yet, in Sheffield, that meat is seized and the owner would be prosecuted if he did not surrender it?—I believe if it were affected in the slightest degree, if that man did not surrender it he would be prosecuted.

7545. That was one of the main reasons why you surrendered this meat, not, of course, wishing to be under the stigma of having such meat in your own possession?—That is so.

7546. You gave us one instance, of the 11th November 1896, in which a beast was seized and it belonged to one of the members of the Sheffield Butchers' Association, and the charge was dismissed, because it was thought that there was no intention of offering the carcass for sale to the public?—That was so.

7547. Where was the carcass; what was being done with it, was it not for sale to the public?—It was in a private slaughter-house, and the man used it for his own purposes, and was in the course of dressing it.

7548. Do you mean that it was being prepared for use by his own family?—He was dressing it for his own trade.

7549. But the trade is to sell meat?—Undoubtedly.

7550. How was it that it was not a carcass that was supposed to be offered for public sale?—Because this man is a retail butcher, not a wholesale butcher as I am. This man would have intimated it to the inspector, but he had not the opportunity, because they dropped in at the time that he was slaughtering.

7551. Do you imply that he would have surrendered it, but had not the opportunity of doing so?—Yes.

7552. Do you know of any other case of the same sort, of a carcass being seized and a butcher in your association being summoned during the last six or seven years?—That is the only case where any butcher has been summoned before a bench of magistrates, with the exception of the pig case.

7553. Those are the two solitary cases in your recollection?—That is so.

7554. What was the matter with the two pigs?—They were suffering from tuberculosis in a slight degree, I think.

7555. (Mr. Speir.) In connexion with those two pigs that were condemned, and over which a prosecution was carried out, had the owner no opportunity of giving them up without being prosecuted?—I think not.

7556. You think it, but have no definite information upon the matter?—As I was telling you at the outset this man does not belong to any association. This man dressed the two pigs and found them to be affected with tuberculosis, and the inspector made a seizure and prosecuted, and fined him for buying them.

7557. But I want you to definitely answer my question as to whether he had an opportunity of giving them up without being prosecuted?—I do not want to put myself in an equivocal position, and I am not in a position to answer that question.

7558. You made the remark, in answer to the Chairman, that the risk from disease was too great to insure against?—I said so.

7559. Are you still of that opinion?—Yes.

7560. I would have rather come to the conclusion that the greater the risk the greater the necessity to insure?—Well, insurance is not a thing that we have tried; we have talked it over and thought it unworkable.

7561. Is it not rather that the risk is so small that it is not worth insuring against?—I should not say that, for a beast in many cases represents the whole of a butcher's capital.

7562. I could quite easily believe that; but in your own case, where you have had a fairly large number you have one in 300, is not that worth insuring against?—I do not know who would insure them. It would be rather an awkward thing to take the matter up.

7563. In purchasing, do you not in reality buy at a little less price knowing that you have this risk to meet; if there were no such thing in existence you would pay more?—Well, when it is admitted on all hands that neither we nor the medical fraternity can tell when the beasts are suffering from disease, and the man that owns the beast does not know, and we do not profess to know, how is it to be done?

7564. Have you public or private slaughter-houses in Sheffield?—We have private slaughter-houses.

7565. Would it be any advantage to the trade, as a rule, if you had no private slaughter-houses, only public slaughter-houses?—It would be a great disadvantage.

7566. In what respect?—Because at the present time there is so little necessity for it on account of the foreign meat, and one half of the slaughter-houses are only occupied with hanging this meat in it. Sheffield is a very large consuming centre, and there has not been 30 beasts killed in Sheffield this week. I have, myself, killed about 20; my next-door neighbour has killed two, and I should say that there have not been more than 30 beasts killed in Sheffield this week.

7567. What is the reason for that?—That the amount of risk is so great, and they can buy the foreign meat so much cheaper, that they will not risk buying the cattle.

7568. Is it a matter of risk in buying the cattle, or is it that they can purchase the meat at a low price—which of the two reasons is it that is causing the butchers to buy foreign meat?—We English butchers are fond of killing our own cattle, as far as we can, but I have no doubt the lower price of the foreign meat will have some little influence.

7569. But surely the butchers of Sheffield will not all go to get foreign meat simply because 1 in 300, as in your case, has been condemned; whereas in your neighbour's case it is probably one in a good many more hundreds—that matter alone will not compel them to buy foreign meat?—I said probably the price had something to do with it.

7570. I believe the price has a good deal to do with it. Then, in connexion with the discontent that exists with regard to the seizure of meat, have you any suggestions to make that might get you clear of that?—If you will allow me I will be very brief, and give you a suggestion which I have thought out in my own mind. The first is: that during the sitting of this Commission—of course I gave evidence on the last Commission—the law ought to be so modified that any man should not be subject to be taken before a bench of magistrates for having an article in his possession affected with this disease, especially when he is prepared to give it up. It is serious enough risk to run to lose a beast, without being subject to prosecution. There ought to be a certain amount of latitude given during the sitting of this Commission, because there is a grave doubt as to whether the meat is fit for human food or unfit, and the appointment of the Commission itself shows that there is that doubt.

7571. You, as a butcher, are in favour of every carcass being submitted to inspection before it is used, or before sale?—Undoubtedly, as regards the beasts affected with tuberculosis.

7572. But all animals?—Oh, no.

7573. Would you be in favour of all animals being subjected to the inspector?—It is unnecessary in all cases.

7574. Before they were exposed for sale?—Do you mean alive?

7575. No, as carcasses. I may have used the word "animals" instead. Are you in favour of all carcasses being submitted to the inspector before being exposed for sale?—I think it is unnecessary.

7576. For what reason?—For the very simple reason that there are a great number of carcasses that are sent that are fit for human food that do not want any inspecting whatever.

7577. I scarcely understand that. If the proportion of disease is so great as you give it in your own figures, surely there is a necessity for asking that all carcasses should be submitted to the inspector before sale?—I say not, but only the beasts affected with this disease.

7578. But you admit that you cannot tell when a beast is under the disease?—Not this tuberculosis.

7579. And the veterinary surgeons admit that they cannot without a very minute examination?—That is so.

7580. Does not that point to the necessity of submitting all carcasses to the inspection before sale?—If you ask my personal opinion on that, that all cattle should be inspected before offering —

7581. What is the use or necessity when the veterinary surgeon says that he cannot tell?—Because we should buy with a great amount of freedom; we should know that this man, knowing more than ourselves, that the risk would be less.

7582. But the veterinary profession admit that they cannot tell?—I think that they admit it in a great many cases.

7583. (*Sir Richard Thorne.*) You were good enough to tell us that the first four that you surrendered, in 1890, were either cows or heifers?—Yes.

7584. Do you happen to know what proportion were cows, or heifers, in the whole of the 35?—I should say that the proportion —

7585. That the larger number were cows?—Yes.

7586. You mean milch cows?—I do.

7587. You have already admitted that there is a greater risk amongst them than amongst other members of the bovine race?—I admit there is a greater risk in the female sex than in the opposite sex.

7588. And in the milch cows?—I do not admit that.

7589. I do not want to put anything into your mouth that you do not admit. I thought that you admitted that the processes connected with milking were, as was stated by the Committee on Pleuro-pneumonia and Tuberculosis, those which, to use their expression, caused a predisposition to contract and receive the poison?—I do not think I made any definite statement about milch cows.

7590. Do you think that the processes attendant upon milking, which includes the housing of the cattle and the like, conduces to tuberculosis, or not?—That is a question that it is hardly fair for me to answer, because I have a great amount of respect for those gentlemen dealing in milch cows, and if you would allow me I would rather not answer that question.

7591. (*Chairman.*) Have you any complaint to make as to the system of inspection?—Well, sir, I shall have to answer you in the same manner as I did our friend opposite. It is hardly a fair question to ask me, seeing that the medical officer of Sheffield is here. It is hardly a fair question, and I would rather decline it.

7592. Then, of course, it goes that your association has no complaint?—Our association has very great complaint—a great complaint being that they are condemned in the manner in which they are, without receiving compensation for the cattle.

7593. It is not the man, it is the system that I am inquiring about?—Well, sir, I can make a general statement without at all interfering with what I have previously said. I find that in other towns the system of inspection is nothing nearly so severe as in Sheffield. I believe that animals affected in a slight degree are allowed to pass—I believe so. But so far as Sheffield is concerned, I think it has been stated that any beast, however slightly suffering, would be condemned.

7594. Are you aware that in some other towns juries of butchers have been appointed?—I am; there has been one in Sheffield.

7595. And it has been discontinued in Sheffield?—It has been discontinued within the last few years.

7596. For any particular reason?—Well, I think for no other reason than that it was thought that the butchers were rather partial, and that they did not act in the manner in which they ought to do.

7597. There was a difficulty to carry out an impartial verdict?—During the time that Dr. White was the medical officer in Sheffield it was carried out successfully, and the butchers never came in contact with the authorities, but latterly, when the other appointments were made we had not such a pleasant time of it.

7598. You advocate compensation generally for animals confiscated for tuberculosis?—Animals of a certain value.

7599. That is the point I was coming to. Do you propose that certain animals should not be reckoned as subjects for compensation?—We reckon ourselves, as butchers, that we are as honest as most people, and we say that those butchers who buy cattle in an advanced stage of tuberculosis should not be compensated, because it is competent to any practical man, when a beast is in an advanced stage, to tell it; but those animals sold in the market, and at a fair market price, where a man buys an honest, good beast, he should be compensated.

7600. Would you impose a minimum price?—I would.

7601. May I ask what figure you would fix?—I should say 8*l.* was little enough, but any beast bought for less than that it is not necessary to compensate a man for it. (*Mr. Hides.*) I think you want to be ruled by the price of the meat. (*Mr. Pearson.*) Oh, yes.

7602. Subject to present value?—Yes.

7603. If you have anything more you wish to state we shall be glad to hear it?—I am very pleased to have given you evidence, and I hope that we shall have this thing remedied before long. I might say one thing, that the returns of the numbers in Sheffield during the last five years have amounted to 231 beasts condemned for tuberculosis, and I believe this statement is given in with Dr. Littlejohn's permission.

7604. (*Mr. Cooke-Trench.*) During the seven years in question, you slaughtered somewhere about 12,000 head of cattle?—Yes.

7605. And your loss during that time has been 500*l.*, roughly?—Yes.

7606. Five hundred pounds is 10,000 at 1*s.*?—Yes, I think so.

7607. Therefore an insurance of 1*s.* per head on what you have slaughtered would have secured you against all loss, and left a very considerable profit over?—I do not know where I could get the insurance up.

7608. Ten thousand shillings would have repaid you your 500*l.*?—Yes, I believe so.

7609. Therefore, 12,000 shillings would have repaid the 500*l.*, and left a considerable profit over; is that not so?—You are right.

7610. (*Chairman.*) You, Mr. Hides, want to hand in a paper, I think?—(*Mr. Hides.*) Yes, I merely got our inspector to get it out for me.

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7611. You have got that list made out showing the number of carcasses of meat condemned and destroyed as being affected with tuberculosis and unfit for human food?—Yes.

7612. I see from it that in the year 1892 there were 44 carcasses of beef and one of veal; in 1893 there were 70 carcasses of beef; in 1894, 43 of beef, 1 of mutton, 2 of pork, and 3 of veal; in 1895 there were 40 beef and 1 veal. In 1896 there were 34 beef, 5 pork, and 1 veal?—Yes. You will see previous to that, in 1890, I took action against the salesman; I bought some cattle, and one was affected with tuberculosis, and the action came off in Liverpool.

The witnesses withdrew.

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Dr. HENRY HARVEY LITTLEJOHN, M.B., F.R.C.S.E., called and examined.

7614. (Chairman.) You are lecturer on Medical Jurisprudence and on Public Health at Surgeons' Hall, Edinburgh?—I am.

7615. And you are also medical officer of health at Sheffield?—I am.

7616. Have you any observations to offer on the principles and practice of meat inspection in Sheffield?—As bearing on the evidence which has been given by Mr. Pearson, do you mean?

7617. Yes; and also as bearing upon the particular subject of tuberculosis which is before us?—Yes, I think I have. I can put in a statement here as to the number of carcasses of beef which have been condemned during each year since 1890.

7618. That was the year you became medical officer of Sheffield?—No, it was in 1891 I became medical officer. This return (handed in) is taken from the annual reports as to the meat condemned. I can give you in addition the number of carcasses of beef which have been condemned during each year for tuberculosis. I can also give you the carcasses of pork and veal, in addition to beef, if you would like to have them.

7619. Yes, if you please?—In 1890 there were 96 carcasses of beef condemned from all causes, of which 59 were condemned on account of tuberculosis.

7620. That is including British and foreign meat?—We have no tuberculosis in foreign meat in my experience.

7621. Is the inspection as rigid in the case of foreign meat?—No, unfortunately not; we must trust to Birkenhead to do the inspection. The dead meat is brought into the town, and unless the butcher sends for the inspector, or the inspector happens to visit the shop, we have no knowledge of tuberculosis in foreign meat.

7622. Will you put in the table when the proof of your evidence is supplied to you?—Yes, I shall do that.

7623. Now, will you tell us what are the principles which guide the inspectors in seizing meat on account of tuberculosis—what are their instructions?—My instructions to the inspector are that he is to seize all carcasses affected with tuberculosis.

7624. And then, what is the process after that?—If the butcher will give it up, well and good; there is no further action taken, and it is given up to us. If they protest, which they have not done as yet, I would take proceedings in court if I got my committee to support me.

7625. Do you consider that the presence of tuberculosis in any degree, or in any organ, is sufficient to condemn the whole carcass?—In the present state of our knowledge, I think that it is the wisest and safest course to pursue.

7626. And that is the course that has been adopted?—That is the course that has been adopted since I was medical officer of health in Sheffield.

7627. And, naturally, there have been complaints as to the alleged undue severity?—Not so far as I know, as they have given in, which is all that I wanted—they have not fought the question, but I know there has been dissatisfaction.

7613. That was the test case?—That was the test case. Of course it was lost; that was the first I took with that very complaint. It was a beautiful heifer, to all appearance right and good, and I paid a top market price for it, and I thought I would give it a test. (Mr. Pearson.) The Sheffield Butchers' Association also had a test case. A beast was bought in Wakefield market for 17l. 10s., and it was condemned, and the association took it up, and it was tried before Judge Bristowe. We lost the case in just the same way, and we had to pay all expenses too.

7623. You have heard the evidence of the last two witnesses?—I have.

7629. Have you any observations to make with regard to their evidence?—I should like to offer one or two observations in regard to the evidence which has been given. I should like to say that my experience is, in regard to tuberculosis, that the majority—I think I am within the mark in saying the majority—I might say half—I have got no correct figures—but my experience is that the majority of the cases occur, first of all, in milch cows, and, secondly, that they are cows which have not been bought in open sale in the market, but which have been sent in to butchers in Sheffield to pass if they can. They have been sent in, for what cause I do not know, but the farmer and the cowkeeper have sent them for sale, and in slaughtering they are found to be suffering from tuberculosis.

7630. And, no doubt, in some cases, the animal betrays no outward symptom of tuberculosis during life?—No doubt some of them did not. But I should like to point out in this connection—why did the cowkeeper send his cow in for sale to the shambles.

7631. I suppose there are many causes for that?—I do not suggest anything; that is my experience that the majority are, first of all, cows, and secondly they are not bought in open market, and I think many of the cows referred to by Mr. Pearson—he will correct me if I am wrong—are carcasses which were sent to him to sell; that is to say, they were consigned to him, and Mr. Pearson has got to do the best he can for his customers and the loss does not fall upon him. In those instances, because he has told me when I have gone down to his slaughter-house to see the cows, the loss falls upon the consignor to Mr. Pearson.

7632. In which consists the greater risk of the dissemination of tuberculosis, in meat supply or milk supply?—That I have got no personal experience of, except from my reading; but from my reading I should say that the milk was the most potent cause if tuberculosis exists in the udder.

7633. Are any precautions adopted in Sheffield as regards the milk supply?—The only precautions which are adopted are general sanitary precautions, namely, to improve the conditions of the cowsheds in the town, and these during the last five years—in a very large majority of cases, 90 per cent., or even more—have been reconstructed during the last five or six years, and are now, I should say, in a very satisfactory condition.

7634. As to drainage, what do you say?—In regard to drainage, we allow no drain inside the cowshed; the open channel discharges upon a gully outside the cowshed; the drain, further, either goes into a public sewer, or if it is in country districts, I have required that the drain should have a cesspool to which is fitted a pump, and the farmer can pump the contents out for the land.

7635. Now as to the cubic space, what do you say?—We ask for 500 cubic feet in the case of old cowsheds, and 800 feet in the case of newly constructed cowsheds.

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7636. Next, as to the light and ventilation?—As to the light, I insist upon having proper windows—I have proper window space so that the cowshed should be properly lighted—and that the window should be made to open—either a sash window or a pivot window. As to the ventilation, I insist upon grates. I have asked for a certain size, namely, 27 inches by 9 inches, one for every two cows, and, what I think is most important, a louver running along the ridge of the roof. What I look upon as most important for cowsheds is the construction of the floor. As to that, I find that if the floor is not made so as to be cleansed easily, and made of an impervious material, you cannot have cleanliness. The dairy regulations as to cleanliness cannot be properly carried out unless there is a proper floor, facilitating the removal of the dirt two or three times a day, and flushing twice, or at least once a week, with water. I have always insisted upon a properly constructed floor, either of concrete, or flags grouted in cement; and the structure of this floor I look upon as important, namely, that the stall should be 8 feet; that there should be then a drop of 2 or 3 inches, and then there should be 2 feet more from the heel stone to the channel, which should be 6 inches wide, and then that there should be a sufficient distance between the channel and the back wall so as to prevent the cow-droppings continually splashing the back wall, which you have always unless there is a sufficient breadth there. The minimum breadth is 14 feet, or with a fodder-passageway in front of the cows, which is advisable, 18 feet.

7637. (Professor Brown.) I gather that you seize all carcasses which are affected with tuberculosis in any degree?—Yes.

7638. And you do that on the ground that the meat is likely to be injurious to the consumer?—Yes.

7639. Of course you have no evidence that it is injurious?—I have no evidence. I would rather go upon the theory that I have no evidence that it is not injurious, but I think the probability is that it may be injurious.

7640. But you say, in the present state of our knowledge you think that it is best to be on the safe side?—Considering the small number, comparatively, of tuberculous animals condemned, I think that it is better to condemn the few rather than run the risk of what may be injurious going into public consumption.

7641. In speaking of the present state of our knowledge, do you refer to the experiments of the last Commission, which extended over some five years of very hard work?—I do.

7642. Does it not occur to you that there are some very definite results from those experiments?—Yes, I think that the report, if I am not mistaken, said in any animal which contained tubercle, that the butcher was apt himself in the process of dressing the carcass to contaminate the meat in which there was no disease.

7643. Did you also gather from the experiments that that surface contamination, such as the butcher causes in the ordinary process of trimming, is entirely corrected by the cooking?—By proper cooking; I should think so.

7644. Do you happen to know what was the result of the different experiments which Dr. Woodhead inquired into?—Yes.

7645. So that, admitting that the butchers contaminated the surface of the meat, the person who had it would not eat it raw, and therefore there would be no risk at all?—Under those circumstances, not.

7646. Then may I take it that your system of condemnation is based upon the mere chance of some infection being conveyed to the consumer, and not upon any evidence which you or others have obtained from direct experiments?—Well, my position is this: I think, if I may be allowed to say so, that the evidence in regard to tuberculosis is not conclusive, and therefore I think that the benefit of the doubt should rather go to the consumer than to the butcher.

No doubt experiments have been made, but I do not know whether they have been generally accepted as absolutely conclusive upon the subject.

7647. Do you mean by that that you would not take them to be conclusive because they were performed upon guinea-pigs and rabbits?—That would be one point.

7648. You consider that because rabbits and guinea-pigs are susceptible to infection from meat of tuberculous animals under certain circumstances that that does not prove that the human being would be susceptible to the same meat?—To some extent, and also chiefly because I do not look upon the last Report of the Royal Commission as absolutely deciding the question of the infectiousness of tuberculous meat, *qua* the human being.

7649. (Chairman.) Pardon me, you said there was no evidence?—That may have been a loose expression, but I did not mean to be dogmatic upon the question.

7650. (Professor Brown.) I want to gather from you, as you have a right to form an opinion upon the report, whether you are dissatisfied with the results only because the lower animals were used, or because those experiments were not sufficiently numerous?—I do not look upon the last report as a final report. I understood that the Commission themselves had not finally made up their minds upon the question. They had come to certain conclusions which no doubt were well justified upon the experiments, but I do not understand that that was a final and definite conclusion upon the subject of tuberculosis.

7651. At any rate that report, whatever it may point to, has not altered your view as to the proper method of inspection, and the circumstances under which you would condemn a carcass?—No, it has not.

7652. In reference to the foreign meat, you said that there is no tuberculosis in foreign meat in your experience; what does that mean?—That means that carcasses come to Sheffield dressed, and therefore I have not got the opportunity of examining them. Probably some of them may have suffered from tuberculosis; but I have not got the opportunity of seeing the tuberculosis if it exists.

7653. As a rule, if you had a carcass with a good quality of meat before you, thoroughly dressed, you would not have much opportunity of finding out tuberculosis?—Not if the tuberculosis had been confined to the organs removed, such as the viscera.

7654. You say you have to trust to Birkenhead. Are you aware that at Birkenhead they inspect only the animals that are killed in the slaughter-house?—I am aware of that.

7655. They do not inspect the frozen meat at Birkenhead?—No, I was only referring to animals coming over alive, and which are slaughtered within four days according to the regulations.

7656. Do you get any frozen meat in Sheffield?—Yes.

7657. Does it come covered in the canvas or is it bare?—It is covered with the canvas.

7658. Your officers have very little opportunity consequently of inspecting it, and you would not know whether it was tuberculous or not?—I would not know and would have small opportunity of inspecting that.

7659. (Mr. Speir.) Have you much experience of the disease amongst milch cows?—Well I think I may say that I have seen a great many. I have had about 10 years experience in meat inspection, off and on, in various places.

7660. Then what proportion of the milch cows in your district might be infected?—I cannot answer as to the proportion, for I do not know the total number of milch cows in the district.

7661. The butchers pretty nearly all over the country have expressed the opinion, when the carcass of an animal which had been bought for *St.* was confiscated, the butcher should not be given compensation for it—I expect you would pretty nearly agree with that?—Certainly.

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7662. On the ground that the disease might be suspected at least, to put it mildly, in the animal?—Yes, if a man buys a carcass for *St.* that would be so.

7663. And then take the milch cows, and if you saw an animal particularly thin, in which you might suspect the disease, do you think that the owner should or should not be compensated for that animal?—Certainly not. I would not, if I might be allowed to say so, give compensation in such a case. I think compensation of milch cows ought to be on a totally different footing from compensation for other animals.

7664. For what reason; will you explain that?—In this way, that I think a great deal of the tuberculosis may be caused from the insanitary condition in which the milch cows are kept, and, therefore, unless there was proper inspection of all cowsheds, and an examination of cows, and if necessary a certificate given by the local authority that the cowshed was in a satisfactory condition, and the cows were kept in a proper manner, I should not be inclined to give compensation to a cowkeeper who finds, when he has finished with his cow, and puts her in the market, that she has tuberculosis.

7665. We have had a great many opinions given on that subject, but as a rule most people say that compensation should be given for even the very thinnest of animals that are taken possession of by the medical officer—you do not agree with that?—Certainly not.

7666. My question to you applied, or had reference to, the live animal, not to the carcass?—I understood you so.

7667. Therefore your opinion is, that there is no reason why the owner of a milch cow of less value than, say, *St.*, or any other sum, should be paid for that if taken possession of by you, as a medical officer, any more than a cow that is used as meat might not be paid for?—That is scarcely what I meant. I should not give compensation, without proper inquiry, for any milch cow, because I think you may, perhaps, get, and develop, tuberculosis in cows by keeping them in insanitary conditions, and by giving them bad food, and so on, and therefore, unless there is some guarantee that the cowkeeper had treated his animal properly, and kept it in a sanitary condition, I should not be inclined to give him compensation because his cow was found to be tuberculous when he wanted to sell it.

7668. In reference to the question which was previously put to you, it was said that we had no evidence that meat would not be injurious where the disease was simply detected?—We have evidence—I think Professor Brown brought that out—I did not intend to be dogmatic; we have a lot of evidence from experiments on animals, but whether that evidence is conclusive, whether it is absolutely settled that such meat is without any harm at all to human beings, I do not take it from the last report that that was absolutely settled. I know many experiments go to prove that is not so.

7669. Have you read the summary, or the whole of the details of the last report?—I think I have got a report here; I think it is a full report.

7670. That is the summary?—That is all I have read. I did read the evidence, but it is a long time ago, and I do not remember it.

7671. Now, you had some very good remarks with regard to the conditions you demand in connexion with cowhouses. In ventilation space you ask for 27 inches by 9 inches. I expect that included the grating areas entirely?—It did.

7672. So that ventilation area might not be over half?—Or, really, less.

7673. Talking of the floor space, you mentioned the matter of the urine and excrement splashing over the walk, and demanded a fairly wide walk. How much do you ask in that respect?—The minimum width of a cowshed should be 14 feet; it is better with 18 feet, thus giving a 4-foot fodder passage in front of the cows. That would give a space between the channel and the back wall of 3½ feet.

7674. You have also said that the channel would be 2 feet, or, thereby, broad?—No, I think I said from the

heel-stone to the channel would be 2 feet, on to which the droppings came, so that when the cows lay down the quarters did not go into the dung, and then you had the channel, and from the channel to the wall it was 3½ feet. The dimensions in a 14 feet wide cowshed should be—stall, 8 feet; heelstone to channel, 2 feet; channel, 6 inches; channel to back wall, 3½ feet.

7675. I feel quite confident, unless you have at least 2 feet from the heels of the animal to the edge of the walk, you will invariably have splashing?—Assuredly, and it will necessitate constant white-washing if the place is to be kept clean.

7676. Have you found that with floors other than cement and well-jointed flags it is almost impossible to keep cows tidy?—Quite impossible. We have tried bricks, but one of the bricks will sink, and this lets in the urine, and I should say the only good floors are made of flags or concrete. We allow in the front of the stall, owing to the cowkeepers asking and pleading for it, clay for the fore feet, so that when the cows lie down they do not get inflammation in the joints. They say that they could not have the concrete or the flags in the front of the stall.

7677. And would you say that the milk drawn from cows standing on these rough or insanitary floors could not be good?—I think if the cowsheds are not kept in a sanitary state, and are not as clean as they ought to be, there is sure to be some contamination of the milk.

7678. But with careful management, and with floors of the description which you have mentioned, you think they would be all right?—They cannot otherwise be kept as clean as they ought to be.

7679. (Sir Richard Thorne.) Your practice, I may perhaps take it for granted, is exceptionally severe in Sheffield as regards the seizure and condemnation of tuberculous carcasses?—I think so.

7680. I think you have explained to us that it is not based upon personal experience as to injury to health, but rather on the work of others who are experts?—That is so.

7681. Would you allow me to read, therefore, a passage which occurs in the report of Dr. Sidney Martin, which is included in the report of the Royal Commission, at page 31. He says: "It is quite evident from the experiments just reviewed that the milk from cows suffering from a mild or a moderate degree of tuberculosis does not give tuberculosis to animals by feeding." Are you aware of that statement on his part?—Yes.

7682. Then he sums up the series of experiments on page 33, and says: "The experiments showed conclusively that the meat of itself did not give tuberculosis to animals by feeding if the tuberculosis of the cow were of a mild type or of a moderate degree of extent, and that the few positive results obtained from inoculating the meat were, in all probability, the result of contamination during the process of cutting it away from the carcass." Do you remember that passage?—Generally, I remember that that was Dr. Martin's evidence.

7683. Then the Commission themselves, I think, endorsed the evidence to some extent. Thus, I would ask you if you remember this passage, where they say "We are prepared to believe with him that if sufficient discrimination and care were exercised in taking meat from tuberculous cattle, a great deal of meat from them might, without danger, be consumed by the community." That passage you perhaps know?—Yes, I looked upon that as a very important qualification, that "if sufficient discrimination."

7684. But this relates to actually tuberculous cattle?—Yes.

7685. Your point seems to be that sufficient discrimination is not exercised; is that your point?—That is my point—by the butchers—some butchers; but all butchers are not the same.

7686. Then, again, the Commissioners say: "Dr. Martin sees no objection to the sale of meat—substances from carcasses which have shown only localised

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"tuberculosis, and from which every particle of tubercle has been skillfully removed, provided always that in every subsequent process of preparing the meat for sale due care be taken." Is your point that you cannot rely upon due care being taken, and is that why you condemn the meat of all tuberculous carcasses?—I think that it is safest; that is my point. I certainly did not look upon that as a definite and conclusive statement of the Royal Commission, that they had made up their minds that meat from tuberculous animals would, under no circumstances, even with those qualifications, cause tuberculosis; I did not look upon the report as a final report.

7687. I think that the report is by them regarded to be absolutely final, except in so far as they say that they "have not reported on the administrative procedures available for reducing the amount of tuberculous material in the food supplies of animals to man." Do you not think that their specifying that exception rather implies that, as regards other matters, it was final?—My impression was in reading it that it was not final; that it was not intended to convey a final decision on the point.

7688. If any Royal Commission, or any other body, were to come to a conclusion that it was desirable to indicate through a Government Department what should be condemned and what should not be condemned, do you think that medical officers of health generally would be prepared to comply with any rules, conditions, or advice so laid down?—Oh, I think so, provided that they had the proper means of inspection. That is most important—that we should have full means of inspection.

7689. Do you think there could be full means of inspection apart from public slaughter-houses?—No, I do not think so.

7690. Then you refer to the danger arising from the preparation of meat, in which tuberculosis might be accidentally imparted to a piece of meat, and I think you said that was one of your grounds for the action you took?—Based upon the report of the Commission.

7691. I should like to read to you what did take place in that respect. It is stated in the report of the Commission that a piece of meat was taken. Then I will quote: "This was laid out on a table and some incisions were made over the whole of the upper surface." Then after that an emulsion of tuberculous material was taken. And now, I quote again: "This emulsion was thoroughly rubbed into the incisions and over the whole surface of the meat, which was then rolled up from one end, so that layers of finely divided tubercular material were enclosed at different distances from the surface; this roll was then firmly bound in all directions with string, so as to prevent, as far as possible, the access of boiling water between the layers." Do you think that anything really comparable to that could take place in a butcher's shop in preparing a carcass for sale or cutting up joints; in other words, is not it rather a laboratory experiment than a practical experience?—Well, really, I have found carcasses exposed for sale which bore such evident traces of tuberculosis, and where the butcher said he was not aware of the disease, that I can believe almost anything which might take place.

7692. But the experiment quoted is not one of tuberculosis in carcasses. It relates to a piece of meat that is absolutely free, but is inoculated by the use of a knife not properly cleansed. Is not this test a very severe one?—It is.

7693. Do you know that the Commission themselves, in quoting the work of the investigator, recalled the fact that the quantity of tuberculous material introduced was no doubt considerably greater than would probably ever be present as the result of an accidental contamination?—I think I can believe that it would be so.

7694. I should like to ask you, looking to those statements generally, do you not think that you have been a little extra strict?—Looking to the statements I am

inclined to think that I have been strict, no doubt, and possibly there may not be the slightest possible danger, but I had not taken it that there is absolutely no danger—if it is absolutely proved that there is no danger of risk at all; and looking to the fact that comparatively few animals are condemned on account of tuberculosis, I think that it was better to err on the safe side.

7695. True. Do you think that the meaning of the 116th section of the Public Health Act is to go on negative evidence. It says, "Where it appears to such medical officer that such and such an article is diseased or unsound or unwholesome or unfit for human food he may seize." Does not that rather imply a positive opinion than a negative one?—Yes.

7696. I will not press you further on that point. I merely wanted to ask you because I think that your practice is exceptionally strict?—It is the same as is carried out in Edinburgh, and has been so for many years.

7697. With regard to one question that Mr. Speir put to you, may I ask you if you ever seized a live milch cow?—Never.

7698. Then as to the question that he put to you with regard to the compensation for seizing four milch cows, you have no actual experience so far as live animals are concerned?—I do not mean seizing a live animal—that we never do.

7699. I ask you whether you would give compensation for the seizure of a live animal?—Certainly not.

7700. (*Chairman.*) You have no power?—We have no power.

7701. (*Sir Richard Thorne.*) Passing from meat to the milch cow. Supposing there was power to inspect animals, say, cows, as regards tuberculosis, and that an official entered into a dairy and found that a milch cow had been suffering from tuberculosis, and in the interest of the public he thought it right that it should be seized, would you draw any distinction between seizing a milch cow which was not actually shown to be producing tuberculous milk, that is, seizing a milch cow which is not exposed for sale; would you draw any distinction between that and the seizure of a carcass which was found to be tuberculous and which was definitely placed on sale?—I certainly should. The question is new to me, but I should say there was a very great distinction between the two conditions.

7702. And the distinction lies in which direction; how do you distinguish them?—In the one case, in the case of the carcass, you have absolute proof that it is tuberculous. In the other, the live animal, you said I think that there was no proof that the tubercle is in the milk, and that there was no proof that it was tuberculous.

7703. That was so. Therefore would you consider that it would be more right to give compensation to the dairy owner than to a person running an ordinary trade risk by actually exposing an article for sale?—I think so.

7704. (*Chairman.*) I only wish to put one question; you must forgive me as an unprofessional man if it does not commend itself to you. You say there is no evidence that tuberculous meat is not injurious to human beings. Have you considered the Registrar General's Returns, which seem to show that for a number of years past—30 or 40, or 50, years past—the mortality from tubercular disease is very much less than it used to be, and at the same time the consumption of meat by the population has largely increased?—Yes, and hand in hand with the consumption during the latter years has been a very much greater strictness as to the condemnation and inspection of meat all over the country. That must be admitted.

7705. Pardon me; I for one cannot admit it. In Sheffield, granted; but not all over the country?—I would only instance—I may be wrong—I am not talking from experience, but with the institution of medical officers all over England, carcasses, at any

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rate, receive more inspection than they did before, and the subject has received more attention, it may not have received full attention, but certainly it has received more attention during the last 20 years than it did before. Certainly carcasses have been condemned during the last 20 years which before received no inspection at all.

7706. But not all over the country. Surely you are not prepared to say, for instance, that the meat inspection of London is anything like as stringent as it is in Sheffield?—I have no experience of London. I should make that as a general statement that the influence of the last 20 years has been to cause inspection of meat to be more fully carried out than it was before generally; that more attention has been paid to our food supplies during the last 20 years than before.

7707. You have generalised the question very much. My question was based entirely on tuberculosis—a general attention to the food supply is rather watering it down?—If you take it for the last ten years we have got evidence that there is considerable activity all over the country, certainly in all the great centres, with regard to meat inspection. For instance, there are public abattoirs all over the country, and that goes hand in hand with better meat inspection.

7708. Are you under the impression that in London the inspection as regards tuberculosis is as stringent as it is in Sheffield, or in any degree approaching the stringency of Sheffield?—I have no experience of that, but there has been inspection.

7709. When you say that the inspection is generally more effective than it used to be you do speak without any particular knowledge of London?—Certainly. May I refer to one point, if it is thought worth while, in regard to the two cases named by Mr. Pearson, which were apt to give a wrong impression. Mr. Pearson admitted that he was not aware of the facts

—I was. With regard to one case, the first one that he mentioned. In Sheffield we do not prosecute because we find a man has got a tuberculous carcass on his premises, but we do come down upon him if we find that he has not given us notice, and that the carcass has been evidently dressed and exposed for sale. Therefore, in the first case which was mentioned—Mr. Pearson did not mention names, but I think I know the case very well—the carcass was dressed at 11 p.m. at night, portions of the carcass were removed during the night to a butcher's shop, and we said, although we lost the prosecution, "That is not the doing of an honest man. What he ought to have done was to have kept the whole carcass in the slaughter-house, and sent word to the inspector," and therefore we brought the case into court. In the second case, of the pigs, Mr. Pearson did not know the circumstances, because in that instance I found one pig dressed and exposed for sale, the tuberculous matter having been carefully removed from the carcass. On going to the slaughter-house I found the viscera, which was covered with tubercular nodules, and therefore we said that this man had no right to expose for sale what he knew, as a butcher of experience, was a diseased animal, until it had been passed by me. That is what happened in those two cases. We were not arbitrary; but where we find that we get assistance, which men like Mr. Hides and Mr. Pearson do give us, and there is no attempt to evade the law, we do not prosecute.

(Chairman.) I am glad to hear you say that.

(Mr. Pearson.) With a due deference to Dr. Littlejohn, I think his statement is not a fair one. I have a newspaper cutting in my pocket, which, if it is of any use to the Commission, I shall leave it.

(Chairman.) We have heard your evidence and Dr. Littlejohn's, and there, I think, the matter must rest.

Adjourned till to-morrow at 12 o'clock.

TWENTY-SECOND DAY.

No. 7, Whitehall Place, Westminster, S.W.

Friday, 9th July 1897.

PRESENT :

THE RIGHT HON. SIR HERBERT E. MAXWELL, BART., M.P. (CHAIRMAN).

SIR RICHARD THORNE THORNE, K.C.B., F.R.S.
SHIRLEY F. MURPHY, Esq.

T. COOKE-TRENCH, Esq.
JOHN SPIER, Esq.

T. M. LEGGE, Esq., Secretary.

Mr. GEORGE JACKSON WARD, called and examined.

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7710. (Chairman.) You are a wholesale and retail butcher in Middleton?—Yes.

7711. How long have you been in business?—Practically all my life from 1881 or 1882.

7712. But you have been established in Middleton how long?—All the time following my father.

7713. Have you had any losses through the condemnation of carcasses on account of tuberculosis?—Yes.

7714. Could you give us the particulars?—I have suffered losses on two occasions. The first was in connection with a beast I bought in Salford Cattle Market on 2nd February 1897. It was only a small animal, which was slaughtered the day following; I gave 10*l.* for the beast.

7715. What class of animal was it?—Second class.

7716. Was it a stirk or a heifer?—It was a farmer's cow.

7717. What took place?—I was away from the place at the time whilst my men were slaughtering, but just in the process of slaughtering the inspector came on to the premises, and my younger brother telephoned for me and I came at once and found the animal suffering from generalised tuberculosis, and I immediately told the inspector to take it away.

7718. Had you seen the animal before it was slaughtered?—Yes, I bought it.

7719. What was it like?—It was perfectly sound to all appearance. I bought four cattle from the man

who sold it to me and three of them were all sound to all intents and purposes.

7720. Were they all cows?—Yes; The other three were perfectly sound.

7721. Well then there was a subsequent occasion?—That was in connection with some cattle I had sent from Norwich.

7722. In this case you surrendered the carcasses?—Yes.

7723. The next case was on the 21st March?—That is so.

7724. What took place then?—That was in connection with some very good cattle from Norfolk one particular beast the best in the waggon.

7725. Were they bullocks?—Yes, it was a particularly good beast and it was slaughtered on the 23rd March this year. Our inspector at Middleton was on our premises at the time, and this beast was killed and he saw all that took place. Behind the liver and clinging to what we call the thin skirt, we found an abscess which in the process of dressing was burst and the suppuration ran from that abscess on to the floor, and this at once aroused the inspector's curiosity. Then for perhaps about nine square inches—that is as much as ever it was, but I give the extreme figure—one lung was grown fast to the ribs with localised tuberculosis. The beast was only about 18 or 20 months old, but the inspector at once said it must not be removed. He got the medical officer and the magistrate to view it and sent for the veterinary surgeon appointed by the town. The veterinary surgeon looked at it a long time and spent a considerable time over it and he was uncertain whether to take the whole of the carcass, but ultimately he decided if one part was affected then all was affected, and he at once ordered the beast to be condemned. I was away at Salford market, my younger brother was in the trade but he was inexperienced, but notwithstanding that the inspector ordered it to be cut down off my beams and loaded into a cart. Coming back from the market about half-past four in the afternoon I met our inspector before I came to the premises, and he named this matter to me. "What are you going to do with it," and he said, "I am going to take it away." "But I want to see it first." He said, "I have been busy with this carcass of the beast up to 11 o'clock." I said, "You knew I was away at the market"; and he said, "Your brother is here." I said, "You know he is inexperienced. Can I get a veterinary surgeon to know whether you are right or wrong for my own satisfaction." He said, "No, I have been busy for five hours and I have two other cases." One was a matter which I forget, and he said, "You have been plenty of time in Middleton to look after it, and I object. I will take it away at once." I said, "Will you take it away in broad daylight, notwithstanding the injury to my trade, or will you let it remain on my premises?" He said, "No, because I want to get away to my work, and I have to go to Manchester in connection with the Sanitary Institution." I said, "Is the trade to suffer for this; is not it your position to do this, and not to jeopardise the trade unnecessarily?" and he said, "I must look after my business, and I am going to take it away." I said, "You know what an injury it is to a retail trade, and what it did in 1896, and you will cripple the trade perhaps for ever, and close a man's shop." He said, "I have nothing to do with the trade. If I do not take it away you have a chance of removing it; you have got the alternative of sending for a detective." I said, "I shall be there to answer for it," and he said, "No, I shall not leave it; I shall take it away." I begged for half an hour because I wanted to see two of the men belonging to the Sanitary Committee of the town's authorities, and I asked him if they would give me permission, and they said, "No, they were there to carry out the law, and if I did anything it would be on my own initiative." Ultimately the inspector said, "I will leave it for an hour, and you can get a veterinary surgeon if you

"like." I went to the Post Office, but I said to myself, "What is the use of bringing a veterinary surgeon. Here is medical officer and a magistrate and a veterinary surgeon appointed by the town; they condemn this beast, and it will have to go away; whatever he says the veterinary surgeon will make no difference, so I must suffer;" and I did not send for the veterinary surgeon. The beast was taken away about nine o'clock at night, and the town was in a furore. Those are the particulars of the last case.

7726. Was it condemned on account of the abscess or the tubercle?—For tuberculosis. I never saw prettier beef. I never saw beef more sound than that carcass of beef. I fetched my uncle, who has been working in the trade on his own account since 1833 or 1834, and he said to the inspector, "If the trade must suffer in this way, if he were in the trade he would close his shop at once. If a beast was to be condemned like that, it was no use slaughtering cattle." To-day we are slaughtering very few cattle; we are buying foreign meat in preference, and the risk we will not run.

7727. You have had two cases in the present year. Have you ever had a case before?—Tuberculosis?

7728. No; of a carcass being destroyed?—No.

7729. Do you attribute that to greater stringency in the inspection?—Yes.

7730. Have you considered the question of mutual insurance in Middleton against confiscation?—No, I have not considered it at all.

7731. You have never given the matter any thought?—Not at all.

7732. It is an ordinary precaution to take against trade risks, is it not?—Would you classify this against trade risks?

7733. Would I classify?—Yes.

7734. You will admit that it is a risk?—Yes.

7735. And you will admit that yours is a trade?—It is an unseen risk.

7736. But you are aware, are you not, that it has been provided against by insurance in other places?—I am not aware of anything of the kind.

7737. (*Mr. Speir.*) You said it was an unseen risk. Are not all risks, practically speaking, unseen?—We can expose ourselves to risks. What I mean to convey is that it is a risk that we run which we cannot prevent. We cannot tell cattle—I am speaking now in general; you may be able to detect it in farmers' cows, but in good sound stock which is alive it may be found when slaughtered suffering, but we cannot tell it when it is alive. That is a risk that is unseen.

7738. I admit that that is quite correct. But even supposing you were buying the very best of animals, and one in 10,000 may be lost, do not you take that more or less into consideration in purchasing?—We can take it into consideration, but I have not known the trade to take it into consideration yet.

7739. It is simply that it happens too seldom that you do not think it is worth while making any difference in the price?—In our case it would make a great deal of difference. We are in the wholesale trade; we are not in the retail trade now. It would make a difference to a retail man who is only killing one beast per week.

7740. It would make the same difference to the wholesale man?—We have more cattle, and then we run a greater risk.

7741. The matter must be taken into consideration in the price, I think?—I do not understand that question.

7742. You know there is some risk in buying even the best class of cattle; do you not discount the price of purchase at a little less?—Not at all; not in open market—not at all. We value them all from a sound standpoint.

7743. Would you be satisfied with condemnations if the same basis was used all over the country, no matter what your beast might be?—Do I understand

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you to say would I be satisfied if all cattle were condemned on one basis?

7744. Yes, on one basis, no matter whether the smallest amount or the largest amount gets condemned?—I should not be satisfied myself.

7745. If such evidence was put before us as warranted our saying that a carcass having a certain amount of disease would be dangerous, and that was asked to be condemned, would you agree with that?—Yes.

7746. If we made that basis uniform all over the country, would not that be agreeable to you?—Just so. Is this subject to be proved that if it is suffering from tuberculosis it must be unfit for food?

7747. Yes?—If that is proved, then I am with you. I have no sympathy with a man who sells diseased meat. That was the reason I gave up the first case.

7748. (Mr. Cooke-Trench.) I presume the gist of your evidence is that you seek compensation for those cases?—That is what I want.

7749. On what do you base your claim for compensation?—Because these cattle are sold to us as sound cattle. We buy them as sound cattle; we have no redress, and it is not known as unsound beef until it is opened on the floor of the slaughter-house, and we cannot tell until that very moment, and when that moment arrives we are subject to be prosecuted for having unsound meat.

7750. From whom do you claim compensation?—If compensation is paid, the country ought to pay it.

7751. Not the seller?—The country ought to pay it; they ought to get it from the seller himself. The compensation should come from the country, but we, as butchers, ought to seek compensation from the seller.

7752. You ought to seek compensation from the seller?—Yes.

7753. Then your object in coming here to-day is to see if you can get a recommendation that the sellers should compensate you for any disease that occurs?—That is so.

7754. (Mr. Murphy.) In which slaughter-house were your cattle?—In Wood Street, West Middleton.

7755. (Sir Richard Thorne.) You were good enough to give the price of the first cow that you surrendered on the 2nd February as 10*l.*?—Yes.

7756. Did you give us the price of the second one?—No, I did not; it was the best beast in a lot of five which cost 14*l.* 10*s.* The hide realised something.

7757. Was it a cow?—No, a bullock, 18 to 20 months old.

7758. You say you have been in business some 15 or 16 years?—Yes.

7759. Would you tell me, roughly how many bullocks or cows or heifers you buy in the year; is your experience considerable or not?—Well, it will average, speaking roughly, 25 to 30 beasts per week.

7760. Would you allow me to take it at 30 per week?—No, I would rather put it at 25 per week. In 1894 it averaged 30, but 25 would be about the average now.

7761. That is 1,300 a year, is it not?—Yes.

7762. We will take 15 years instead of 16 years?—Yes.

7763. Your experience really extends to 19,500 cattle purchased?—Yes.

7764. And you have actually suffered the worry of one whole cow being surrendered and one bullock being seized out of 19,500?—Yes.

7765. You ask compensation for it?—But, excuse me, I am on a wrong ground there.

7766. Please explain?—Our town has only been a borough for a few years, and we have not been subject to rigid inspection, and this tuberculosis has not been taken in hand in our town until four years ago.

7767. Then instead of being 19,500, this experience as regards tuberculosis is limited to about 6,000?—Practically.

7768. Can you tell me any tradesman in the whole of your district, who buys with a certain amount of

risk, who has been equally lucky with yourself—in any other branch of trade—only to lose that trivial sum on 6,000 transactions of equal magnitude in your case heads of cattle?—That is a large question for me to answer.

7769. I rather think it is?—It is a large question. May I be allowed to say something here.

7770. (Chairman.) Yes?—Taking the way in which this gentleman has addressed me, it looks to be a minimum of risk for people like us to run in our trade, going through the county. But I will give you the case of a young fellow across the road who, unfortunately, dare not come because of the suffering to his trade. He would not allow it to be public. He was a young starter and he bought a Scotch bullock and he had to give it up, and it was a very serious loss; he would be willing to come but he dare not; it would close his shop if it was known.

7771. (Sir Richard Thorne.) Your words were that your first cow was a second-class animal?—Yes.

7772. Do you expect to buy second-class articles, and then be compensated for them if they do not turn out to be first-class articles?—Do I understand you to mean this: We have several classes of cattle in the trade, but the second-class meat is as sound as the first-class meat, and if I buy a second-class animal which is perfectly sound, I have a right to expect to sell that, if it is second-class meat.

7773. Are you aware that it is a matter of universal notoriety, now that there is a special risk of tuberculosis in the class of animals that you refer to, namely, a cow that has been used for milking?—Yes.

7774. Is it that risk of tuberculosis that turns it into a second-class cow?—No.

7775. You buy it with an acknowledged risk; but if you make a mistake you expect to be compensated?—Because it is sold to us as sound.

7776. You buy it with the knowledge that you run the extra risk of tuberculosis in a milch cow?—Yes.

7777. What will turn it into a second-class — because it is a milch cow and you know the risk?—Not more so than others.

7778. Does not that form a necessary element of the risk that you run?—Excuse me, I wish to qualify myself, and I hope this Commission will understand that I wish to say nothing but what is true in this matter; a milking cow can be as sound as any other beast in the market, and if I bring every test to bear, with my knowledge of the trade, and I find nothing detrimental from a tuberculosis standpoint, I buy the animal as a sound beast, but as a second-class article for this price.

7779. Your own loss risk is what you have told us, two animals over those many thousands?—Yes.

7780. (Mr. Speir.) Might I ask how many diseased carcasses you detected yourself, without the inspector saying anything about it?—Do you mean generally?

7781. You must have seen any number of animals with disease on them?—I should think we have, speaking generally, half-a-dozen in a year.

7782. So that the risk has always been kept in front of you?—Just so.

7783. You must run some chance of an animal being lost now and again?—Yes, notwithstanding anything. May I be allowed to put something before the Commission?

7784. (Chairman.) If you please?—I wish to point out the harm which the trade suffered through the removal of the carcass in daylight; that is in the first case. One of the vehicles belonging to the town authorities took that beast away in broad daylight, uncovered, and it created a furore, and it was the talk of the bar parlours, and in everybody's mouth, that it had been taken from the slaughter-house. If it had been allowed to be taken away in the dark there would have been nothing known in the town about it at all, and the trade would not have suffered.

7785. That is a question of administration which you think might be rectified?—Yes. I wish to ask if this Commission can tell me whether the trade

ought not to be granted time in order to bring forward a veterinary surgeon on our own behalf to satisfy ourselves whether the beast is diseased or not, if the other veterinary surgeon has condemned it; can we retain a beast on the premises till a veterinary surgeon on our behalf has given his opinion as to whether it is not fit for food.

7786. Do you ask us as to the existing law, or are you making a recommendation for the alteration of the law?—You can take it either way.

7787. If you let it stand as your recommendation that it ought to be so, that will do?—I put it forward as a recommendation then.

7788. (*Sir Richard Thorne.*) There is just one point I wish to ask a question about. In your summary of evidence you put down that you are a retail butcher in Manchester, and then you go on to speak of the Medical Officer of Health. Am I right in understanding that your evidence on that point has nothing to do with Manchester but with Middleton?—That is so.

7789. Has Middleton a public slaughter-house?—No.

7790. (*Chairman.*) You asked to make a statement; have you finished it?—I have another recommendation. I should like to say that we think it a hardship that an inspector should stay on our premises from one to three hours at a time. Our place has always been open for him. He can go in when he likes, but it is unnecessary to stay on the premises

from one to three hours. Then I have another recommendation I should like to put before you, and that is, that all inspectors should be qualified veterinary surgeons.

7791. All over the country?—Yes.

7792. It would involve a good deal of expense, would it not?—Well, the country can afford to pay.

7793. (*Mr. Speir.*) I was going to say that if you had been killing in a public slaughter-house, you would be saved the risk and odium of a carcass being seized from your private premises?—Yes.

7794. That would be an advantage?—Yes, in that way.

7795. And whilst you are killing in the public slaughter-house, the inspector would be there for the whole 12 hours?—Yes, we should submit to that. The reason that I submit this to you is that in our town it is open to suspicion that we are dealing in this bad meat, if the inspector is there.

7796. Would it not be an advantage to all persons concerned to kill only in public slaughter-houses?—Yes on the question of tuberculosis.

7797. Would not the other questions be quite easily covered by that, and many others which come up, that the little difficulties which would arise from a public slaughter-house would be overshadowed by the advantages which would be gained by it?—That is almost a question for each individual trader.

7798. What is your opinion?—I say yes, but I am speaking for the wholesale trade only.

The witness withdrew.

Mr. JAMES KING called and examined.

7799. (*Chairman.*) You are a member of the Royal College of Veterinary Surgeons?—I am.

7800. And you are veterinary inspector of the city of Manchester?—That is so.

7801. You have tested a certain number of milch cows in Manchester for tuberculosis?—Yes, I have tested 34 cows.

7802. Why did you test those cows?—Partly at the request of the medical officer of health, and partly at the request of the dairymen themselves.

7803. The medical officer of health?—Yes.

7804. What has he got to do with it?—Three of the cows I reported as being suspicious cases of tuberculosis, and he arranged with the dairymen to have them tested.

7805. He has no power except by consent?—This was by consent of the owner.

7806. What was the result; out of the 34 how many reacted?—24 out of 34.

7807. Was any action taken upon that?—About 13 have been slaughtered; the remainder isolated; the number is here.

7808. What condition were they in?—12 were found to be diseased, affected with tuberculosis.

7809. And the 13th?—The 13th was affected with a parasitic disease, it had hydatid disease in the lungs.

7810. This 13th cow reacted?—Yes.

7811. It showed no signs of tuberculosis?—Not as far as we could see.

7812. And in the case of the others was the disease extensive?—Only in two cases there was generalised tuberculosis, in the remaining cases the disease was localised.

7813. Did these cows show any signs of advanced tuberculosis in life?—Three, and the udders in five cows showed distinct disease.

7814. During life?—Yes.

7815. Were they slaughtered by the wish of the owners?—Yes, I may say that the supply of milk was stopped in the case of two of the cows by the medical officer of health, and sent by the owner of them to Manchester Abattoir to be slaughtered.

7816. The medical officer prohibited the sale of the milk?—Yes.

7817. On what ground?—Under the Manchester Cowsheds Order.

7818. Have you got a copy?—Yes.

7819. Could you refer me to the paragraph which gives the power?—Yes on page 4, paragraph 15, of the regulations as to the dairies, cowsheds, and milk shops of the city of Manchester, it says: "If at any time disease exists among the cattle in a dairy or cowshed, or other building or place, the milk of a diseased cow therein—(a.) shall not be mixed with other milk; and (b.) shall not be sold or used for human food; and (c.) shall not be sold or used for food of swine or other animals unless and until it has been boiled."

7820. Power has been taken under these regulations to stop the sale of milk coming from tuberculous cows?—That is so.

7821. Although as you are aware tuberculosis is not one of the diseases scheduled in the Act?—That is so. It is my duty simply to certify to the medical officer of health that the cow is affected with tuberculosis, and he prevents the sale of milk or not as he chooses.

7822. Is there an abattoir in Manchester?—Yes, two; one connected with the carcass market in Water Street, and a small one at Rusholme.

7823. And private slaughter-houses as well?—Yes; 96 throughout the city.

7824. Has much meat been condemned for tuberculosis in the slaughter-houses?—In the private slaughter-houses I could give you a correct notion; but I have here the total number of carcasses of sheep, cattle, lambs, calves, and pigs which have been slaughtered in the public abattoirs, that is, at Water Street, and the total number of carcasses exposed in the carcass market. The greatest number of those carcasses slaughtered in the abattoir are exposed in the carcass market, but in addition we have a very large quantity of meat from Birkenhead and also from other slaughter-houses in the surrounding district, such as Middleton, Stockport, and different places like those. There is a total of 417,213 carcasses in 1896, that is, including sheep, lambs, calves, and pigs. I can give you the figures for 1894 and 1895 if you wish it.

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7825. Give us as briefly as you can the figures for 1894, showing the amount of meat condemned for tuberculosis in the abattoir and private slaughter-houses?—That is including both together.

7826. Yes?—The total number of carcasses, that is carcasses, sides and quarters is 72½, cows 51½. Do you wish the total or the different classes of animals.

7827. The total number of animals of the bovine race, if you can do it?—Yes, 66½. I intended giving you the total value, the weight in pounds and what I thought was the total loss. I can give you them separately, or the total, which I have here.

7828. Have you seen that Return prepared by Dr. Niven, of Manchester (*handing same to witness*)?—This is a Return by me, and is a copy of what I supplied to Dr. Niven.

The following is the complete document:—

NUMBER of ANIMALS slaughtered in the public abattoirs, and number of carcasses exposed for sale in the Carcase Market, Water Street, Manchester, during the year 1894.

Slaughtered in Abattoir.		Exposed for sale in Carcase Market.	
Cattle	31,885	Carcasses of beef	51,142
Sheep	135,493	" mutton	213,126
Lambs	33,124	" lamb	32,288
Calves	766	" veal	19,848
Pigs	10,322	" pork	12,378
Total	211,590	Total	328,782

NUMBER of CARCASSES condemned for TUBERCULOSIS.
Description and Weight in Lbs.

		Lbs.
Cows	26½, weighing	12,016
Heifers	8 "	1,398
Pigs	5 "	766
Bulls	3 "	1,900
Bullocks	3 "	1,398
Sheep	1 "	68
Calves	1 "	140
Total	47½	19,619

NUMBER of CARCASSES condemned in PRIVATE SLAUGHTER-HOUSES during 1894.

		Lbs.
Cows	23½, weighing	9,609
Heifers	1 "	440
Total		10,049

(*Witness.*) I took the trouble to put the total weight in pounds and the named rate of value as we return it weekly at our carcase market, so that I have included the private slaughter-houses and the abattoir, making the total amount of meat condemned for tuberculosis in Manchester in 1894, 72½ carcasses; the total weight is 28,735 lbs., and the total value is 566l. 8s. 10½d. That is the total amount of all carcasses given in this table which I have handed in. In 1895 there were 98½ carcasses, and the total weight was 36,857 lbs., the market value being 714l. 7s. 3½d. In 1896 the total number of carcasses condemned for tuberculosis in the city of Manchester was 108½; the weight is 44,344 lbs., and the loss is 890l. 18s. 2d. That includes the number of carcasses condemned in slaughter-houses, and also the number of those condemned in the public abattoirs and carcase market.

7829. (*Chairman.*) Are those all condemned for tuberculosis?—For tuberculosis only.

7830. What do you attribute the increase in the figures to?—To increased trade, I think you will find.

7831. Not to increased stringency of inspection?—Yes, as well. Since then we have had two extra inspectors, and get more animals from outside

slaughter-houses. Of course, our trade has increased very much in the last four years, and our seizure of tuberculous meat has increased correspondingly.

7832. I see you have six cases for exposure for tuberculosis?—That is so.

7833. What is the reason of that?—Those were cases of people slaughtering outside and attempting to sell; there were two cases for exposing tuberculous meat; the first was in September 19th, 1893. Shall I give the names?

7834. No, it is not necessary, it is no use?—October 25th, 1893; that is for bringing diseased meat into the market in a cart to the city of Manchester. November 4th, for sending a diseased carcase from Penrith. This case was dismissed as there was a doubt as to who was the actual owner. June 22nd, 1895, for exposing parts of a diseased carcase in a shop in Manchester. October 28th, 1896, a farmer slaughtering and attempting to sell a carcase on his farm at Blakeley. 9th April 1897, for removing from the slaughter-house and exposing for sale in a shop in Beswick Street, Manchester. That is all the cases we have had of tuberculosis during four years.

7835. Is the whole carcase invariably condemned?—If the disease is generalised the whole carcase is condemned; if it is only localised the localised part is removed and the remainder is passed.

7836. (*Sir Richard Thorne.*) I notice that in 1896 the number of carcasses taken for tuberculosis was 81½?—That is in the public abattoirs. You must include in that the numbers I have given you now.

7837. That applies only to the public abattoir?—That is so.

7838. Does that item of 81½ carcasses relate to the 417,213 carcasses exposed for sale or slaughtered in the abattoir?—Yes.

7839. What is your standard which governs the seizure or the condemnation for tuberculosis in Manchester?—Generalised tuberculosis; we distinguish between generalised and localised; if the whole viscera is affected with tuberculosis we condemn the carcase; that is if the lymphatic glands are affected. If the disease is only localised we remove the affected parts, and after examining the glands, pass the remainder.

7840. Are there many instances of this class of generalised tuberculosis in which the meat looks perfectly sound for human food?—A great many.

7841. Does that apply to where the tuberculosis is limited to the internal organs?—And also when the glands are affected. The internal organs and also the glands of the carcase may be affected and the carcase looks a splendid carcase.

7842. Then you do seize and condemn some in which the carcase itself looks sound and fit for human consumption?—Yes, if the deep-seated lymphatic glands are diseased.

7843. And the ground of condemning those carcasses is that the glands in the muscular tissue are tuberculous?—That is so.

7844. Referring to those figures just now which I quoted, of 81½ carcasses condemned for tuberculosis on over 417,000 carcasses, am I right in saying that it only amounts to '02 per cent.—two-hundredths per cent.?—Taking in mutton—this includes mutton—it would be about that.

7845. You are not able to calculate the percentage of beef?—Not very well.

7846. There was one question which the Chairman put to you with regard to your preventing the sale of milk from a tuberculous cow. I will read you portions of a question which Mr. Speir put to Dr. Niven on that matter. He said: "In answer to a question 'you said, or allowed me to believe, at any rate, that 'you condemned certain milk which you had reason 'to believe was deleterious to health; what powers 'have you for doing so?' and Dr. Niven answered: 'No powers.' Mr. Speir put this question: 'How 'did you manage to get that carried out?' and the answer was: 'That is a matter which Mr. King has

"managed. I suppose he pointed out to the cow-keeper that this was not a fit animal from which to send milk to the market, and the cowkeeper felt obliged to slaughter the animal." And then Mr. Speir put this question: "He thought discretion was the better part of valour under the circumstances?" and Dr. Niven answered: "Possibly." That practically admits that there is no power to deal with tuberculous milk in the manner in which you describe?—That is so. I certify that the cow is tuberculous, and the medical officer takes what steps he thinks proper. I know in several cases he has given notice to stop the sale of the milk.

7847. (*Mr. Murphy.*) I see in 1896 there were 18,440 cattle slaughtered in the public abattoir?—Yes, 18,440.

7848. And you seized 48½ carcasses of cows for tuberculosis?—Yes, you will understand that I cannot give the numbers of the different sexes, &c. of cattle brought into the abattoir, being all booked and charged for as cattle, but I keep a record of the different sexes, &c. of those condemned.

7849. But it is a fact that all the beasts that were seized were cows?—48½.

7850. Those were distinctly cows?—That is so.

7851. A little lower down you mentioned three bullocks?—Yes, we have only taken three bullocks for generalised tuberculosis. That is the number condemned out of this total.

7852. You receive cows from all the country round, I presume?—Very few. They are a little frightened to send cows to the abattoir. They do not seem to care to send them in where there is rigorous inspection.

7853. Among the 48½ cows received you may have some information as to whether they had come from dairies?—Yes, the majority came from dairies in the surrounding districts, or had been bought in the public market at Salford and sent there.

7854. Now there is an unwillingness to send cows?—That is the complaint at the carcass market.

7855. Where do they go?—I think to the districts outside, because we have a greater number of cows dressed than live cows coming to the abattoir.

7856. They are killed outside and the carcasses brought in?—That is so, if they think they will pass in the Manchester market; and no doubt if they are badly diseased they are retained outside. That is my opinion about the matter.

7857. Have you any knowledge of any trade being carried on in tuberculous cows at the present time?—No, I cannot say that I have.

7858. (*Mr. Cooke-Trench.*) Of those 417,000 carcasses that were exposed for sale were the vast majority sheep and lambs?—That is so.

7859. And of the cattle a considerable number were dead carcasses?—Yes, sent from Birkenhead, and many from Stockport, some from Middleton, but the majority from Birkenhead and also Deptford.

7860. Were any large proportion of those foreign meat?—The majority of them were American.

7861. I suppose that the greater part of those that were sent in had been examined elsewhere?—That is so. All foreign animals had been inspected before being consigned.

7862. Therefore it would be assumed that any diseased carcass would be eliminated from that?—Yes.

7863. Therefore the proportion of 81 to 417,000 has nothing whatever to do with the proportion of diseased

cattle. You were asked what the percentage was between 81 that were condemned and their total carcasses?—That is so. Before I could give the correct percentages of carcasses slaughtered, I should have to find out how many there were from Birkenhead, and how many from such districts as Cheshire, Derbyshire and surrounding places, which you will see it is impossible for me to do, because I could only get the figures of the carcasses sent in.

7864. (*Mr. Speir.*) There appears to be considerable confusion in those figures of themselves in the table sent under Dr. Niven's name, and which you claim the authorship of. The figures are marked "lbs.," whereas you seem to be reading them as carcasses?—This is a mistake, the lbs. should be carcasses.

7865. Out of 62,000 carcasses marked beef you have condemned 91, excluding pigs and sheep and calves?—Are you referring to 1896 may I ask.

7866. Yes, you have 48½ in the public slaughter-house, 13 heifers, 3 bullocks, and then 25½ cows in the private slaughter-houses, and one heifer, making in all 91?—Yes, I have given you the number condemned in private slaughter-houses in 1896 which should be deducted from the 91, giving 64½ condemned out of 62,000 in the abattoir and carcass market only.

7867. You have 64½ in 62,000, a little more than 1 in a 1,000?—That is all.

7868. (*Chairman.*) Do you know if the abattoir pays its expenses?—Yes; the profits, after paying ordinary expenses, chief rents, and interest on capital, are about 3 per cent.

7869. We have heard evidence from various parts of the country to the effect that owing to the risk of seizures there is a tendency among butchers to deal more with foreign meat than with British meat, has that come under your observation?—That is my opinion, rather than run the risk of killing cows, they purchase entirely foreign meat, bull meat. One class of butchers does that, the second class only.

7870. Please be careful about your answer, my question referred to all British meat. You say "rather than run the risk of killing cows," which is a different thing?—Well the better class of butchers do not kill cows, it is mostly second class butchers that go in for second class meat, cows being classed as such.

7871. We have heard the evidence from first class butchers that they prefer to deal with foreign meat rather than home meat?—That is not my experience. It does not make any difference to high class butchers.

7872. Is there a system of insurance amongst the butchers?—Not that I am aware of.

7873. (*Mr. Speir.*) Am I right in believing that the butchers who formerly dealt in cows in Manchester are now giving up the cows?—Yes.

7874. And buying foreign meat?—That is so.

7875. Have you any means of knowing where those cows go?—I know that they are not coming to Manchester as they used to. I have repeated complaints from the salesmen saying that they would have purchased cows, but the men were frightened. Many of the butchers buy on condition that they will pass inspection, and the farmer will not sell them on that condition.

7876. Is it not probably the fact that the cows go into districts where the examination is less rigid than with you?—That is so; that is my opinion, no doubt about it.

The witness withdrew.

Mr. JOHN BERWICK called and examined.

7877. (*Chairman.*) You represent the Bradford and Shipley District Butchers' Associations?—Yes.

7878. Do you wish to lay their views before us?—I should very much like to read three cases from Shipley.

7879. Were they three cases of seizure?—Yes. I saw two of them myself before they were slaughtered. One animal was bought at Bingley auction mart on January 16, 1894, Messrs. J. Moore and R. Kell being the joint purchasers. Upon being killed the

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beast was found to be tuberculous and was at once voluntarily surrendered to the meat inspector and destroyed. It cost 14*l.* 10*s.*, and this was a loss to the butcher, the hide being allowed to be sold, of 13*l.* 15*s.* These purchasers were two young men commencing trade, and they purchased this beast jointly for their two shops. It was a very nice cow. The other was a beast bought at Skipton auction mart on April 20, 1894, of Mr. George Lister. When opened the beast was found to be affected with tuberculosis, the disease being localised just below the skirt, on the ribs. The attention of the meat inspector was at once called to the animal and it was condemned and destroyed.

7880. The attention of the meat inspector was called by the owner, do you mean?—Yes, who was a butcher. It cost 12*l.* 15*s.*; the hide in this case was also allowed to be sold and the total loss to the butcher or owner was 12*l.* 5*s.* The third case was an animal purchased at Bingley auction mart on December 1, 1896, by Mr. John Lund. Upon being slaughtered it was found that the disease was very general throughout the carcass, and the beast was at once surrendered to the meat inspector.

7881. What kind of a beast was it?—It was a cow; I saw it myself. It was nice beef. The man gave the top market value for it, being a small beast. The price that he gave was 9*l.* 15*s.* and he made 10*s.* out of the hide. That is the whole of the Shipley business. The inspector there is a veterinary surgeon, and he has not been brought up in the butchering trade. We go against that; he being only a veterinary surgeon.

7882. (Sir Richard Thorne.) Did you hear the evidence of the last witness but one?—No.

7883. Did not you hear Mr. Ward say that the grievance of the Middleton butchers was that the inspectors were not veterinary surgeons?—No.

7884. Are you aware that the opinion of the Middleton butchers, as expressed by Mr. Ward an hour ago, was very strongly to the effect that all inspectors ought to be veterinary surgeons?—No.

7885. Your opinion is that they ought not to be?—I think that he should be a practical butcher as well.

7886. Do you know the conclusions the Association have come to in these and other cases?—*Re* Bradford, there have been some nine cases in about nine months in Bradford, that is one in each month.

7887. Out of about how many?—There would be, perhaps, 200 a week slaughtered.

7888. About 800 a month?—Yes.

7889. That is not a very large percentage?—No it is not, but they are rather a better class of cattle slaughtered than in a great many towns, taking it as a whole. They can do with stronger and better cattle. I myself on February 1, bought in Skipton market five beasts at a cost of 16*l.* 15*s.* each, and two of them, when I slaughtered them, were suffering very slightly from tuberculosis on the inside, and they were passed by the inspector; one weighed 725 lbs. and the other 827 lbs. The best cow of the five was the worst of the two. They were both passed by the inspector, but they would have made a shilling a stone more had they been all right, and not had to have the rind trimmed off.

7890. But that was not a case of confiscation?—No; the inspector passed them; they were very good beef.

7891. Does your association advocate compensation?—Yes.

7892. Have they considered the question of insurance?—It has never been mentioned, I do not think that I have heard it mentioned.

7893. Do you think that it is worth considering whether a risk of less than 1 per cent. according to your own showing would not be worth insuring against?—I do not think there is many in our trade who, when they go into a public market, reckon it up at all.

7894. I beg your pardon—not 1 per cent. but less than one-eighth per cent.; one head of cattle per month out of 800?—Yes, about that. There is a great deal fewer killed now than there used to be. I do not think there are so many slaughtered on account of the risk. People will not buy them; they are buying foreign meat. In our slaughter-houses last week, where there have been, as a rule, 120 beasts slaughtered, there were only some 60—just half—and the others were from Birkenhead.

7895. Do you think that a risk of that kind is not a fair subject for insurance?—I cannot say that it would be beneficial, because when a man comes into a market, he does not expect to find tuberculosis at all when buying a lot of good beasts.

7896. Could you not protect yourself against the risk by insurance?—If numbers could be got to join, 1*s.* a beast, which was mentioned as the amount, might cover it.

7897. Not if you got back a greater part of the premiums at the end of the year?—You would want a great many to join.

7898. How many butchers are there in the Bradford District Association?—The whole of the Association?

7899. Yes?—78, I think.

7900. And in the Shipley and District Association?—Perhaps 30. It is only a very small Association.

7901. (Mr. Speir.) You expressed the opinion that your Association would desire a practical butcher as an inspector; was I correct in hearing that—is that what they desire?—Yes.

7902. May I ask what a butcher knows of the diseases of animals?—In the slaughtering of cattle the majority of them are now very well versed in it, I think.

7903. Is it not rather the fact that butchers would only have a knowledge where there was a great difference in the appearance of the animal, not where you might have a deadly disease developed and no particular difference in the flesh?—Not necessarily till after slaughter; until after it has been slaughtered they do not know whether it is tuberculous or not.

7904. But you might have still a carcass apparently quite good beef and yet, I think, under certain circumstances, it might be quite the reverse, and then under those circumstances I would say that the person who knew diseased beef really was the one who should be an inspector; is not that your opinion?—That is my opinion. I think myself I would like a veterinary surgeon, but it was the feeling of our Association, at our last meeting, that he should be a butcher and veterinary surgeon in one.

7905. You had better give us your own opinion. You are in favour of a veterinary surgeon?—Yes.

7906. (Sir Richard Thorne.) In your summary of evidence you have referred to the fact that you represent the Bradford and District and the Shipley and District Associations?—Yes.

7907. But when you cited three instances where members have had losses owing to seizure for tuberculosis, you spoke of the members of the Shipley Association?—Yes.

7908. And that does not apply to the whole of the Association?—To the whole of the Shipley Association.

7909. Not to the Bradford Association?—Not to the Bradford Association at all.

7910. Then it really applies to the 30 members who belong to the Shipley branch of the Association?—Yes.

7911. Could you give me any idea as to the number of carcasses that passed through the hands of those 30 members in the year?—No, I could not. I should think they would really have been from 30 to 40 beasts—that the total would be about 40 beasts.

7912. In the year?—No, per week.

7913. What I really meant to ask you was as to the 800 a month that you refer to; does that apply to Bradford and Shipley?—To Bradford alone.

7914. Then those three carcasses which were seized relate to Shipley alone?—To Shipley alone.

7915. That makes over 2,000 a year?—Yes.

7916. When was the Association formed?—I should think 5 years ago.

7917. This is only an experience of 12 months?—Yes.

7918. You gave us the loss on two of these cattle, namely, one of 13*l* 15*s*. and 12*l* 5*s*.; but you did not mention the loss on the third one?—It was 9*l* 5*s*.

7919. That makes 35*l* 5*s*. on 2,000 cattle in the year. When the Chairman asked you about compensation, I rather gathered you meant that you did not think that the risk was worth insuring against. Is it because the loss is so trivial—35*l*. on 2,000 head of cattle in a year—that you would not insure?—I am not in favour of insurance at all.

7920. Do you mean that the risk is too small to call for it, from the various members of the Association?—A very small portion kill anything; they buy it dead.

7921. The seizures that you referred to, and on which your figures are based, relate to seizures alone?—Only. I might say that I have assisted to rind many a lot of tuberculous animals, even when I have had cuts on my hands, and never suffered any ill-effects from it. I was with my father, who used to slaughter, perhaps, 30 beasts a week, and just

occasionally one would crop up, but they were passed then.

7922. With regard to that, how long have you been in business yourself—with your father, or alone?—Since my father died, about five years ago.

7923. And before that?—I was with him all my life—since 1873 in the business.

7924. Do you do a large business?—About 20 beasts a week.

7925. Have you had those yourself, or were they in your father's time?—On my own account.

7926. Is that the only instance?—That is not what he grumbled at. This was a very good beast, bought in Skipton, and it cost 21*l*.

7927. Is that the only instance in which a carcass has been seized in your business for tuberculosis?—No. He had a lot of beasts that had been taken—seven or eight, I remember; but they were not bought before they were seized.

7928. They were simply sold on commission?—Yes.

7929. But as regards your own purchases; is that single case the only one?—The only one that I remember.

7930. If others were seized, the fact of your having only one seized would not mean that there were not several inspections?—No; there are only two private slaughter-houses and the rest are slaughtered in public abattoirs.

The witness withdrew.

Adjourned till Monday next at 1 o'clock.

TWENTY-THIRD DAY.

No. 7, Whitehall Place, Westminster, S.W.

Monday, 12th July 1897.

PRESENT:

THE RIGHT HON. SIR HERBERT E. MAXWELL, BART., M.P. (CHAIRMAN).

SIR RICHARD THORNE THORNE, K.C.B., F.R.S.
SHIRLEY F. MURPHY, Esq.

T. COOKE-TRENCH, Esq.

T. M. LEGGE, Esq., *Secretary*.

MR. MATTHEW HEDLEY called and examined.

7931. (*Chairman*.) You are a Fellow of the Royal College of Veterinary Surgeons, and Chief Inspector of the Irish Privy Council, Veterinary Department?—Yes.

7932. Can you give us any information as to the prevalence of tuberculosis in Ireland?—Before entering on any evidence, will you kindly permit me to say that in coming before this Commission, it is to be clearly understood that, although nominated by the Royal Dublin Society, I do not voice the Society, and that, although Chief Inspector of the Irish Veterinary Department, I do not voice that Department. Any opinions that I express are opinions of my own, and any evidence that I give is what I have collected.

7933. (*Mr. Cooke-Trench*.) But you have been in consultation with the Royal Dublin Society, have you not?—Yes, I have.

7934. Therefore you are able to speak as to what their views are?—No, I am not. I have not any brief from the Royal Dublin Society, neither have I got any verbal instructions as to what I am to say on behalf of the Society. Any opinion I express is not

the opinion of the Society, although it may be in accord with their views.

7935. There was a Committee of the Council of the Royal Dublin Society appointed to confer with you, was there not?—Yes, they had my evidence, and they forwarded it to this Commission, to see whether the Commission approved of it.

7936. You met that Committee, I think, on more than one occasion?—On one occasion.

7937. Only on one?—On one occasion only.

7938. Then you heard pretty well what their views were?—They did not express any views at all. They simply heard what I had to say, and in what way I defended what I had to say.

7939. (*Chairman*.) Do I understand that your views are not in accord with those of the Royal Dublin Society?—I do not say that at all; but the Royal Dublin Society will not be bound by any expression of opinion I submit.

7940. Inasmuch as they forwarded us the précis of your evidence, may we not assume that there is no conflict between you?—No, I think not. I can only

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say that the précis has been sent by the Society for you to accept it or not, and as you have accepted it, they have sent my name forward as a person who may be able to give you some information. That is really the position. If my opinion is not in accord with the views of the Society, I am not aware in what direction the difference lies.

7941. (Mr. Cooke-Trench.) You only met them once?—I only met them once; they may not agree with what I have to say at all, but they have not told me they do not agree.

7942. (Chairman.) Would you kindly state your views or any facts which you think would be important to our inquiry; first, as to the extent of the disease in Ireland?—At present there are no statistics collected which would assist in determining the prevalence of tuberculosis in Ireland. Any evidence that has been obtained is of an irregular character. For instance, when the Irish Veterinary Department was engaged in the suppression of pleuro-pneumonia from 1888 to 1893—and this is more particularly with reference to the North and South Dublin Unions—and when the slaughter of in-contact cattle was carried out in connexion with that disease, post-mortem examinations of the thoracic viscera of all such cattle were made, and then it was found there were five per cent. affected with tubercle. During 1893 post-mortem examinations were made of the lungs of animals suspected as suffering from pleuro-pneumonia sent from other parts of Ireland than the districts already mentioned, and out of 160 so submitted 78 were found affected with tubercle, that is to say, 48·75 per cent. From August 24th, 1892, to September 30th, 1893, that is about 12 months, cattle were moved in the districts which were scheduled on account of pleuro-pneumonia on licence for immediate slaughter; and it was then found that as the result of post-mortem examination out of 16,636 head of cattle only 454 were affected with tubercle, that is 2·73.

7943. Have you any statistics as to the class of cattle—that is, whether cows or bullocks?—Both classes of cattle, but they were chiefly fat cattle, of course, being for immediate slaughter.

7944. Were there any fat cows?—Yes, fat cows were among them. I might explain in connexion with the scheduled districts Order that when the Dublin Metropolitan Markets were held, cattle from all parts of Ireland were brought in the market by the butchers in the vicinity; they were then moved from the markets into the scheduled districts; they then became scheduled districts cattle although they were not fed in Dublin, and had only been within the scheduled districts for a few hours. Yet for the purposes of the Scheduled Districts Order they became scheduled districts cattle, and could only be moved from the lair in which they were resting to the place for slaughter, either an abattoir or a private slaughter-house, on licence. In the case of all such animals when moved, a post-mortem examination was made of the thoracic viscera chiefly. The duty was to ascertain whether pleuro-pneumonia was present or not, but, in doing so the inspectors had instructions to report with reference to any case of tubercle they found. The examination of the thoracic viscera gave the result I have stated. From that period, 1893, up to 1897, we had no means of collecting any statistics; but in 1897 an outbreak of pleuro-pneumonia occurred in the West End of London, and that outbreak was supposed to have been traced back to Ireland.

7945. In the present year?—Yes, early this year. The in-contact cattle, about 126 head, which were said to have been part of the lot that was shipped, were then slaughtered in Ireland. Of these, 12 were found affected with tubercle. This slaughtering dealt with seven separate herds; in two of the herds tubercle did not exist, in four of the herds there was only one case in each herd, while in another, which consisted of about 19 head, eight animals were found to be affected with tubercle.

7946. Of course they were all in the same district in Ireland?—Yes, they were all in the south-west of Ireland. They were chiefly in the district of Mallow.

7947. Were they shorthorns?—No, they were half-bred stock. Subsequently, from the 9th March to the 9th April of the same year the lungs of all cattle which had died in that district, and in the several districts of the poor law unions surrounding this particular poor law union of Kanturk, were submitted. An order sent out requiring that the lungs of all animals which had died from any cause whatever should be submitted; and with the lungs generally the heart and thoracic glands were attached. It was found that out of 19 head, three were affected with tuberculosis. During the same period 17 lungs happened to be sent up from other parts of Ireland, and on examination it was found that five were affected. Of these 17, 11 were from the city of Dublin, and 3 of those were among the affected.

7948. Of course the disease might exist in other organs besides the lungs, and you might not have been aware of it?—That is quite possible.

7949. Then your experience leads you to believe that the disease is not so prevalent now as has been supposed by some?—I cannot say what has been supposed by other people, but the statistics which have passed through my hands do not indicate that it is such a prevalent disease as I originally supposed myself. But I am aware of this, that the disease exists amongst swine, amongst poultry, and amongst pheasants. I have been consulted with reference to pheasant runs and poultry runs, and in the cases of pheasant runs, I know that it has been necessary to discontinue them, the disease was so prevalent. I also know that ground game, such as hares and rabbits, are affected very much with it, because I have had the viscera of those submitted to me for examination and report. I have been informed, on very reliable authority, namely, by one who at one time was Superintendent of the Zoological Gardens in Dublin, that a number of the species there died from tuberculosis.

7950. When you say hares and rabbits, do you mean animals at liberty, or in confinement?—At liberty. Since we have been dealing with swine fever by slaughter and compensation, the number of swine which have been found affected has been very large—I roughly estimate between 15 and 20 per cent. I think that swine are more affected with tuberculosis than cattle; originally I thought cattle were the more affected, but the conclusion I now arrive at is that comparatively swine show more tubercle. As to the prevalence of tubercle among animals, so far as age is concerned, my experience is that the old animals are those which are more affected than the younger ones.

7951. What course was taken with these carcasses that were found to be infected; were they condemned?—Many of them were condemned. Do you refer more particularly to the carcasses in the early period between 1888 and 1893, or to the 126 carcasses?

7952. When they were slaughtered for contact with pleuro?—If it was a case of generalised tuberculosis the animal was disposed of and sent either to the knacker's yard or to the Zoological Gardens; in fact, we sent so many to the Zoological Gardens that they found it was necessary to ask us to desist from it, as they were really burying them, and could not dispose of them otherwise.

7953. What were they sent to the Zoological Gardens for—to feed the wild beasts on?—Yes.

7954. Did they cook the flesh before?—No, I do not think so; they fed them with the raw meat.

7955. Then you would not be surprised with the prevalence of the disease there?—No. It was through that I became aware of the prevalence of tuberculosis in the Zoological Gardens. The superintendent told me that they had had a large number, and he really did not care to have any more tuberculous food sent there. It was not owing to what we had sent them,

but to what had been sent to them from other sources before.

7956. Have you any experience of the tuberculin test in dairy stock?—I know that tuberculin has been used, but I have no practical experience of it. An instance came under my notice only a few days ago. Out of a herd of 27, 16 were tested and 9 responded, and that, I believe, so far as I can ascertain, was the only large herd that has been tested in Ireland. There have been several isolated tests carried out of individual animals, but nothing more than that. That is, so far as I am informed; there may have been more, but they have not come to my knowledge.

7957. When that herd had been tested, were any steps taken to eliminate the diseased animals?—The test has only been completed within the last three or four weeks. I do not know what they are doing, in fact, I cannot tell you where the test was carried out. The particulars were simply handed over to me by a veterinary surgeon who was present, and he would not give me the name of the herd; he only gave me the information. The information obtained is shown in a form which I have here, and that return does not show the name of the owner or location of the herd, but gives the hour of taking the temperatures and the temperatures that were obtained.

7958. You have no doubt as to the return being a genuine one?—No, I have no doubt. You will observe in that herd a number of these animals were not tested with tuberculin, because they were pregnant and it was thought inadvisable to test them. There were 27 in the herd, only 16 were tested, and 9 responded, the rest were pregnant animals.

7959. That would point, of course, to a much larger percentage in dairy stock than you are led to suppose exists in general?—That is a pure bred short-horn herd. I am aware also that there are other pure bred short-horn herds in Ireland which, unfortunately, are so bad with tuberculosis that tuberculin would be very little use. The careful professional observer would be able to diagnose the presence of tubercle without the aid of tuberculin.

7960. You mean that the disease is so advanced that the animal shows outward signs of it?—Yes. Those animals are being used for breeding purposes now.

7961. Assuming it to be desirable to prevent tuberculous meat generally affected being supplied to the consumer, have you any observations to make on the present system of meat inspection?—I regard the present system of inspecting meat as unsatisfactory.

7962. Not a system at all, in fact?—In fact, it is not a system.

7963. What are the principal hindrances to effective examinations at present?—The class of men, in the first place, who are utilised, in many instances as inspectors. They have no knowledge whatever of meat inspection; some of them—perhaps I am rather hard in saying it—are ne'er-do-weels in anything else and have got that place to give them employment and to pay them a salary. Others have served their time in other walks of life which have nothing at all to do with cattle; I know from a return I saw not long ago some gasfitters by trade had been acting as meat inspectors. I do not think those are proper men to make inspectors of meat. My opinion is that an inspector of meat should be one who has undergone a training for that purpose, and should have some knowledge of stock both in health and in disease. It appears to me that the veterinary surgeon is the most suitable person to act as inspector of meat; he has had an education bearing on the subject.

7964. It has been possible, has it not, to train butchers' assistants to a competent knowledge of the phenomena of disease?—Yes, I daresay a few have a knowledge, but how obtained I am not aware; they have certainly not had technical veterinary tuition.

7965. Do the same observations apply to the inspection of dairy stock?—Yes, the inspection of dairy yards, &c. is carried on in far too many places by men who are not veterinary surgeons, and are without

knowledge of professional matters. They appear, as far as I can see, to simply walk into the place to see that it is properly swept out and occasionally washed, and they pay no attention even to such a small matter as the grooming of the animals, which I regard as quite as necessary as many other things.

7966. They have no power, have they, to inspect the animals?—I believe not.

7967. Only the premises?—Only the premises.

7968. You desire to see the power extended?—Decidedly so.

7969. So as to enable them to have a periodical veterinary examination of the dairy stock?—Yes, as far as it is practicable to do so.

7970. I believe you suggest that in the event of cows being condemned as unsuitable for supplying milk to the public the owners should be compensated?—Yes, I think so.

7971. Irrespective of the conditions under which those cows are kept, or should that be taken into account?—That depends what the Government propose to do. If the Government propose to treat this matter as a pure and simple public health matter then they would not touch the cows at all, they would only touch the milk and the meat, but if they are going to treat it as a veterinary matter, with the intention of endeavouring to stamp out tuberculosis among animals, then they would have to give compensation, otherwise they would not ascertain where disease existed.

7972. That is to say under a system of compulsory notification and slaughter, you would compensate?—Yes.

7973. And there is ample precedent for such a course?—I think so.

7974. In short, do you advocate putting tuberculosis among the diseases scheduled under the Act?—We are willing to put anything on the schedule of the Act. We are quite able to work it if the Government is prepared to pay.

7975. I am not asking you what you are willing to do; I have no doubt you would do your duty under any circumstances. I am asking you your opinion, whether it is a practicable thing?—I misunderstood the tenor of your question. I would not recommend that a step like that should be taken for the whole of Great Britain and Ireland. We do not know sufficient about tuberculosis. If such a scheme were proposed it should deal only with a portion of the Kingdom; either England, Scotland, or only Ireland. We should then be enabled to obtain more accurate statistics as to the prevalence of the disease, the cost of administration, and the amount of compensation, as well as the influence on trade and the health of the populace. Experience in dealing with swine fever has shown that it was necessary to modify views held prior to taking active measures, particularly as regards means of swine and disposal of carcasses.

7976. You have given us no estimate of the extent to which tuberculosis prevails among cattle, but you have mentioned 15 to 20 per cent. as being the probable proportion of swine affected in your opinion?—Yes.

7977. It would be a serious matter to slaughter 15 to 20 per cent. of the swine of Ireland?—I really do not think so; more than those are slaughtered in Ireland regularly as a matter of trade.

7978. But this is compulsory slaughter, it is not a matter of trade?—If it were decided to stamp out tuberculosis it would have to be done.

7979. Of course it would, but I am asking you your opinion as a practical man, as well as a veterinary surgeon, whether you think it would be possible to attempt the compulsory slaughter of all animals showing signs of tuberculosis?—Yes, it would be possible.

7980. And desirable?—Hardly.

7981. There the practical man comes in?—I do not hold the opinion that tuberculosis in the human subject is attributable entirely, or even in a very large degree to tubercle being conveyed from the animal, either by milk, or by meat. If so, then so far as

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Ireland is concerned the statistics in Blue Books would tend to show the relationship, but such does not appear to be the case. By referring to the Reports for 1895 issued by the Registrar General for Ireland, it will be found that there is far more tuberculosis in large cities than there is in the country, yet there are a smaller number of animals there; but then we find also that the housing of the people, and the sanitary arrangements there are much worse than in the country. I think that there is a great tendency to spread tuberculosis owing to the congregation of people.

7982. (*Sir Richard Thorne.*) The Chairman has just reminded you that you have given us, as a mere opinion, that from 15 to 20 per cent. of swine in Ireland were affected with tuberculosis; could you give us any corresponding figure as to your opinion with regard to the bovine race in Ireland?—No, I can give you nothing more definite than what I have already mentioned.

7983. In the figures that you did give to us, did I rightly understand you that they related to investigations that were limited solely to the thoracic viscera? I think I am correct in saying, yes.

7984. In speaking of hares and rabbits you used these words, "they were affected very much," what is the basis of your experience as to hares and rabbits?—Do you mean the number that I have had submitted to me?

7985. Yes, you are speaking in very strong terms when you say they are "affected very much"?—Yes, in many that I have had sent to me I have found generalised tuberculosis.

7986. Should I be right in supposing that those animals were sent to you because they were diseased?—They were sent to me because deaths were taking place in certain districts; the deaths were so numerous that those specimens were sent to me to know what was the cause of their death.

7987. Were they specimens of those who had died, or were they living specimens when they were despatched?—They were specimens who had died, or were dying, and had been killed.

7988. That would hardly be a criterion of the whole mass of hares and rabbits would it?—No. I think you will remember that I distinctly mentioned that I knew it was prevalent among hares and rabbits because I had had them sent to me for examination and report.

7989. (*Chairman.*) Do you know anything of the nature of the ground from which they came?—One place was an island, rather hilly with rock.

7990. I mean was it a warren?—Yes, and it very nearly cleared all out of that place.

7991. There was a very heavy stock on the ground, no doubt?—Of rabbits, yes. With reference to pheasant runs, there is one pheasant run where the percentage of deaths ran somewhere over 40. They eventually shot all off and ceased to restock with pheasants for two years; then they restocked again and they have not had any more cases. But I may go further, there was no case of tuberculosis among the cattle on those premises that I ever heard of, neither were there any cases amongst poultry generally—it seemed to confine itself to the pheasant run.

7992. (*Sir Richard Thorne.*) I notice that as regards meat, your opinion is that only carcasses affected with generalised tuberculosis should be condemned as food supply?—Yes, that is the opinion I have expressed.

7993. If that were carried out would there be much hardship in the case of the butchers in Ireland, do you think?—I do not think the butchers in Ireland are wishful to deal in that class of stock. There was at one time a trade which was known as the "piners" trade; but from recent information that I have obtained, it would appear that trade is no longer worth carrying on.

7994. I should not be far wrong, I suppose, in assuming that compensation in such cases would rather tend to keep up what you call the pinner's trade?—No, it would not.

7995. Not if the piners were compensated for?—No.

7996. Why not?—The piners in Ireland, as far as I know, have come from districts where a large amount of milking takes place—milking for creamery purposes. If a cow does not come up to a standard quantity of cream it will not pay the owner to continue to feed her for the sake of letting her run down to a pinner so that he may sell her. He generally gets rid of her as soon as she ceases to produce her milk of cream standard. Another reason: the development of the foreign meat trade has extended so far that it is cheaper to use good foreign meat for such purposes as the piners were used. Another reason: the forwarding of piners from Ireland to the places in Great Britain where the best markets obtained was carried out under insurance. An animal was put on board and it had either to walk off or an insurance was to be paid for it. The companies have ceased that insurance now, so that if an animal is placed on board as a pinner it is carried at the owner's risk, and the owner knows very well that it is not a very good risk to take, even in view of a better price at the other side of the channel. The value of a pinner in Ireland, at the present time, has run down to about 3*l.* to 5*l.*, but 12 to 15 years ago the very same animals were 7*l.* to 9*l.* It paid, in those days, to deal with piners, because a shipper would be compensated, say to the extent of 50 per cent. more than what he paid for them, therefore, if he took a pinner on board and during the voyage it fell down, was trampled on by its mates, and could not walk off again, he made his profit. I am now informed, after inquiry from various ports in Ireland, that the pinner trade has decreased all round, and a better class of old cows is being exported, but amongst this lot of old cows there are certainly some who are wasters.

7997. Then the pinner trade has practically ceased to exist because it does not pay?—That is so.

7998. We have had a number of gentlemen before us, who, with the view of discouraging the sale of piners have told us that, although they asked for compensation, they do not think compensation ought to be given for any animal of the bovine race if the price was less than some 8*l.*, and I think one witness even went as high as 10*l.*; would that be your opinion?—No, it would not. If the desire is to get rid of tuberculosis in any district, then we must get rid of the pinner, because it is a centre of disease. It would be better to take the pinner and pay for him the market value, that is from 3*l.* to 5*l.*, according to the state of the carcass and to destroy it, than to allow it to be disposed of, dressed so that it would be hardly observable, or cut up and retailed as sausage meat. These piners are not only exported from Ireland, but they are sent from various parts of England to other parts of England; and they are sent from various parts of Scotland to other parts of Scotland, chopped up as sausage meat. Piners in the form of sausage meat or "mince" finely cut up, through a fair proportion of good-looking healthy lean meat is mixed, cannot, so far as I am aware, be readily detected. Sometimes this mince is sold as sausage, at other it is disposed of in bulk, perhaps 10, 14, or 16 lbs. Consequently, if tuberculosis as a meat danger is to be dealt with, the pinner should be bought off the market.

7999. Then it comes to this; you would advise the State to buy up all the bad diseased animals in the Kingdom, and to go on doing so?—It appears to me that the first best step is to get rid of tuberculosis by taking them off the market; they have a market value.

8000. You say in your proof that compensation should be reduced when the same person appears on two or more occasions as the owner of a tuberculous animal; suppose a man year after year the owner of piners, according to you now, you would compensate him, but in your proof here you say you would not treat him so if he did it more than once?—Yes, that is my opinion; if I find a man is making a trade of it. My idea is to stop it being made a trade of; but

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if it becomes a hardship, if a man unfortunately has got four or five of them on his premises and he must clear his herd of them, I think it is advisable to take them from him, and pay him compensation for it.

8001. (*Mr. Murphy.*) Can you tell me whether swine also become piners as well as bovine animals, owing to tuberculosis?—Yes, I have seen what would be considered wasting swine, but the life of the pig is much shorter than that of the larger animal. Pigs are matured quicker, and they hardly ever come down to the stage which in the bovine race we should regard as piners.

8002. We were told the other day of the loss stock-owners suffered owing to their animals becoming piners; would you wish me to understand that in the case of swine the loss would be relatively much less from that cause?—Yes, as piners. I know that from a certain port in Ireland there is a large shipment takes place of a class of swine which probably has been regarded as the piner. They are called old swine and stags; those are swine which are apparently healthy, but are bad feeders and will not put on flesh. Very often those are regarded as piners; they are called piners because they are so much like the bovine species. But I have seen some cases where a sow, for instance, has been a large milker, and has brought up several very large litters of swine, where she has been over-milked and her constitution has been reduced so that after infection with tubercle she has become a piner; but then that is a sow which has been kept for breeding purposes a much longer period than the ordinary pig is kept, I mean one which is intended for the knife.

8003. Are efforts made by the owners of swine to eradicate tuberculosis?—I do not think the owners of swine, as owners, generally recognise the presence of tuberculosis amongst the swine, to a very large extent. I must admit that before we commenced to deal with swine-fever. I had not any idea that tuberculosis was so prevalent amongst swine as I have found it out to be; it was quite a revelation to me. I thought that only a small percentage of swine suffered from tuberculosis.

8004. If all the swine were killed in public slaughter-houses, might we assume that a number of carcasses would be seized and condemned, which are now distributed to the public?—It would depend entirely upon the rules that were adopted in the abattoirs.

8005. That would bring the owners of swine to the necessity of considering what should be done to eradicate tuberculosis from the swine?—Yes, that would be a question for consideration.

8006. Has any suggestion ever been made to use tuberculin in connexion with the tuberculosis of swine?—Not that I am aware of; I have never seen any case.

8007. Have you any personal experience of the use of tuberculin?—I have never used tuberculin; and I have not been present when it has been used.

8008. Would you, yourself, wish to see tuberculin used for the purpose of eradicating tuberculosis from cattle?—I think it would be desirable. But I think its use ought to be under control.

8009. Why do you say that?—Because, in view of the possibility of having to deal with tuberculosis as a disease, steps should be taken to collect all the information obtainable bearing on the prevalence of the disease and the use of tuberculin both by whom and the ultimate end obtained.

8010. So that you would wish to see the use of tuberculin entirely in the hands of a public authority?—Under supervision.

8011. Do you think it would be well for some public authority to give to stock-owners opportunity for using tuberculin?—I think it would be advisable.

8012. By providing them with the services of a veterinary surgeon and with the material?—That is another question. I do not know whether they ought to be provided with a veterinary surgeon and with the material. Probably, if they wished to have the use

of it they could, on payment for the services of a veterinary surgeon and for the material.

8013. The veterinary surgeon to be the servant of a public authority?—Yes, the servant of a public authority.

8014. You thought that compensation should be given for animals obviously diseased with tuberculosis, if those animals were seized?—Yes.

8015. Is that recommendation limited to dairy cattle?—No.

8016. I understood you to say that compensation should be equivalent to the market value of the animals as tuberculous animals?—Yes. You see I have already suggested that there is a value for a piner as a piner.

8017. If all animals were killed in public slaughter-houses the value of the animal would be the chance of its flesh being permitted to be used for food; is that so?—It would not come that way at all, because if the authority at the slaughter-house condemned it, as unfit for food, and ordered it to be destroyed, he would then endeavour to put its value down as nil, and the result would be that the piner would not be brought into the abattoirs.

8018. But if it were required that all animals should be killed in public slaughter-houses where they could be inspected, that is practically what it would amount to?—The condition of the carcass would show whether the animal had generalised tuberculosis to any great extent, or localised tuberculosis. A generalised tuberculous animal that was in poor condition would be the one that would be regarded as a piner.

8019. Would an animal, being obviously diseased with tuberculosis, have any value, except such value as might be obtained in the slaughter-house; it would not be used for breeding, I take it?—No, a bad piner will not breed, so far as I am aware.

8020. So that its value is the amount really which it would realise in the slaughter-house?—Yes. They get at the rate of about 1d. a lb. now, and they used to get at about 4d. or 6d.; that was for sausage purposes and mincemeat.

8021. Those animals are not killed where the meat is inspected, I take it?—Not on all occasions, but there are occasions when those animals are killed where they are inspected.

8022. In public or in private slaughter-houses?—Sometimes in public and sometimes in private slaughter-houses. It is quite possible to dress a carcass so that he would have to be a very clever man who would be able to detect that it was a tuberculous animal.

8023. You would hardly regard the inspection as worth anything that passed an animal on the ground that it had been skilfully dressed?—I am talking about these inspectors without technical veterinary tuition.

8024. You mean that the inspection is an inadequate one?—Certainly. There are plenty of dressers of carcasses now who would dress it, so that some of the inspectors who are at present engaged as inspectors, would be quite unable to tell that it was a tuberculous carcass.

8025. And for that reason you would wish to see the inspection of meat put upon a better footing?—Decidedly so.

8026. Have you thought of a system of insurance in connexion with the public slaughter-houses with a contribution by the vendor and purchaser to a common fund?—No. I simply make the suggestion.

8027. You were saying that you thought that the smaller number of swine which become piners is due to the fact that they are killed earlier in life than the bovine animal is?—Yes.

8028. May I understand that the longer a cow is kept for the purposes of supplying milk the more likely she is to become tuberculous, and to become a piner?—Yes, that is my opinion.

8029. The interest of the stock owner at the present time then is to send the cow to the butcher before she

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becomes a pinner?—Certainly, he will get more for her.

8030. Would not compensation retard the early killing of animals, and lead to larger numbers being kept until they become piners?—No, because a man would lose by it; the longer he keeps the animal the less value his animal is likely to be.

8031. But you are proposing to lessen that loss by compensation?—Yes, but the compensation that I propose is so low that it would not pay a man really to hold his animal over until he would get 3*l.*, whereas he would very likely get 5*l.* or 8*l.* if the animal was sold as an old dried cow. We are speaking of dairy cattle now of course. As soon as a cow ceases to milk he would send her into the market instead of holding her over and letting her carry another calf, and milk again, and so on year after year, until she was six or seven years of age. Such used to be the practice at one time. When a milking cow becomes infected with tuberculosis she rarely, if ever, is able to cast off the infection. Continuous milking and pregnancy materially lower the constitution. When such a cow belonged to some poor person her system was not fortified with such feeding as might assist her to recuperate; nevertheless the practice was to take as many calves and draw as much milk as possible, and eventually, when a pinner, she was sold at a pinner's price. The remarks I made with reference to the piners only a moment ago show that it does not pay. They used to be able to get a sum of money for them, until the opposition of the foreign meat trade, until the creamery development extended, and until the shipment insurance was dispensed with. But now the pinner's value has decreased materially, and the pinner's value is the sum that I propose to pay for this class of animal. This step will act as an incentive to bring such cases under official notice, but would not be a compensation sufficient to make it good enough to trade in.

8032. (*Chairman.*) But you are basing your opinion entirely on present prices?—Certainly, that is the case.

8033. If there was a rise in prices, would not the old conditions return?—I do not think it would cause a rise in prices.

8034. I say if anything should cause a rise in prices the old conditions which encourage the trade in prices would return; that is obvious?—I do not foresee anything that would cause it.

8035. (*Mr. Murphy.*) You are recommending the general adoption of the system of killing in public slaughter-houses, and a system of improved inspection of meat?—Yes.

8036. That would have the effect in a very large degree of reducing the value of the prices?—Yes.

8037. Would that not, itself, be a reason that would tend to the earlier killing of cows, so as to prevent their becoming piners?—It would tend in that direction.

8038. (*Mr. Cooke-Trench.*) I observe that you have given us statistics of cattle killed from 1888 to 1893 for pleuro-pneumonia and in-contact cattle?—Yes.

8039. And that you have found the percentage of those that were tuberculous to be five?—Yes.

8040. Might that be taken as a fair indication of what was general throughout the country?—Yes, on re-consideration I think it might.

8041. Now, as regards these piners, you say the number killed has greatly decreased; what becomes of the piners now?—Some of them are turned into sausage meat, and distributed as such, and some of them are sent over here as dressed carcasses to suitable markets. The observations I am making now are chiefly with regard to Ireland.

8042. Do I understand you to say then, that it is not that there are fewer piners, but merely that the price obtained for them is less than it was?—I believe there are fewer piners than there used to be.

8043. You think there are fewer piners?—I do think so. We do not see so many in the market as we used to see.

8044. Cows are killed earlier than they used to be, that is what it comes to?—They are.

8045. I do not think you were asked this question. Would you be in favour of abolishing private slaughter-houses?—As far as possible.

8046. Have you considered how far that is possible?—No, I have not.

8047. Have you any idea of the number and extent of private slaughter-houses in Ireland?—No; I have no statistics.

8048. Is it within your practical knowledge that there is one in pretty nearly every village, and several in every town?—I daresay there is one in pretty nearly every district. I hardly like to say every village. I know that in some districts the slaughter-house is in the town, and that the food is distributed by carts; on certain days they go round with their supply of meat, and sell it in the villages. I might also add that I do not find the village people in Ireland are large users of meat as a diet.

8049. Assuming that it is impracticable to shut up all these slaughter-houses at once, would you advocate an improved system of inspection?—Yes, so far as practicable.

8050. You have said already that it is possible so to dress a carcass that it makes the detection of tuberculosis almost impossible?—Yes.

8051. Therefore, to have any really effective inspection somebody must see the animal almost killed—must see it quite fresh?—Yes, both the thoracic and the abdominal viscera should be examined in a fresh state.

8052. To have that done by veterinary surgeons all over Ireland, under existing circumstances, you would require a very large army of veterinary surgeons, would you not?—Yes, if all Ireland had to be dealt with at once.

8053. Do you not think that under those circumstances, it would be of very great value to have a primary inspection by some intelligent body of men who could be more or less taught their business, and who would report on every suspicious case to a veterinary surgeon?—I think the reporting of a suspicious case would be quite possible within the hands of the owner. I would make it compulsory.

8054. You would have a compulsory notification of the disease?—Yes, by them.

8055. But if there is a very heavy loss to follow that, would that not be likely to deter the owners from making such a report?—If there were a very heavy fine inflicted for not doing it, I think it would make them inclined to report their cases rather than to keep them hidden.

8056. Do you not think it would be valuable to have a body of men who could inspect these slaughter-houses, both as to the condition of the houses and as to the meat, though they are not veterinary surgeons, and whose business it would be to report to a veterinary surgeon?—You mean, so that the responsibility would not be on this lay inspector?

8057. That the final responsibility would not be on him, only that he should be there to report anything that he saw suspicious?—Yes.

8058. Would the Royal Irish Constabulary, do you think, be a suitable body for that purpose?—I do not think that body would be available.

8059. Why?—Because they have now for some time been considering the propriety of reducing the number of the Royal Irish Constabulary; they have taken steps and they are dispensing with, and will do for the next few years all men that they can possibly dispense with.

8060. That rather implies that they have not enough to do, I suppose?—That rather implies that they are spending too much money in Ireland on the Royal Irish Constabulary, and the Treasury wants to curtail the expenditure.

8061. Supposing that they were available, can you suggest any other body of men of equal intelligence scattered all through the country, most of them being drawn from the agricultural classes themselves?—I believe that if the Royal Irish Constabulary were available, and an arrangement could be made between the constabulary and the authority empowered to deal with tuberculosis, they would be as suitable as any.

8062. If inspection and condemnation of cattle and of dairies is to be carried out, do you think that poor law boards are suitable bodies to do it?—No.

8063. Or any other elected bodies that may take their place hereafter?—No. If that work has to be done, it will have to be by central authorities, similar to those which dealt with other now extinct diseases in Great Britain and Ireland.

8064. You think it must be done under Imperial authority?—I do, if it is to be done effectually and economically.

8065. I think in your *précis* there is a note that all cows with generalised tuberculosis or tuberculosis of the udder, should be removed?—Yes, that is from dairies.

8066. That will require a constant inspection of dairies, will it not?—It will require a periodical inspection of dairies, but I do not think it will be necessary to inspect dairies so frequently as has been intimated by some.

The witness withdrew.

Mr. JAMES McINNES SINCLAIR called and examined.

Mr. J. M. Sinclair.

8075. (*Chairman.*) You are Superintendent of Exports for the Victorian Government?—Yes, I am the Representative of the Victorian Agricultural Department in Great Britain.

8076. You have something to tell us about the prevalence of tuberculosis among cattle in Victoria?—Yes; I had a conversation with the Secretary a few months ago, and I found that he was in possession of all our published reports up to the end of last year, but I offered if he liked to obtain a report right up to date from our Stock Inspector. I wrote out to the Department of Agriculture, and had this report sent to me which gives the returns right up to the 12th April of this year. If you like I will read this, and then afterwards, you can ask any question, it is not very lengthy. It is from the Chief Inspector of Stock for Victoria to Mr. D. Martin, the Secretary for Agriculture, who sent it on to me:—"I have the honour to submit the additional information in connection with my report of the 2nd November last, as requested by Mr. J. M. Sinclair, Superintendent of Exports, London, in his letter of the 5th March last. The particulars Mr. Sinclair asks are (1) Facts and statistics to show that tuberculosis, as stated by me, is lower in Victoria than in any other country in the world; (2) How many animals have been slaughtered under the Stock Diseases Act for tuberculosis; and (3) How many for other diseases. Concerning the first of these questions I respectfully beg to say that inspectors are now required to make closer examinations for tuberculosis than they did a few years ago, and this fact is borne out by the statistics recently taken at the city abattoirs which shew that tuberculosis has decreased by about one-half within the last 12 years. In the years 1884-5, the Victorian Tuberculosis Board reported that 7 per cent. of all cattle tuberculosis in some degree, and in the year 1896 fresh statistics were taken which showed that only 4 per cent. of all cattle were now affected, a decrease of 3 per cent. As regard the amount of tuberculosis found in the suburban slaughter-yards, I may state that at Braybrook—that is one of the slaughtering places for Melbourne—over one dozen private slaughter-houses are there, and a duly qualified officer has been supervising these for the last six months. This gentleman informs me that the

8067. How often would you think sufficient?—I should think once a month or once in six weeks would be quite ample. Tuberculosis is not like foot-and-mouth disease, which appears within a few hours.

8068. Is a diseased udder a thing easy for clinical diagnosis?—Yes, I think so.

8069. Therefore such a body as the constabulary, if we could get hold of them, would be competent to make the primary inspection?—I should think they would be able to tell whether an udder was in order or not with a very little tuition.

8070. How far would you carry that inspection of dairies—I mean to what class of dairies?—Any dairy that was providing milk for public consumption.

8071. Would you consider a dairy providing milk for labourers on a farm to be providing milk for public consumption?—No.

8072. Would you limit it then to the inspection of what are known as registered dairies?—Yes.

8073. You would not extend it to private dairies in any case?—No, not at present.

8074. Not at present?—That might be necessary a little later on. I think the first thing to do would be to get rid of the worst cases, then the others might be dealt with later on.

"percentage of tuberculosis is not any greater there than at the City Abattoirs, namely, 4 per cent.; but of this percentage only 1 per cent. of carcasses are condemned as absolutely unfit for human consumption. Here then, we have reliable evidence that tuberculosis in this Colony has decreased to the extent already stated. As regards the inspection of dairy and other cattle, I find that for three years ending 30th June 1896, no less than 1,734 cattle were slaughtered by the officers of this Department, and their carcasses burned or buried under supervision, without compensation. The number of cattle inspected within that period, of which the above number of slaughtered cattle formed a portion was 1,024,800 head, and of this number 348,328 were dairy cattle. Of the 1,734 cattle destroyed, 960 belonged to dairy herds, more than one half. The following is a return of the cattle inspected and destroyed respectively for the years 1894-5-6:—

" Year.	Cattle.	Number inspected.	Destroyed on account of tuberculosis.
" Year ending June 1894	Dairy	119,450	315
" Ditto - - -	other	194,373	276
" Year ending June 1895	Dairy	108,169	325
" Ditto - - -	other	236,651	269
" Year ending June 1896	Dairy	120,709	320
" Ditto - - -	other	245,448	229
		1,024,800	1,734

"I may here remark that the percentage of disease found in live stock must necessarily be much smaller than that found at abattoirs in carcasses. In my report of 2nd November last,—the Secretary has got that report, it is the previous one—"I based my calculations upon the recent statistics obtained at the city abattoirs and upon the conclusions arrived at by the Tuberculosis Board (see their report of 1885, page 6). The statistics given in my report show more clearly the extent to which tuberculosis prevails in this Colony, and it is to be borne in mind that by careful slaughter of all affected animals on farms, and the burning of carcasses by owners them-

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"selves and by inspectors, the disease will be kept in check and I trust rapidly decrease under such energetic and well directed measures. The next point contained in Mr. Sinclair's questions is: to show that tuberculosis is lower in this Colony than any other civilised country. If we take the latest statistics of some of the leading countries in Europe, where the abattoirs are under special and qualified supervision, we will find that the percentage of tuberculosis is very much greater in these countries than in this Colony. For instance, in Saxony (1893) at the abattoirs 18.26 per cent.; Copenhagen (1891) 16.60 per cent.; Berlin (1891) 12 per cent., and upwards; England 22 per cent. and upwards. In France some districts are entirely free from tuberculosis whilst in other parts there is no less than 25 per cent. It will thus be seen that the herds of this Colony are freer from disease than any other herds of the countries above quoted, and certainly, if not freer than the herds of any other part of the world, will bear most favourable comparison. As regards the practical work that has already been done in this Colony in bringing about an extensive decrease of tuberculosis, as evidenced at our abattoirs it is an important fact in this connection that owners of cattle in these Colonies do not place any value upon a diseased beast, and that they readily consent to its destruction, knowing that the animal is valueless, and that compensation is not provided for by law. If the law did provide compensation many owners would not destroy their cattle so readily, but would prefer to wait until assessment was made and in the meantime disease would be getting a firmer footing through delay that invariably takes place in connection with all such matters. Animals found by inspectors to be diseased, are, with the consent of the owners, destroyed and opened on the spot, or as the nearest convenient place in the presence of the owner or his agent, and the diseased parts exposed, and this plan has had a highly educational influence on owners getting rid of disease themselves. In doubtful cases of disease we have found that isolation, where practicable, and further examinations, lead to the establishment of a correct diagnosis, but I am of opinion that the tuberculin test in certain of such cases would be of still further assistance, and this department has already adopted this plan in some instances."

8077. What do the inspectors rely upon in testing the herds of milch-cattle as described in the report?—That, I could not tell you at all; but the inspectors are duly qualified veterinary surgeons.

8078. Do they rely entirely on the appearance or do they use tuberculin?—They use tuberculin as far as I am aware.

8079. But you are not quite sure about it?—No, that I am not sure of, but I am pretty well certain of it. "Coming now to other diseases and the numbers of cattle destroyed, the reports of inspectors show that pleuro-pneumonia is occasionally met with, chiefly in cattle that have been introduced for fattening purposes." We have cattle driven across from Queensland and New South Wales to Victoria to fatten—what we call store cattle. They are very often driven distances of 1,500 miles, and we have slight outbreaks of pleuro-pneumonia in these sometimes, but nothing of consequence.

8080. It will not be necessary for us to go into that question, will it?—You do not want anything in regard to these other diseases?

8081. Merely in regard to tuberculosis?—"In reference to infections and contagious diseases, I may here add that our schedule contains, in addition to all the diseases dealt with under the English Contagious Diseases (Animals) Act, the diseases known as tuberculosis and actinomycosis. It is now four years since you directed that the inspectorial staff should give especial attention to the dairy herds as regards these two diseases and the results, I think, conclusively show that good work

"has already been done. In conclusion I have the honour to further add that this Colony still continues to be particularly free from all infectious and contagious diseases, if we except the slight percentage of tuberculosis above shown, and the mortality both in sheep and cattle, which comes as a result of abnormal seasons, and not as a result of infection or contagion."

8082. I am hardly prepared to ask you questions upon this letter at the first hearing. As I understand it, the slaughter in the cases of the diseased animals was without compensation?—Yes, that has been in force for many years in the Colony. It originated at first in connection with the Scab Act—when there was scab in sheep they had to destroy their flocks wherever it was found; and then it was continued on in pleuro-pneumonia.

8083. Is that felt as a grievance?—Not at all, I never heard a protest against it anywhere. I have been a stockowner myself for 25 years and was intimately acquainted with the whole of it, but I never heard a protest against it. Everyone recognises that it is for the benefit of all, and that we are able more speedily to get rid of the disease.

8084. Can you tell us anything about the inspection of meat for export from the Colony?—At the present time other Governments are taking action in the same direction, that is to have all their meat inspected after killing prior to export. We have the flocks inspected as it is—both the sheep and the cattle; but now we have attached to the Government Department a Dr. Brown, who examines the carcasses of mutton prior to their coming over here.

8085. You say he examines the carcasses, but he does so by means of his inspectors, I suppose?—Yes, and by personal inspection also.

8086. Is it possible for one man to examine all the carcasses exported from Victoria?—He can do so because the bulk of them pass through the Government Cold Storage Depot.

8087. Have you any figures to show the numbers?—I am sorry that I did not know I was to be asked that question. I have got them all in my office.

8088. They are very large?—Yes, very large.

8089. How many carcasses could one man inspect in a day?—That I could not tell, I am sure. Of course he undoubtedly will have assistance, but he is there in attendance all the time himself.

8090. Then when a carcass is inspected and passed, is it marked?—Yes, we put the Government stamp on the linen wrapper of the meat. At the present time there is an Exports Bill being dealt with by the Parliaments of all the other Colonies to work on the same lines as Victoria, which took the lead in this respect. We have Government inspection for butter also, and they are going to do the same thing in addition to meat.

8091. Do you know what principles guide the inspector in condemning a carcass, and to what extent tuberculosis must be present before he condemns it?—No, that I could not say.

8092. (Mr. Cooke-Trench.) Cattle that are driven across the country for slaughter have been fed in large herds, I presume?—Yes.

8093. Have they ever been tied up?—No, never. The cattle are never stall fed at all, and, in fact, I believe that accounts for their freedom from different diseases.

8094. Have you ever seen the tuberculin test applied?—No, I have not.

8095. Then you can give no opinion whether it would be possible to apply it under those conditions?—I had a conversation with Dr. Salmon, of Washington, when there two years ago, and he told me about their system. Of course the destruction of cattle is not compulsory there at all, but this tuberculin can be obtained by any farmer throughout the United States by writing for it.

8096. (Chairman.) That was hardly Mr. Cooke-Trench's point, which was the difficulty of applying the test to animals in a semi-wild state, as I under-

stand?—I may state this opinion, that in their natural state in the back country tuberculosis is an unknown disease; in fact, in my own part of the country, in the northern areas of Victoria, tuberculosis was unknown.

8097. (*Mr. Cooke-Trench.*) You have stated very fairly that you did not know that it ever had been applied?—No, I do not.

8098. (*Mr. Murphy.*) Do swine come over in any quantities from Victoria?—No, we do not export many here at all; it is mostly an Eastern trade with India and the East and South Africa in the form of ham and bacon.

8099. Do you know whether you are troubled with tuberculosis in swine?—I have never heard of it among the hogs at all.

8100. Is compensation given for other bovine maladies when the animals are required to be slaughtered?—There is no compensation for any animals that are suffering from any of the diseases enumerated in the Act; no compensation whatever.

8101. So that tuberculosis is treated just as all the others are in that respect?—Just as all the others. I recollect bad outbreaks of pleuro-pneumonia some years ago, and I have known single individuals have to destroy 50 or 60 head of them at a time, but no compensation whatever was given. When the last gentleman was giving evidence here, there was a question put to him in regard to using the police as inspectors in different districts. That is done in Victoria in the outlying districts, and the burning of the animals is generally carried out under the inspection of a mounted constable. The constable is generally in a country district the inspector of the slaughter-houses. The slaughter-houses have to be all licensed, even the private ones there, and they are all liable to inspection. These constables are mounted and they ride about in all the country districts and inspect them.

8102. You are not thinking that the fact that compensation has not been given has been any reason for the maintenance of tuberculosis?—I think if you go in for compensation you will never get rid of it.

8103. Will you kindly tell me why you think that?—Because the people, as long as they can get something for their animals, if they can only get the actual value of an old animal, are not going in for its destruction; they are not going to take the same precautions in regard to it.

8104. So that you think if some public authority over here compensated for the piners that would rather tend to perpetuate the existence of this disease?—I think so. I think it is something like the bounties in regard to the destruction of the wolves in the back states of America; where there were reported instances of people breeding them.

8105. By whom is the inspection of the meat made that is sent over here?—By inspectors appointed by our Government.

8106. Are they veterinary surgeons?—Yes.

8107. All of them?—All of them.

8108. Have they passed examinations and received certificates?—I should say so; the are all qualified veterinary surgeons or doctors, and so also are the principal stock inspectors of the country.

8109. Are they salaried officers?—Yes.

8110. Paid by the Victorian Government?—Yes.

8111. Do you know what salaries they receive?—No, I do not, but I could tell by reference to our Victorian Year Book, which I have not here. There are numbers of copies in London, and you can get all that information.

8112. It would be interesting to have it if you are able to supply it?—I could send the Secretary a copy of the book, and I can fill in the figures here.

8113. You said some of these animals are killed in private slaughter-houses?—Yes.

8114. Would some of the meat that comes over here be killed in private houses?—None of it.

8115. Is it all killed in public slaughter-houses?—They are all killed in the very large freezing works, which have all got killing places attached.

8116. May I take it that every carcass is examined, or that only a certain proportion of them are examined—that they are sampled in fact?—The sheep are all inspected prior to killing, and now they are inspecting also all the carcasses after killing.

8117. You hear very little of tuberculosis in sheep?—I never heard tell of it.

8118. But that is a disease that is specially looked for in the carcasses of the cattle that are killed?—Yes; the only disease I have known in the Colony in sheep is "fluke," and there is very little of that. You get that in the marshy country, the same as you get this tuberculosis in the marshy regions; but there is very little of that—you may get it in the neighbourhood of a swamp.

8119. How are the animals killed; are they pole-axed?—The large cattle are killed with a spear.

8120. Pithed?—Pithed.

8121. And then cut up in the ordinary way as over here?—Yes.

8122. You have seen animals killed, perhaps, in a slaughter-house in England?—No, I have not, but I understand the system is much the same.

8123. At any rate, you have seen the work carried on over there?—Yes.

8124. Are you satisfied that it is carried on in such a manner as to give every opportunity for the inspection of the animals?—Undoubtedly so.

8125. So that you would not have any hesitation in relying upon it as an adequate inspection?—I have not the slightest. This inspection is going to take place in all the other Colonies also in order to give the British consumer a guarantee that he is getting everything in sound and good condition and free from disease.

8126. But it is not done now in all the Colonies?—Not in all the Colonies.

8127. Might I ask in which Colonies it is done?—Victoria takes the lead in it; I believe New Zealand also does the same thing, or is on the point of doing it, and South Australia is following; in fact, the Bill is being introduced by the New South Wales and Queensland Governments also.

8128. Will that bring a uniform administration into the Colonies?—Yes, it will. There was a conference of the Ministers of Agriculture of the various Colonies within the last four months to deal with this question; they had the conference in Sydney in order to agree on the provisions of this new Exports Bill, which is on the basis of the Victorian one. The subject was brought up also at the Federal Convention recently sitting to formulate a basis for the Federation of the whole of the Colonies.

8129. So as to introduce a common system?—Yes.

8130. Have you any knowledge of America?—Yes, I spent six months travelling in the States, Canada and Manitoba, not long ago, and also in the Argentine Republic.

8131. Did you study the methods of the inspection of meat over there?—I visited very large packing places—the meat killing places in Chicago, Omaha and other places. I saw that, but I did not see the inspection carried out.

8132. So that you would not be prepared to give any evidence on it?—No; in fact I saw what was, I considered, very unsatisfactory in one of the large places that I went to; that was the putting up of the meat—the canning of the corned beef. It was what we would not permit at all.

8133. (*Sir Richard Thorne.*) I understand you to say that there is an inspection of cows in dairies which is followed by the destruction of tuberculous cows?—Yes.

8134. What right has an inspector to go in and examine these cows in these dairies?—I think you will see it specified in one of our reports.

8135. It is a statutory right?—Yes, it is.

Mr. J. M. Sinclair.

12 July 1897.

REPORT ON A VISIT TO THE BRITISH ARMY

Report on a Visit to the British Army in Belgium

Governments and Ministers

The following report was prepared by the author in accordance with the instructions of the Committee of the House of Commons on the subject of the British Army in Belgium.

It is a pleasure to state that the author has had the opportunity of visiting the British Army in Belgium, and of observing the conditions of the troops and the state of the country.

The author has been able to see the troops in action, and to observe the state of the country, and to see the conditions of the troops and the state of the country.

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APPENDICES.

APPENDIX A.

Report on a Visit paid to certain Places in Belgium, Germany, and Denmark.

We desire to submit to our colleagues the following brief report of our visit to certain places in Belgium, Germany, and Denmark, and of the general impressions we received on the matter under consideration of the Royal Commission. Our attention was devoted to the following branches of inquiry:—

- (a.) The elimination or control of tuberculosis in domestic animals.
- (b.) Meat inspection.
- (c.) Public abattoirs.
- (d.) Milk supply.

Every facility was given to us, both by the British ministers and consuls in the various towns, and also by the ministers and officials of foreign states, and the kindness and hospitality with which we were received left a most grateful impression on our minds.

BELGIUM.

On arriving in Brussels we called on M. Proost, Director-General of the Administration of Agriculture, who deputed Dr. Stubbe, Veterinary Inspector to the Department of Agriculture, and M. Vernieuve, Chief Secretary of the Department, to explain the regulations in force, as well as those in contemplation, for controlling tuberculosis, and to accompany us in the inspection of such places as we desired to visit.

M. Vernieuve informed us that the Belgian Government, having in 1890 instituted a complete system of meat inspection throughout the country, resolved, from the knowledge thus gained as to the prevalence of the disease, on an attempt to stamp out tuberculosis in cattle. The regulation, entitled "*Mesures à prendre pour combattre la tuberculose bovine*," came into force on October 30, 1895, and deals with (1) animals within the country, and (2) animals imported from abroad.

The Regulation classifies the animals as follows:—

- (a.) Animals affected with tuberculosis, as demonstrated by clinical signs or by their yielding the characteristic reaction to the tuberculin test.
- (b.) Animals suspected of tuberculosis, as shown by suspicious clinical signs or by their yielding a doubtful reaction.
- (c.) Animals suspected of being contaminated with tuberculosis from their having occupied the same shed with undoubtedly tuberculous animals.

The Regulation provides for the very extensive use of tuberculin as a means of diagnosis of the disease by authorised persons, but, except in their hands, its use is prohibited. The only animals which need not be tested are those that are shortly to be slaughtered for the meat market.

Speaking generally, it may be said that animals reacting to the test are isolated from the healthy, and only sold for the meat market, the limit of time for their slaughter being one year. Animals with clinical signs of the disease are slaughtered at once, and treated as fit or unfit for food, in accordance with the ordinary routine methods of meat inspection.

Animals in class (c) can be sold only for the meat market, unless, having been duly submitted to the test, they fail to react. But should the owner desire it, and promise to conform to certain conditions (isolation of those that react, retesting once a year, exclusion of fresh animals which react from the healthy portion, &c.), the State undertakes to test all the animals and permit their use for other purposes than their slaughter for the meat market.

The Regulation contains the following particulars on the payment of compensation:—

No compensation is given where the present regulations are not adhered to, nor when the veterinary inspector is of opinion that the cowshed where the tuberculous animals come from is in a notoriously insanitary condition.

No compensation is given for animals that have died a natural death and have been recognised as tuberculous on *post mortem* examination.

24. Compensation is regulated according to the following scale:—

A. Fifty per cent. of the value of the carcase and of the organs of animals recognised as tuberculous, if slaughtered for human consumption, when they are declared totally unfit for food by reason of the disease.

This compensation will not be given if, after a first case of tuberculosis, necessitating total seizure, the owner does not avail himself of the tuberculin test on his other cattle, under the conditions laid down in these regulations.

B. In the case of animals slaughtered by order of the authority, under articles 13 and 14, as well as the animals which have given the characteristic reaction, and have been slaughtered at the request of the owner according to the conditions laid down in Article 20.

(1.) Seventy per cent. of the full value of the carcase and organs when the animals are recognised as entirely unfit for food by reason of tuberculosis.

(2.) Twenty-five per cent. of the same value when the meat can be handed over for human consumption.

26. In order to claim compensation under paragraph (A.) of Article 24, the owner of the animal must produce—

(1.) A certificate from the veterinary expert, certifying that the carcase has been declared totally unfit for food.

(2.) A statement of the value of the animal made in accordance with Article 28. This statement should indicate the exact weight of the fore-quarters, the value per kilogram of the flesh, as well as the value of the organs.

(3.) A declaration by the local authority certifying that the flesh has been sterilised in accordance

with the regulations of the ministerial decree of the 30th April 1895; or that it has been destroyed either by heat or chemical agents.

(4.) Proof that the animal has been in the country for at least six months.

27. To claim compensation under paragraph B. of Article 24 the owner of the animal must prove—

(1.) That he has conformed to the regulations of the present decree.

(2.) That the animal has been in the country for at least six months.

(3.) That the value of the flesh and of the organs has been fixed in accordance with the regulations of the following articles:—

28. The mean between the valuation of the veterinary expert and of the expert appointed and placed on oath for this purpose by the communal authority shall serve as the basis for determining the value of the carcase and organs derived from animals to which Article 24 refers.

29. The Minister is authorised to designate experts, placed on oath, to determine the value of the carcase and organs to which the preceding articles refer.

He can also take such measures as he thinks fit to determine the basis on which the price of the carcase of animals for which compensation has been paid by the State shall be established.

The Minister orders further the course of procedure in the case of disputes which may arise in reference to the valuation of the carcase between the experts whom he has appointed and the owner of the carcasses.

30. The claims for compensation, the forms for which are placed gratuitously at the service of those interested, should be addressed to the provincial veterinary inspector within, at latest, 40 days after the slaughter.

31. In the case of the interested party disputing the nature of the disease, or the justice of a measure taken in execution of the present decree, he may appoint, at his own expense, a second qualified veterinary surgeon to make a separate examination.

In case of disagreement recourse must be had to the provincial veterinary inspector, or his deputy, whose word is final.

This Regulation has been in force for about a year, and as a result of it some 22,000 of the 1,400,000 cattle in Belgium, or 1.57 per cent., have been tested with tuberculin. Of these 22,000 about 14,000, 63.7 per cent., have reacted. It should be remembered, however, that the animals tested belonged in almost all cases to suspected herds, that is, they were tested because one or more of the animals in the shed had been found clinically affected with the disease.

Of the 14,000 reacting animals 3,000 to 4,000 were slaughtered at once, and 9,000 to 10,000 isolated.

As the Regulation provides that animals which react cannot be sold, except to be slaughtered for the meat market within a year, two-thirds of the number have been so dealt with; some of them, 10 per cent., have been totally withdrawn from consumption as unfit for human food.

About 1,000,000 francs (40,000*l.*) had been paid in compensation from public funds in execution of the Regulation during the year. The public revenue of Belgium does not exceed 15,000,000*l.*

It may be observed that, in Belgium, agriculture is by far the most important industry; farmers control the elections by their votes, and it was impossible to carry an enactment involving so much destruction of live stock without liberal provision for compensation out of the national funds.

The Government is not satisfied with the results of the measure, especially as regards the matter of compensation, and it has under consideration a new one to amend the present Regulation. The value of tuberculin as a means of diagnosis is still recognised, but since its use as a test draws no distinction between an animal with generalised tuberculosis and another with a single tuberculous nodule, it is felt that its use, for practical purposes, has considerable limitations.

In future, therefore, the Government means, in the interior of the country, to confine its operations to animals that show clinical signs of the disease only, the treatment of imported animals remaining as at present.

M. Vernieuve kindly supplied us with a draft of the new Regulation, and to this the following remarks refer.

Where an animal is found clinically affected, or has clinical signs leading to the suspicion of the disease, the veterinary surgeon must notify the case to the inspector, and any such animal must be isolated. Within a week the veterinary inspector must visit the animal notified as clinically affected, and if he confirms the diagnosis, the mayor must order, within eight days, the slaughter of the beast.

The animals with clinical symptoms leading to a suspicion of the disease can only be tested with the approval of the owner at the expense of the Government, and such animals as react must be isolated. But it would appear that there is no compulsion whatever in the matter, and the restrictions on the further use of the animals are abolished.

Compensation will probably be limited as follows:—

No compensation to be given—

- (1) where the regulations are not observed;
- (2) where the sheds are notoriously insanitary;
- (3) where the animals die from tuberculosis, or when they are slaughtered in the last stages of the disease;
- (4) where the owner has refused to have the animals marked in accordance with the Royal Decree of July 15th, 1896.

Fifty per cent. of the value of the flesh and organs (the skin excepted) of animals recognised as affected with tuberculosis at the time of their slaughter for the meat market when the carcase is totally condemned.

In the case of animals slaughtered by order of the authority as clinically affected or clinically suspected and having reacted to tuberculin:—

- (a.) For cattle ordinarily employed for breeding, and heifers intended for this purpose—

Seventy per cent. of the value of the animal, estimated as perfectly healthy, if the flesh is totally condemned as unfit for food. The limit of compensation, however, is fixed at 16*l.*—17*l.* Twenty-five per cent. of the same value if the carcase is declared fit for food. The limit here is 6*l.*

- (b.) For other cattle—

Fifty per cent. of the value of the flesh and organs (the skin excepted) when the carcase is totally condemned.

Twenty-five per cent. when it is declared fit for food.

In the case of animals slaughtered at the request of the owner, *i.e.*, animals which have reacted to tuberculin:—

- (a.) For cattle used for breeding, and heifers intended for this purpose—

Seventy per cent. of the value of the flesh and organs (the skin excepted) when the animals are recognised as totally unfit for food.

Fifteen per cent. if declared fit for food.

- (b.) For other cattle—

Fifty per cent. of the value of the flesh and organs.

It will be seen that these clauses differ from those now in force, chiefly as regards the animals slaughtered by order of the authority and those slaughtered at the request of the owner. At present there is the same scale for both; in future, in the former cases, 70 per cent., or 25 per cent. of the full value of the *animal* estimated as healthy, according to the degree of its fitness for food, will be given, while in the latter, 70 per cent., or 15 per cent. of the full value of the *flesh*.

In addition to the cost of eliminating and slaughtering tuberculous cows within the country, the Belgian Government have incurred that of establishing quarantine stations at each place where a line of railway crosses the frontier. All cattle, except those destined for immediate slaughter at Brussels, are detained for three days at these stations, and tested with tuberculin; those that react are returned to their consignors or slaughtered at the owner's risk.

We visited the quarantine station at Esschen on the Dutch frontier, which was closed entirely at the time, owing to the prevalence of foot-and-mouth disease in Holland. Usually, however, very large numbers of imported cattle are dealt with here. The buildings are constructed to accommodate about 500 head at present, and are about to be doubled in extent. The cost of this is borne by the State. The

general impression we received in Belgium was that the attempt to stamp out tuberculosis in the native dairy stock had proved too onerous to be sustained; in fact, M. Vernieuve admitted frankly that the cost was intolerable. If the internal measures against tuberculosis prove unworkable or a failure, the effect of the frontier quarantine, so far as applicable to that disease, must be regarded as superfluous and extravagant.

GERMANY.

In Cologne we were conducted over the new slaughter-house by the chief veterinary assistant, Herr Schregel, in the absence, through illness, of the Director; and in Leipzig by the Director himself, Herr Hengst. From his Annual Report for 1895 we have extracted some valuable tables on the amount of tuberculosis found in the slaughter-house of Leipzig. We had in Dresden also an opportunity of seeing the slaughter-house, but the buildings, being old, had not the same interest for us as had those in Cologne and Leipzig. We called on Herr Johne, Professor of Pathology in the Veterinary College, Dresden. We believe that the Government of Saxony has under consideration, at the present time, a law providing for state aid to a system of compulsory mutual insurance amongst farmers against the loss from seizure of an animal or carcase for tuberculosis. The whole idea of the proposed legislation is founded, as in Belgium, on the use to which the thorough system of meat inspection in the abattoirs may be put. It is suggested that whenever a case is notified from the slaughter-house the animals that have been in the same shed should be tested with tuberculin, reacting animals isolated and those that are visibly affected slaughtered.

We were received in Berlin by Lord Gough, first Secretary of the British Legation, in the absence of the Ambassador, the Right Hon. Sir F. C. Lascelles. Mr. Gastrell, the Commercial Attaché, was deputed to accompany us, and was indefatigable in his attention to our comfort and convenience. We had not the advantage of an interview with Professor Koch, who was absent in India on a mission for the German Government, but his colleague, Professor Brieger, and his first assistant, Professor Proskauer, received us at the Institut für Infektionskrankheiten. The former, who has charge of the pavilions, including two for tuberculosis, in which patients with infectious diseases are treated, showed us some cases of lupus treated, with apparently considerable benefit, by Koch's new preparation of tuberculin (T.O.). It was explained to us, however, that at present the remedy has not been tried in cases of bovine tuberculosis. We also had an interview with the President of Police, Herr von Windheim, who introduced us to the Departmental Veterinary Surgeon, Herr Wolff, who drove us to see the slaughter-house.

Meat Inspection.

In Belgium and Germany we thus had an opportunity of seeing the public slaughter-houses and system of meat inspection at Cureghem, near Brussels, at Antwerp, Cologne, Leipzig, Dresden, and Berlin. They belong to two very distinct types, known as the French and German. Those in Belgium, and the older ones in Germany, built more than 20 years ago (Dresden and Berlin), belong to the former class, while all newer ones in Germany (Cologne, and Leipzig), belong to the latter. The difference is that in the French system the slaughtering is carried out in separate small rooms, whereas in the German it is done in large halls. The German model seemed to us considerably the better of the two, as it ensures greater cleanliness, better ventilation, and facilitates the supervision over the slaughtering of the animals and the inspection of their carcases.

Associated with the slaughter-house was, in all cases, the cattle market, and both were in direct connexion with the main railway lines. On the premises of the slaughter-house are to be found also buildings for carrying out the various processes incidental to slaughtering, such as fat melting, bone boiling, gut scraping, and the extraction of the albumen from blood, &c. In all the newer slaughter-houses there are large cooling rooms.

The slaughter-houses are, as a rule, handsome buildings built of brick, with the floor made of asphalt, and the walls to a height of 6 feet rendered in smooth cement.

As giving some idea of the size of the slaughter-houses, it may be stated that the ground covered by the slaughter-house and cattle market in Berlin is nearly 30 acres.

The cost of erecting the slaughter house in Cologne, intended to supply a population of 350,000, was 287,000*l*.

All the public slaughter-houses in Germany are self-supporting. The charges imposed for their use are arranged on a scale sufficient to cover expenses of management and to defray interest on capital and sinking fund. These slaughter-house charges vary, in the case of oxen and cows, from 2 to 5 marks, calves and sheep 0.30 to 1 mark, pigs 1 to 2 marks.

This charge is distinct from that for the expert examination, which is usually for oxen and cows 1 to 2 marks, for calves and sheep 0.50 marks, and for pigs 1 mark.

The income and expenditure of the cattle market and slaughter-house in Leipzig for the year 1895 amounted to 43,532*l*. About 23,780*l*. of this was derived from the charges for slaughter and inspection in the slaughter-house alone.

Most of the individual States have passed laws enabling local authorities to erect public slaughter-houses, and to prohibit the slaughter of cattle elsewhere than in the public slaughter-house. The owners of private slaughter-houses were compensated in proportion to the real loss sustained by them as regards the withdrawal from their original purpose of the buildings and fittings.

The law on the erection of public slaughter-houses was passed in Prussia in March 1868 (amended 1881), and extensive use has been made of it; so much so, indeed, is this the case that in 1895 there were 307 public slaughter-houses. It is probable that no town in Germany with 10,000 inhabitants is unprovided with a public slaughter-house, and the number with more than 5,000, but less than 10,000 inhabitants, without one is comparatively small. In the country districts, however, but little has been done in this direction, and animals are slaughtered without any control.

It should be remembered that one of the chief reasons which has led to the erection of public slaughter-houses in Germany (more especially in Prussia) was the occurrence, about the year 1860, of numerous severe epidemics of trichinosis in North Germany, and the microscopical examination of all pigs' flesh forms, at the present day, a very important and expensive part of the routine work of inspection in the slaughter-houses.

The chief points wherein the continental system of inspection differs from the chaotic equivalent to a system in Great Britain are:—

- (1.) The inspection is conducted entirely by trained veterinary surgeons, who work on recognised and uniform principles, thereby avoiding the uncertainty and irregularity so bitterly complained of in Great Britain and Ireland.
- (2.) The slaughtering and inspection is carried out very largely in public slaughter-houses provided by the municipalities, and all fresh meat that is introduced into the cities from outside must undergo an expert examination.
- (3.) Carcases passed by the inspectors are stamped in various parts; those in which disease is detected are sent for examination by the chief veterinary inspector, who uses his discretion in (a) ordering them for destruction; (b) directing what parts of each carcase may be sold on the "Freibank" either in the raw state or when sterilised; and (c) passing for the market such carcases as he may consider not so extensively diseased as to be unfit for consumption.

It is held in Germany and Belgium that the task of determining whether meat is fit for human food or not appertains to veterinary rather than medical science; and in all veterinary colleges meat inspection forms a branch of study for students in their last year of attendance, and they must show an adequate knowledge of the subject in their final examination for the diploma in veterinary science.

What has been said of Germany as regards the erection of public slaughter-houses and the inspection of meat by qualified veterinary surgeons might stand almost equally well for the condition of things in Belgium. The Law on the Adulteration of Food Stuffs, passed in 1890, imposes penalties, among other things, for the sale of meat that has not been certified as fit for food after an expert examination, and this law is applicable in country districts as well as in towns.

The Royal Decree of 10th December 1890 deals with the organisation of the veterinary service throughout the kingdom, and the Regulation of 9th February 1891 contains explicit instructions regarding the procedure to be adopted by the veterinary surgeon in the slaughter and inspection of animals for the meat market.

But since in Germany and Belgium there is not a sufficient number of veterinary surgeons to undertake the whole work of meat inspection, and seeing that there is a good deal of routine work which it is unnecessary for them to do, both countries have had recourse to appointing empirical inspectors to act under the veterinary surgeon. This point is most easily understood from the regulations in regard to it passed in Belgium, and the following description applies more particularly to that country :—

Paragraph 2 of the Regulation of 9th February 1891 states :—

2. In localities where one or more veterinary surgeons live, or in localities immediately bordering on them, the duties of the expert inspector are to be placed by preference in their hands.

If the duties of an expert inspector are not placed in the hands of veterinary surgeons, then those who are appointed must fulfil the conditions laid down by the Minister.

3. When the expert inspector, who is not a veterinary surgeon, meets with an abnormal condition, he must summon, without delay, the intervention of the veterinary surgeon charged with deciding in such cases, and must inform at the same time the burgomaster, who shall take the necessary measures.

In a certain number of abnormal cases, however, determined by regulations, the unqualified inspector can act on his own responsibility.

These conditions, as determined by a decree of 25th February 1891, are that the empirical inspectors must have passed an examination, both theoretical and practical, in the following subjects :—

(a.) Knowledge of the laws and regulations dealing with meat inspection, especially the Law of 4th August 1890 and the Royal Decree of 9th February 1891.

(b.) Description of animals used for human food.

(c.) The names and situation of the different organs and regions of the body.

(d.) Signs of health and disease in animals used for food, both when alive and after slaughter.

(e.) The characters of fresh meat, organs, fat, and blood, as well as of the different preparations made from them as to the conditions rendering them fit or unfit for human consumption.

(f.) Knowledge of the abnormal circumstances laid down in the regulations in regard to which he can act on his own responsibility, and the abnormal circumstances in which he should summon without delay the veterinary surgeon.

2. This examination shall take place in the principal town of the province, before a commission composed of the veterinary inspector attached to the Minister of Agriculture, the provincial veterinary inspector, and a veterinary surgeon appointed by the Minister.

4. The duties of an expert inspector are incompatible with the profession of a butcher.

The decree of 28th April 1891 specifies the abnormal cases and unhealthy conditions of the meat and organs in which the unqualified inspector can act on his own responsibility. They include contusions, abscesses, cysts, calculi, chronic changes in the visceral organs, and adhesions of parts naturally distinct, but do not include tuberculosis in any of its forms.

It is unnecessary to enter into the routine method of meat inspection adopted, except as regards animals affected with tuberculosis.

All the animals are inspected when alive, as they stand in the cattle market, by the veterinary surgeon, and any animal which shows symptoms pointing to the disease may be removed to a special stall and examined at leisure.

In the slaughter-house itself the organs must be retained until the veterinary surgeon has made his examination, which in all cases includes the careful inspection of the lungs, liver, lymphatic glands, &c.

Regulations have been drawn up in Germany and Belgium to determine the conditions which should lead the veterinary surgeons to condemn carcasses affected with tuberculosis.

The following is the latest ministerial decree on the subject in Prussia, dated March 26th, 1892 :

Tuberculous Meat.

The flesh of tuberculous cattle is, as a rule, to be regarded as injurious to health if the muscular tissue contains tubercles, or if the tuberculous animal, without the presence of tubercles in the muscular tissue, is wasted.

On the contrary, the flesh of a tuberculous animal is to be passed (as not injurious to health) if the animal is well nourished, and—

(1.) The tubercles are confined exclusively to one organ : or

(2.) If two or more organs are affected, these organs lie in the same body cavity, and are connected directly with one another, either by lymph channels, or by such blood vessels as do not belong to the systemic circulation, but to the pulmonary or portal circulation.

And since, as a matter of fact, a tuberculous affection of the muscular tissue is extremely rare, and many prolonged experiments at the Berlin Veterinary College

and several Prussian universities by feeding with the muscular tissue of tuberculous animals have, in the main, given a negative result, and have not even proved the transmissibility of tubercle by the eating of muscular tissue with tuberculous deposits in it, the flesh of well-nourished animals, even when affected to the degree mentioned under paragraphs (1) and (2), need not be regarded as of diminished quality, and need not be placed under any special police restrictions.

From a national economical point of view it is desirable that such flesh, which has a considerably higher nutritive value than that of old worn-out and emaciated cattle, should come freely on the market. Indeed, so much the more is this the case since a universal condemnation of such flesh is not possible, owing to the defective meat inspection existing in many districts, and the entire absence of it in a great part of the country.

Such meat is, therefore, in the future to be allowed free sale; in doubtful cases the opinion of a qualified veterinary surgeon is to be called.

In Saxony, three conditions of tuberculosis are mentioned which should lead to total seizure. (Regulation of 17th December 1892.)

- (a.) When present in a high degree and extensive, with pronounced wasting, and when the condition of the flesh differs markedly from that which is healthy.
- (b.) If it is generalised, that is, if the extension of the tuberculous processes in the body has taken place only through the bloodstream (with the exception of the portal system), and the animal is at the same time markedly wasted, or the flesh or the bones, or lymphatic glands belonging to them are studded with tubercles.
- (c.) If it appears in the form of an acute generalised (embolic) miliary tuberculosis, accompanied by fever.

In Belgium the subject is dealt with in the following way by the Decree of 28th April 1891 :—

- (1.) Tuberculosis in the following cases :—
 - (a.) Tuberculosis, thoracic and abdominal, that is to say, having its seat at the same time in one or more organs of the chest (lungs, pleura, pericardium, lymphatic glands), and in one or more organs of the abdomen (peritoneum, parietal or visceral glands, intestines, liver, spleen, kidneys, ovaries, pancreas, uterus). Nevertheless the flesh of animals that are fairly fat can be considered healthy when only a few tuberculous deposits are found in the cavities.
 - (b.) Tuberculosis, be it thoracic or abdominal, with presence of tubercles in any other part of the body outside these cavities: Glands (retropharyngeal, prescapular, mammary, &c.), udder, bones, joints, meninges, testicles, muscles. But the meat of animals that are fat or fairly fat can be used as food when there are only a few tuberculous deposits in one of the cavities and outside them.
 - (c.) Generalised tubercle of the pleura or peritoneum.
 - (d.) Partial tubercle of the lungs or pericardium involving the pleura extensively.
 - (e.) Partial tuberculosis of any other organ of the abdomen involving the peritoneum extensively.
- (2.) Tuberculosis occurring, in no matter what part of the body, or no matter what the number of tubercles, when the animal is markedly wasted.
- (3.) Except in the cases of total seizure laid down under 1 and 2 the parts involved alone must be declared unfit for food.

Speaking generally, then, it may be said that in the countries referred to, the only conditions of tuberculosis leading to total seizure are (1) when the disease is generalised, that is, the whole carcass has been infected through the blood stream, and (2) when the animal is markedly wasted.

For some years prior to these regulations it had been customary to condemn carcasses when the tuberculous processes were extensive; but the heavy loss that this procedure involved led to the above resolutions being passed. As a result of them, much meat now comes on the market, and is sold as of full value without any mark indicating that it was derived from animals affected with the disease.

It must not, however, be supposed that the inspection is very lenient or formal. On the contrary, we saw at Antwerp the freshly killed carcass of a remarkably fine Zeeland cow, which, while alive, betrayed no symptoms of anything but perfect health. When slaughtered, the animal, which was rich in fat, was found to be extensively affected with the disease in the pleura and internal organs, the post pharyngeal glands, &c., and the whole carcass was condemned. In Germany, probably such a carcass would be sterilised and sold on the Freibank in the manner to be now described, for in that country the matter has not been allowed to rest at the point of the total seizure of a few carcasses for tuberculosis, and permission to sell the remainder as of full value. It was felt that if carcasses in which the organs had been extensively affected were thoroughly cooked, or submitted to steam for half-an-hour at a temperature of 100° C., all the tubercle bacilli would be killed, and the flesh be completely sterilised.

This method of dealing with tuberculous carcasses has been largely introduced into the slaughter-houses, and we saw the process of steam sterilisation at work in Cologne, the apparatus used being that of Henneberg; in Dresden and Berlin, the apparatus being that of Rohrbeck; and the process of cooking in Leipzig, the apparatus being that of Becker Ullmann.

The meat so treated is then sold in a special building, called the Freibank, where the quality of the meat must be indicated. The price of such meat is usually about one-half that of the ordinary market price.

We were favourably impressed with the usefulness of this peculiar institution. In addition to the sterilised or cooked meat such carcasses, or parts of them, as the inspector may pronounce diseased (many because of tuberculosis), yet not to such a degree as to warrant their destruction or sterilisation, are exposed for sale in the raw state. No customer is allowed to buy more than a small quantity at one time (about 10 lbs.), and he does so with the perfect knowledge that it is inferior meat. No butchers, meat salesmen, or restaurant proprietors are allowed to purchase meat from the Freibank.

Under an efficient system of inspection we regard the Freibank as a most commendable adjunct to a slaughter-house. It allows poor people to buy wholesome meat

at a very low price, and although much doubt was entertained at first whether it would attract customers, it was found that there is generally not enough meat on sale at the Freibank to supply all who come to buy.

The following tables show the results of inspection at the slaughter-house of Leipzig in 1895 :—

Results of Inspection.

	Cattle.		Calves.		Various.						Total Animals.
	Total.	Per cent. of those slaughtered.	Total.	Per cent. of those slaughtered.	Sheep.	Goats.	Pigs.	Per cent. of Pigs slaughtered.	Horses.	Dogs.	
Of the animals there were :—											
Slaughtered	22,918	—	57,427	—	44,154	207	111,077	—	961	24	236,768
Condemned	769	3·3	138	0·24	18	—	1,276	1·1	3	—	2,195
(a) Wholly destroyed	159	·6	99	0·17	5	—	24	—	3	—	276
(b) Sold in the raw state as not of full value.	242	1·1	37	0·07	11	—	195	0·2	—	—	485
(c) Sold, when sterilised or cooked, as not of full value.	379	1·6	2	—	—	—	855	0·8	—	—	1,238
(d) Only the fat melted out and sold at full value.	—	—	—	—	—	—	292	0·1	—	—	292
Sold as of full value	22,158	96·7	57,289	99·76	44,134	207	110,801	98·9	958	24	234,573

(a.) Cause of Total Condemnation of whole Carcases.

Disease causing Condemnation.	Oxen.	Heifers.	Cows.	Bulls.	Total Cattle.	Calves.	Sheep.	Pigs.	Horses.	Total.
General tuberculosis	28	8	62	10	108	82	4	186	—	380
General tuberculosis, with emaciation	—	1	5	2	8	—	—	—	—	8
Widespread tuberculosis	—	2	9	—	11	—	—	—	—	11
The same, with inflammation of pleura	1	—	—	—	1	—	—	—	—	1
Swine plague	—	—	—	—	—	—	—	1	—	1
Swine fever	—	—	—	—	—	—	—	9	—	9
Pyæmia	—	—	—	—	—	4	—	—	—	4
Septicæmia	—	—	—	—	—	—	—	—	1	1
Septic inflammation of umbilical cord	—	—	—	—	—	3	—	—	—	3
Septic inflammation of joints	—	—	—	—	—	1	—	—	1	2
Septic inflammation of uterus and udder	—	—	1	—	1	—	—	—	—	1
Uræmia	—	—	—	—	—	1	—	—	—	1
Sarcoma	—	—	3	—	3	—	—	1	—	4
Melanosis	—	—	—	—	—	—	—	—	1	1
Jaundice (in a high degree)	—	—	—	—	—	1	—	3	—	4
Inflammation of pleura and peritoneum	1	—	—	—	1	—	—	—	—	1
Peritonitis	1	—	3	—	4	2	—	1	—	7
Inflammation of the bowels	1	—	—	—	1	6	—	—	—	7
Inflammation of pleura with emaciation	—	—	1	—	1	—	—	—	—	1
Multiple hæmorrhages	—	—	—	—	—	—	—	1	—	1
Calcareous deposits in the muscles	—	—	—	—	—	—	—	2	—	2
Condition of meat causing disgust	—	—	—	—	—	—	—	2	—	2
Cysticerci cellulose in large numbers	—	—	—	—	—	—	—	10	—	10
Trichinosis	—	—	—	—	—	—	—	10	—	10
Total	32	11	84	12	139	99	5	226	3	472

(b.) The diseases leading to the flesh being considered not of full value (*nichtbankwürdig*) were :—

	Oxen.	Heifers.	Cows.	Bulls.	Total Cattle.	Calves.	Sheep.	Pigs.	Total.
General tuberculosis	58	17	200	41	316	1	2	825	1,114
Widespread tuberculosis	17	10	155	8	190	1	—	13	204
Tuberculosis with emaciation	1	—	—	—	1	—	—	—	1
All other diseased conditions (numbering 31).	65	2	30	17	114	37	11	212	404
Total	141	29	385	66	621	39	13	1,050	1,723

The flesh of the cattle and pigs with general tuberculosis was sold on the Freibank in a sterilised condition.

(c.) In the case of those animals that were allowed to be sold as of full value the destruction of the following organs, &c. was necessary:—

	Tuberculosis.	Inflammation.	Abscesses.	Echinococci.	All other Causes.
Lungs - - - - -	10,124	396	147	558	98
Hearts - - - - -	44	19	2	1	2
Livers - - - - -	3,045	200	621	1,271	850
Spleens - - - - -	1,536	10	6	14	1
Stomach and intestines - - -	2,958	65	8	—	—
Kidneys - - - - -	703	361	48	1	49
Uteri - - - - -	247	16	1	—	519 (due to pregnancy).
Udders - - - - -	153	30	14	—	3 (actinomycosis).
Tongues - - - - -	—	—	1	—	43 (actinomycosis).
Portions of head - - - - -	4	1	2	—	47
Bladders - - - - -	—	1	—	—	—
Total - - - - -	18,814	1,099	850	1,845	1,612

The following table gives particulars as to the number of cases in which tuberculosis was found in the slaughter-house and how they were dealt with:—

Kind of Animal.	No. of Slaughtered.	Of which were Tuberculous.		(a.) Wholly Destroyed.		(b.) Not of full Value, but sold.				(c.) Fat melted out.		(d.) Sold as of full Value.	
		No.	Per cent.	No.	Per cent.	Raw.	Sterilised.	Total.	Per cent.	No.	Per cent.	No.	Per cent.
Cattle - - - - -	22,918	7,619	33.24	128	1.68	101	316	507	6.65	—	—	6,984	91.6
Oxen - - - - -	8,454	2,379	28.14	29	1.21	18	58	76	3.19	—	—	2,274	95.60
Heifers - - - - -	1,071	217	20.35	11	5.66	10	17	27	12.44	—	—	179	82.50
Cows - - - - -	9,303	4,048	43.51	76	1.87	155	200	355	8.77	—	—	3,617	89.36
Bulls - - - - -	4,090	975	23.83	12	1.23	8	41	49	5.62	—	—	914	93.75
Calves - - - - -	57,427	107	0.18	82	76.63	1	1	2	1.87	—	—	23	21.50
Sheep - - - - -	44,154	13	0.02	4	30.77	—	2	2	15.38	—	—	7	53.85
Goats - - - - -	207	—	—	—	—	—	—	—	—	—	—	—	—
Pigs - - - - -	111,077	3,041	2.73	7	0.23	13	825	838	27.55	179	5.88	2,017	66.34
Horses - - - - -	961	1	—	—	—	—	—	—	—	—	—	1	—
Dogs - - - - -	24	—	—	—	—	—	—	—	—	—	—	—	—
Total - - - - -	236,708	10,789	—	221	—	205	1,144	1,349	—	179	—	2,032	—

Extent of the Tuberculous Process.

Kind of Animal.	Local, and involving				Generalised, and involving					
	One Organ.	Several Organs in the same Body Cavity.	Organs of both Body Cavities.	Total of localised Cases.	Spleen.	Kidneys.	Udder.	Bones.	Lymphatic Glands of the Muscle.	Total of generalised cases.
Oxen - - - - -	5,760	304	1,123	7,187	151	308	62	20	81	432
Calves - - - - -	21	—	3	24	82	26	2	—	18	83
Sheep - - - - -	5	2	—	7	5	1	—	—	1	6
Pigs - - - - -	1,037	9	984	2,030	956	327	88	81	118	1,011
Horses - - - - -	1	—	—	1	—	—	—	—	—	—
Total - - - - -	6,824	315	2,110	9,249	1,194	662	152	111	218	1,532

On the Freibank there was sold the flesh of 1,843 animals. The average price obtained for these animals was:—Cattle, 8*l.* 5*s.*; calves, 1*l.* 7*s.*; sheep, 18*s.*; pigs, 2*l.* The average price obtained for the flesh sold on the Freibank was:—

—	Not of Full Value.	Of Full Value.	Average Market Price.
	<i>d.</i>	<i>d.</i>	<i>d.</i>
Per 0·5 kilog. (1·1 lbs.) beef - -	5	6½	7½
" " veal - -	5	6½	7½
" " mutton - -	5¼	6	7
" " pork - -	5	6	7¾

The details from Dresden slaughter-house are shown in the following table:—

DRESDEN.

Results of the Inspection of all Animals slaughtered in Dresden for the Half-year, July—December 1895.

Kind of Animal.	Number slaughtered.	Of Full Value.	Per Cent.	Total Number condemned.	Per Cent.	(a.) Whole Animals.					(b.) Individual Organs.										(c.) Flesh.		
						Destroyed with Organs.		Freebank.			Lungs.	Hearts.	Livers.	Spleens.	Intestines, &c.	Kidneys.	Uteri.	Udders.	Portions of Head.	Tongues.		Various.	
						No.	Per Cent.	No.	Per Cent.	Raw, Cooked, or Pickled.													Only Fat melted out.
Total Cattle	-	10,487	98.2	3,954	37.04	36	0.34	151.5	1.42	151.5	-	2,358	24	1,127	49	56	124	341	43	16	64	97	23.0
Oxen	-	3,926	99.27	1,206	30.5	3	0.07	26	0.66	26	-	-	-	-	-	-	-	-	-	-	-	-	-
Cows and Heifers	-	2,798	96.04	1,540	52.85	28	0.96	87.5	3.00	87.5	-	-	-	-	-	-	-	-	-	-	-	-	-
Bulls	-	3,763	98.8	1,208	31.74	5	0.13	38	1.00	38	-	-	-	-	-	-	-	-	-	-	-	-	-
Calves	-	26,672	99.78	245	0.90	10	0.04	49	0.18	49	-	49	1	96	3	6	74	-	-	-	-	5	-
Sheep	-	22,591	99.7	1,061	4.7	18	0.08	29	0.13	29	-	611	1	447	7	2	6	6	6	-	-	11	-
Pigs	-	50,232	98.27	3,418	6.68	26	0.05	856	1.68	-	205	1,658	73	1,186	134	329	83	191	18	8	5	222	128.0
Horses	-	593	98.6	17	-	8	1.33	-	-	-	-	5	1	5	1	1	2	1	-	-	-	-	-
Total	-	110,575	98.84	8,095	7.78	98	0.09	1087.5	0.97	882.5	205	4,681	100	2,864	194	394	189	539	67	24	69	335	151.0

The aggregate result of inspection as regards tuberculosis in all the public slaughter-houses in Prussia for the year 1895 was as follows:—

Public Slaughter-houses.	CATTLE.						
	Numbered slaughtered.	Affected.	Per Cent. affected.	Totally condemned.	Per Cent. totally condemned.	Partially condemned.	Per Cent. partially condemned.
307	662,164	84,463	12·7	3,845	0·59	1,460	0·25

CALVES.			SHEEP.			SWINE.		
Number slaughtered.	Condemned.	Per Cent. condemned.	Number slaughtered.	Condemned.	Per Cent. condemned.	Number slaughtered.	Condemned.	Per Cent. condemned.
972,500	810	0·08	1,056,524	792	0·07	2,630,841	35,508	1·35

In the case of calves, sheep, and swine, it is not stated in the returns what proportion of the affected were totally and what partially condemned. When compared with similar figures for 1893 the figures show that the disease has increased by one third in cattle and by one half in swine within two years.

Insurance.

The farmers and butchers, in order to lessen the hardship felt and the loss they would sustain through the condemnation of carcasses in the slaughter-houses, avail themselves largely of a system of insurance. It must be remembered that abroad it is not the butcher, as in this country, who suffers the loss from the confiscation of a carcass, but the farmer, as payment is not made by the former to the latter until after the expert examination has been made.

The insurance societies are of various kinds; in Leipzig the management is in the hands of the municipality, in Dresden of the Butchers' Union, and in Berlin of the cattle dealers. A number of public insurance offices also, with agents in several cities, in addition to a general insurance of cattle, undertake insurance against losses which may be sustained through the condemnation of cattle destined for slaughter. In the Grand Duchy of Baden a law was passed in 1890 for the compulsory insurance of cattle, but we regret that we had no opportunity of seeing how it worked in practice.

The private societies do not exist for making a profit, but merely for covering the losses sustained by the members.

Tuberculosis is by far the most important disease which brings up the question of compensation in cattle insurance, and it is mainly, therefore, to protect themselves against seizures for this disease that the insurance societies have been started.

In Leipzig all cattle and pigs that are brought to the market for slaughter must be insured, provided that the veterinary surgeon sees no reason in his examination of them prior to slaughter for excluding any. The premiums charged are, for oxen and bulls 7s. 6d., cows and heifers 9s. 6d., pigs 10d., and compensation is given up to the full purchase price of the animal in addition to the slaughter-house charges.

These insurance societies have definite rules of management. In Dresden, for instance, the society is directed by a committee of management, drawn from elected members of the Butchers' Union, and the principal cattle dealers. Every member must insure all his cattle, and any person, not a member, desiring to insure his beasts, must pay double the ordinary premium. The insurance is effected by the payment of a premium, the height of which varies from time to time in accordance with the amount of the claims to be paid.

In 1895 the premiums charged were, oxen 5 marks (about = 5s.), bulls 6 marks, cows and heifers 8 marks; in 1893 they were, for oxen and bulls 3 marks, and for cattle and heifers 6 marks. The insurance value, after the payment of the premium, is the purchase price of the animal. Compensation is also given for individual organs and portions of meat condemned, provided they are not too small. The compensation is paid in the case of animals that are removed from the market to be slaughtered elsewhere if the seizure has been made by a veterinary surgeon within five days. In all seizures a written attest must be given by a veterinary surgeon containing particulars by which the animal can be identified.

The extent to which insurance is practised, and the amount of the compensations paid can be seen from the subjoined annual reports of the municipal slaughter-house in Leipzig, and of the Butchers' Union in Dresden.

The same system of insurance is in vogue in the slaughter-house of Copenhagen.

In Belgium, whilst there are a few insurance offices for cattle which pay compensation for the carcasses of animals which are condemned as unfit for food, the matter is dealt with mainly by the regulation of the 30th October 1885 on "Les mesures à prendre pour combattre la Tuberculose," which has already been referred to.

LEIPZIG.

Cattle Insurance Office, 1895.

Of the Animals coming to the Market	Oxen.	Bulls.	Heifers.	Cows.	Total Cattle.	Pigs, Native.	Pigs imported.	Total Pigs.	Ox Livers.	Pig's Livers.	Ox Flesh, in lbs.	Pig's Flesh, in lbs.
There were liable to be insured	8,537	3,778	964	8,254	21,533	100,846	2,941	103,787	—	—	—	—
Capable of being insured were	8,239	3,249	896	7,727	20,061	97,848	2,939	100,778	—	—	—	—
Of these the insurance was cancelled in.	107	1	7	70	185	4,143	—	4,143	—	—	—	—
There remained insured	8,132	3,248	889	7,657	19,896	93,705	2,939	96,635	—	—	—	—
There were condemned	185	68	31	395	659	1,991	36	1,127	2,135	1,087	14,317	3,386
(a.) As not of full value	133	58	23	339	553	897	27	924	—	—	8,800	343
(b.) To be destroyed	32	10	8	56	106	194	9	203	—	—	5,517	3,042

Average Value (including Charges for Slaughter, &c.), Average Sums realised for, and Average Loss on whole Animals (excluding condemned Portions).

Animals.	Totally condemned.						Condemned as not of full Value.					
	Number.	Total Value.	Value per Beast.	Proceeds from Utilisation for Trade Purposes.	Total Loss.	Loss per Beast.	Number.	Total Value.	Value per Beast.	Proceeds from Sale after Cooking, &c.	Total Loss.	Loss per Beast.
Cattle	106	£ 1,886	£ s. d. 17 15 0	£ 147	£ 1,639	£ s. d. 15 9 0	553	£ 10,344	£ s. d. 19 8 0	£ 4,510	£ 5,804	£ s. d. 10 17 0
Pigs	244	1,150	4 13 0	275	875	3 11 0	924	4,420	4 15 0	1,902	2,458	2 13 0

Income and Expenditure.

RECEIPTS.				EXPENDITURE.			
1. Insurance pay, as follows :—	£			Compensation paid for :—	£		
11,488 bulls and heifers at 7s. 6d. each				165 oxen			
8,563 cows at 9s. 6d. "				31 heifers			
97,848 native pigs at 1s. 0d. "				395 cows			
2,930 imported pigs at 1s. 6d. "				68 bulls			
				1,168 pigs			
2. Proceeds from sale of animals not of full value :—				Various organs and portions of meat			
133 oxen				Slaughter-house, &c. charges paid back		890	
23 heifers				Insurance premiums paid back		286	
339 cows				Office and other expenses		252	
58 bulls				Total		£20,147	
924 pigs							
8,800 lbs. beef							
334 lbs. pork							
3. Proceeds of sale from animals totally condemned :—							
32 oxen				Total Receipts		20,625	
8 heifers				" Expenditure		20,147	
56 cows							
10 bulls				In hand		£ 478	
243 pigs							
Various							
Total			£20,625				

PARTICULARS extracted from the ANNUAL REPORT of the BUTCHERS' UNION of Dresden for the year 1895.

1. Number of Animals brought to the Market.

Oxen	-	-	12,251
Bulls	-	-	7,721
Cows and heifers	-	-	8,982
			28,954
Swine	-	-	134,579
Sheep	-	-	53,625
Calves	-	-	62,093
Goats	-	-	26
Total	-	-	279,277

RESULTS of the INSURANCE OFFICE for CATTLE under the combined management of the BUTCHERS' UNION and a COMMISSION of the CATTLE DEALERS.

	Number insured.	Premiums.
		£
Oxen	10,172	—
Bulls	6,721	—
Cows and heifers	5,858	—
Total	22,751	5,566

In addition to these, over 3,500 cattle were insured; but as they were removed from the cattle market to be slaughtered elsewhere, the premiums, less 1 mark, were returned.

Compensation was paid in the following cases owing to veterinary condemnation:—

	Totally Destroyed.	Freibank.	Livers.	Tongues.	Lungs and Heart.	Spleens.	Udders.	Various.	Amount paid.
Oxen	17	147	879	45	18	49	—	28	£ 4,418
Bulls	15	89	310	36	13	29	—	39	2,325
Cows and heifers.	31	248	649	21	21	49	32	100	4,451
Total	63	484	1,829	102	52	127	32	288	11,194

4,486l. was, however, realised by the sale of meat on the freibank, and by the utilisation of the condemned carcasses, &c., the total loss amounting to 6,608l.

The heavy losses which the office suffered led, in addition to the expenditure of 650l. from the reserve fund, to the lowering of the compensation for livers from 8 to 6 marks, and the raising of the premiums on oxen to 5 marks, bulls to 6 marks, cows and heifers to 8 marks, making the total loss to the office for the year 1895, 905l.

DENMARK.

Thus far the information we had collected bore principally on the question of meat inspection, the organisation of slaughter-houses, and compensation to the owner of confiscated animals. Almost entirely so, indeed, for the result of the Belgian attempts to extirpate tuberculosis, so far as these are not of a negative character, is far from encouraging.

But in Copenhagen we found ourselves with men who were able to show a very remarkable degree of success in grappling with tuberculosis and eliminating it from their herds. We did not think it necessary to visit the slaughter-house here, though it is known to be an excellent one, understanding that the system of meat inspection in Denmark is similar to that in force in Germany, and that, as in that country, tuberculous carcasses are only condemned when the disease is generalised.

The action taken by the Danish Government in combating tuberculosis amongst cattle is due to the result of experiments carried out by Professor Bang, of the Veterinary College, Copenhagen, for eliminating the disease from herds, based on the value of tuberculin as a means of diagnosis. By the law passed in April 1893. 50,000 crowns (nearly 3,000l.) a year for five years was placed at the disposal of the Minister of the Interior to assist the owners of cattle who might be desirous of making use of tuberculin in the detection and prevention of the disease. The grant of money was to be utilised by the farmer in inoculating young animals with tuberculin, and it was only to be given to such owners as promised to keep the healthy animals isolated from those that were tuberculous. Further, the Minister was to have the power of employing a part of the sum in aiding associations for the breeding of cattle that might wish to have the animals tested. In addition to furnishing tuberculin free of charge, the Government also gives the farmers the services of a veterinary surgeon to superintend the operations necessary in carrying out the test in a scientific manner.*

The amount of the subvention has now been increased to 100,000 crowns yearly.

* The duties of the veterinary surgeon are to take the temperature of the animals shortly before the inoculation, and then, nine hours after at latest, he must be on the spot again to take the temperatures every two or three hours for about 24 hours. In payment he receives at least 16 kroner (1 kr. = 1s. 1½d.) and his travelling expenses. If the herd is at some distance from the dwelling of the veterinary surgeon he receives usually 25 kroner.

Although originally the intention of the law was only to test young animals, circumstances have brought it about now that usually the whole herd is tested, with the exception of such animals as are shortly to be slaughtered for the meat market.

The views of Professor Bang on bovine tuberculosis are, briefly, that it is due to the ease with which the infection may spread by air, water, and food, owing to the common life of healthy and unhealthy animals when in confined, badly ventilated sheds. About 1 per cent. of all calves born, he thinks, are affected with hereditary tuberculosis, but the great majority of calves that become tuberculous are infected through the milk. Practically, then, if calves born of tuberculous mothers are isolated from diseased animals from and after birth and fed on boiled milk they will escape the disease. Tuberculin, he believes, gives reliable results in over 90 per cent. of the animals tested, and in the great majority of those which react the test reveals only *latent tuberculosis*.

By merely separating, therefore, the sound from the reacting animals, feeding the calves born from the first day of life on boiled milk, submitting once or twice a year the healthy animals to a fresh test, placing such as react on the other side of a partition, and purchasing only animals that have stood the tuberculin test, he believes that in a few years a healthy herd may take the place of one that had been markedly affected.

Professor Bang received us at the Veterinary College, and we are quite unable to express adequately our sense of the trouble he took to facilitate our inquiries, and to give us the latest results of his researches and experiments.

We were shown here, in the experimental laboratory the incubating room, where, at a temperature of 37° C., the tubercle bacilli are cultivated on bouillon, and the subsequent steps in the preparation of commercial tuberculin. All the tuberculin used in the country has, from the very first, been manufactured in this laboratory, which receives from the Government a subvention for the purpose, and so great has the demand been for it that sometimes difficulty has been experienced in furnishing enough.

On the second day Professor Bang conducted us to two farms in Zeeland, from 25 to 30 miles from Copenhagen, on which a prolonged series of experiments have been in progress.

The first of these places, Thurebylille, near Kjoerge, is a large dairy farm on the property of Count Moltke, leased by a company or syndicate, where a numerous and beautiful herd of red Zeeland cattle is kept. The cost, however, of testing with tuberculin, isolating reacting animals, &c. has been borne by the State, by consent of the syndicate. Nearly all the cows kept are bred on the farm, but a few animals are purchased from time to time.

The process pursued has been as follows:—All the bulls, cows, and calves are kept under one roof, an extensive building stalled across its breadth, with roomy gangways before and behind each row of stalls. At the time of our visit (May 4) none of the animals had been out of the building since the preceding October, though the season was approaching when they would be turned out to pasture, day and night. It must be admitted that, in spite of its large extent and scrupulous cleanliness, the ventilation of this great byre was far from exemplary. The temperature was kept very high, probably to induce the liberal secretion of milk; the cubic space to each animal seemed insufficient (it was stated to be about 300 cubic feet per animal), and swarms of common house flies on the side of the building furthest from the entrance doors seemed to indicate that a high temperature had been maintained even throughout the winter. If this was the case on a spring morning with the doors all open, the condition of things must be very much worse in winter. The stock, however, looked exceedingly well and blooming. Although, as we have said, they were all under one roof, the building was divided transversely by a movable wooden partition, without a door in it. This was put up to divide those animals which did not react from those which did. Each year as the proportion of sound animals has increased (as shown in the subjoined table) the partition has been moved further on, until, at present, the reacting animals occupy the smaller portion of the building.

On the night previous to our visit the sound part of the herd had been injected with tuberculin, and when we arrived the staff, assisted by a number of schoolboys from the village, were taking and registering the temperatures, with the result that.

out of 155 cattle and calves tested, only six reacted. These would be immediately removed and put in the quarantine compartment of the house.

The following is a record of the tuberculin test at Thurebylille :—

	Reacting Section.	Sound Section.	Number reacting in Sound Section.
April 1892	131	77	—
October 1892	—	77	7
May 1893	90	103	10
October 1893	—	107	1
April 1894	81	122	2
October 1894	—	119	1 (?)
May 1895	69	136	2 + 1 ?
October 1895	—	132	2
April 1896	54	149	7
October 1896	48	147	7 + 2 ?
May 1897	49	155	6

In a letter dated 16th May 1897, Professor Bang writes, that of the six which reacted in May 1897 (some of which we saw), three, a young bull and two calves, had been slaughtered. All showed a very slight degree of tuberculosis, one or two lymphatic glands only being affected. The two calves had developed the disease by way of the digestive tract, one having a retro-pharyngeal gland affected, the other a mesenteric gland; the bull had two mediastinal glands affected.

The results of the treatment at Rosendal were of equal interest, although in some respects the success has not been quite so good as at Thurebylille, attributed largely, by Professor Bang, to the fact that in the partition there was a door of communication between the sound and reacting sides. The routine is similar to that already described, though there are a few points of difference between the two farms worthy of remark. At Thurebylille they use the milk of their own cows only, and convert it into cheese; at Rosendal they receive the milk from other four large farms and make it into butter, sending large quantities of it to Paris, and even direct to Manchester. The cow-house at Rosendal, though similar in general design (except for the door in the partition) to that at Thurebylille, is far better ventilated. The stock, however, of red Zeelands has not been bred with the same attention to beauty and quality. In both farms the milk of the reacting animals is not given to the calves but is used in the dairy.

On this farm there was an outbreak of foot-and-mouth disease in 1893, and after it, tuberculosis (which before had not apparently been very prevalent) made great headway, and Mr. Ulrik, the farmer, was obliged to sell 30 cows, many of them for a very low price. After 1894 no cow, even in the reacting section, showed clinical symptoms of tuberculosis, except perhaps one cow.

Beyond erecting the partition Mr. Ulrik has had no expense whatever, and expressed himself in every way satisfied with the result of the experiment.

Record of the Tuberculin Test at Rosendal.

Date.	Reacting Section.	Sound Section.	Number reacting in Sound Section.
October 1894	67 + 35, which were not tested.	68	—
April 1895	—	86	11 (2 newly purchased).
April 1896	—	101	19
April 1897	80 — 100 now	108	5 (of these 3 were purchased cows, 2 of them only a few months previously. It was stated by the seller that they had been tested. The other 2 reacting animals were calves, both of which had been fed on milk from reacting cows).

Professor Bang has kindly supplied the following further particulars as to the result of the work at Borupgaard in Jutland:—

Date.	Reacting Section.	Sound Section.	Number reacting in Sound Section.
January 1894	139	86	—
December 1894	—	114	8
May 1895	—	117	1 + 1?
November 1895	—	140	1
" 1896	—	—	10
May 1897	—	184	5

The owner here has had no expense beyond erecting the partition. The herd consisted of dark Jutland cattle.

Professor Bang has also furnished a table of results from the whole of Denmark:—

District.	Number of Herds.	Sound.	Reacting.	Percentage.		AGE.							
						Less than ½ year.		About 1 year.		About 2 years.		Over 2½ years.	
				Sound.	Reacting.	Sound.	Reacting.	Sound.	Reacting.	Sound.	Reacting.	Sound.	Reacting.
Jutland	2,721	43,479	23,311	65.1	34.9	9,739	1,471	11,717	4,139	6,402	3,776	15,891	13,925
Fyen	1,355	22,770	7,302	75.7	24.3	4,005	334	5,478	1,908	2,997	1,217	10,290	4,533
Zeeland	602	13,026	9,903	56.8	43.2	3,159	619	3,382	1,589	1,988	1,419	4,497	6,285
Moen	82	1,313	629	67.6	32.4	260	33	229	88	226	194	568	404
Lolland-Falster	198	6,248	2,497	71.5	28.5	1,384	146	1,622	337	831	371	2,511	1,583
Bornholm	588	12,065	2,237	84.2	15.8	1,064	87	2,763	385	1,864	408	5,774	1,377
Total	5,306	98,901	45,890	68.3	31.7	19,751	2,681	25,221	7,606	14,398	7,295	39,551	28,227
		144,809	—	—	—	88.1%	11.9%	76.6%	23.4%	66.4%	33.6%	58.3%	41.6%

Of these 5,306 herds, 1,132 were found completely free of the disease, no single animal reacting.

Seeing that stress has been laid by certain witnesses before our Commission on the importance of preventing persons suffering from tuberculosis attending upon cattle, we inquired if this point had received notice in the quarantine regulations in force at Thurebylille and Rosendal. We were told it had not, nor did Professor Bang think that the risk of such contagion was appreciable. In Jersey and Finland, he observed, tuberculosis is almost unknown among the native cattle, though both are highly susceptible of it when taken among tuberculous stock; yet, he regarded it as probable that there is the same percentage of tuberculosis among the attendants on these cattle as in other countries.

Milk Regulations.

Up to this point we had received but little information on the subject of securing human consumers against infection by milk; or rather, all the information we received went to show that no attempt had been made to do so, further than the compulsory slaughter in Belgium of cows visibly affected with tuberculosis, and the fact that tuberculosis is included amongst the diseases (Royal Decree, 1894), rendering the milk from animals so affected unsaleable in Belgium. In Germany, from information supplied to us by Dr. Weyl, we understand that there is no general law throughout the whole Empire which has for its object the supervision of milch cows, nor have the separate States passed any such law. On the other hand, there exist regulations in some Government districts which deal with the control of milch cows, but they exist only on paper, and possess no serious importance, because in the districts there are no officials who could control milch cows and dairies effectually. Tuberculosis of the udder is included in the Danish law on the Contagious Diseases of Animals (1894) as a condition rendering the milk of animals so affected unsaleable.

Nevertheless, we witnessed at the Copenhagen Milk Supply Association, of which Mr. G. Busck is manager, how much can be done to secure pure milk for the community by organisation, and a prescribed code of regulations for farmers contracting to supply the salesman. All the cows from which milk is drawn (they

number 4,708 on 50 farms) by this company are inspected every fortnight by veterinary surgeons, who report on the condition of the animals. The inspection is only clinical, none of the animals being subjected to the tuberculin test. We understand, however, that Mr. Busck hopes before long to have the children's milk supplied only from cows that have stood the test. The contractor binds himself to notify at once the appearance of any disease in the udder, and to withdraw any cow thus affected from his herd. Ordinary impurity is excluded from the milk by filtration through three layers of fine gravel after delivery in the company's premises. The regulations are too lengthy and minute to quote here, but have been fully described in a pamphlet by Mr. A. Stewart MacGregor, late British Vice-Consul at Copenhagen, entitled "The Milk Supply in Copenhagen." (Edinburgh: Scott, Ferguson, Burness, and Co., 1890.)

Mr. and Mrs. Busck called for us in their carriage late one evening, and drove us down to their premises, where we witnessed the evening delivery of milk at the factory from the country farms, the process of tasting and taking the temperature of every can; the subsequent filtration, bottling for delivery, and other processes, all conducted with astonishing speed and precision.

The price of the milk sold is as follows:—

Children's milk, to obtain which only the best and healthiest cows are used	-	-	-	-	-	1s. a gallon.
Sweet milk	-	-	-	-	-	10d. "
Half skimmed milk	-	-	-	-	-	5d. "

The company pays 5 per cent. on the capital invested.

Incidentally we may remark that in Copenhagen much "pasteurised" milk, that is, milk which has been raised to a temperature of 75° C. before being bottled, is consumed. Tubercle bacilli, and most of the bacteria in milk, are destroyed at this temperature.

Believing, as we do, that the risk to human beings, and especially to children, of tuberculous infection is far greater from milk than from meat, we regard Mr. Busck's establishment as a valuable example of what may be done without the aid of legislation, simply by the application of enlightened energy to management of the traffic. Of course there must be intelligent co-operation among dairy farmers, and this has been secured by the regulations insisted on by the Copenhagen Dairy Supply Company. The general conditions affecting dairy farming in Great Britain and Ireland seem to us far more favourable for the rearing of healthy stock than the more artificial method in Denmark, where the cows are closely confined in the house for eight months in each year, and when we saw how far ahead the Danes were of our people, we blushed to reflect how little use we had made of our advantages.

HERBERT MAXWELL.

HARCOURT E. CLARE.

JOHN SPEIR.

J. McFADYEAN.

Professor McFadyean kindly gave the deputation the advantage of his presence, in the absence of Professor Brown, who was unable to leave London at the time.

June 12, 1897.

T. M. LEGGE,
Secretary.

APPENDIX B.

Paper handed in by Dr. W. H. Hamer, having reference to Question 1399.

COUNTY OF LONDON.

STATEMENT showing NUMBER of APPLICATIONS granted, and NUMBER refused, during the years 1889-1896 (both years inclusive), in respect of LICENSES to COWHOUSE PREMISES.

Year.	Number of Applications granted.	Number of Applications refused.
1889	688	32
1890	643	26
1891	597	7
1892	545	13
1893	490	16
1894	446	15
1895	416	11
1896	394	13

COUNTY OF LONDON.

STATEMENT showing NUMBER of APPLICATIONS granted, and NUMBER refused, during the years 1889-1896 (both years inclusive), in respect of LICENSES to SLAUGHTER-HOUSE PREMISES.

Year.	Number of Applications granted.	Number of Applications refused.
1889	634	8
1890	666	6
1891	651	5
1892	537	10
1893	529	13
1894	506	12
1895	485	12
1896	469	8

APPENDIX C.

Handed in, together with Tables A. to H. and two Charts by Dr. Tatham, Superintendent of Statistics, General Register Office.

The causes of death in England and Wales, in combination with ages, were abstracted in the General Register Office for the first time in the year 1847.

Consequently, the period 1851-60 is the earliest complete decennium for which it is possible to calculate rates of mortality.

In comparing the returns of death for a long series of years, with a view to detect whatever changes may have taken place in the incidence of mortality, and if practicable to measure the amount of those changes, certain precautions are necessary this will appear from what follows. The Births and Deaths Registration Act, which threw upon medical men the duty of gratuitously certifying, for State purposes, the causes of the deaths of their patients, was passed in 1874. Before that date medical certification was, of course, optional. On reference to the earlier reports of the Registrar-General, it appears that in 1879, which is the first year for which this information is available, 47 per cent. of the deaths occurring in England and Wales were medically uncertified.

In certain parts of England the proportion was much higher than this, and in North Wales it amounted to as much as 14.1 per cent. Added to this, I find that not fewer than 5.0 per cent. of the total deaths in England and Wales during 1879 were registered on the mandate of the coroner. Now, although, for purposes of registration, these deaths are for the present accounted as "certified," they can by no means be so regarded from a medical point of view. Notwithstanding that some coroners are in the habit of calling in medical aid to ascertain the probable cause of sudden deaths, it does not always follow that the cause, even when unmistakable, is included in the verdict of the jury. In the case, for example, of one who, after lingering illness, say from phthisis, has died suddenly, without recent medical care, the coroner's verdict "found dead in bed" or "died by the visitation of God" does not help to identify the disease which led to death, although it may satisfy existing legal requirements. From what has been advanced it may, I think, be safely assumed that in 1879 not more than about 90 per cent. of the total deaths were registered on the definite certificate of a medical practitioner.

What may have been the proportion 30 or 40 years ago of deaths registered by the coroner's warrant, or on the mere statement of ignorant relatives, and without medical attestation, it is, of course, impossible to ascertain; in all probability the proportion was very large, especially in remote country districts. The names of the diseases which constituted the tubercular group in 1847 did not materially differ from those which

form that group to-day.* There is, however, reason to believe that in earlier years the causes of death were but vaguely described in the registers, and this was probably the case in regard to deaths from tubercular diseases especially, in the identification of which mistakes and confusion were in some districts notoriously frequent. It should further be mentioned that medical practitioners now habitually refer to the tubercular group of diseases many deaths which 40 years ago would not have been so referred; and, conversely, many deaths which at that date would have been relegated to that group, are now more correctly classified under other headings.

For the foregoing reasons it is evident that the records of death-causes in the "fifties" and "sixties" were so imperfect as to impair their value, although, in my judgment, that value is not entirely destroyed, for purposes of comparison with the more accurate data of recent years.

I submit, for the information of the Commission, eight tables, the first six of which are constructed on a uniform plan, and have reference to an aggregate period of 45 years, divided into several decennial or quinquennial periods, and commencing with 1851. These tables are designated by capital letters from A to F consecutively, and give, in heavy type, for persons, for males and for females separately, the proportion of deaths to a million births, at certain ages under five years; they also give, in ordinary type, the proportion of deaths to a million living, at certain age-groups, from the commencement of life to its close. The tables give the above-mentioned particulars for the following forms of disease severally:—Table A, all forms of tubercular disease; Table B, phthisis; Table C, tabes mesenterica; Table D, tubercular meningitis or hydrocephalus; Table E, scrofula, with other forms of tubercular disease; and Table F, diseases of the respiratory system. Two additional tables are also submitted, Table G showing the local distribution of mortality from phthisis in 1861-70, as compared with 1881-90, and Table H, showing the influence of certain occupations on the mortality from phthisis and from respiratory diseases.

ALL FORMS OF TUBERCULAR DISEASE.—TABLE A.

Incidence of mortality, 1851-95.—The general teaching of the figures for 1851-95 in this table is that, taking both sexes together, the mortality from tubercular diseases is heaviest among very young

* They are arranged under the following headings:—Phthisis, Tabes Mesenterica, Tubercular Meningitis or Hydrocephalus and Scrofula with other forms of Tuberculosis.

children: taking together all ages under five years, the rate is 4,155 per million living; the mortality then falls to 762 and 725 per million respectively, or less than one-fifth of that rate, in the two succeeding quinquennial age-groups. The rates show a *sudden and large increase* (to 1,510 per million) at the age 15-20 years, and then a *steady increase* to a maximum of 2,912 at the age 35-45 years. After this age there is a *steady decrease* until the end of life. Taking the sexes separately, the mortality rises, after the tenth year, at an earlier age among females than among males; and although males and females attain their highest mortality (of 3,415 and 2,441 per million respectively) at the same age of 35-45 years, nevertheless, the subsequent fall in mortality is more rapid in the case of women than of men.

Changes in mortality from 1851 to 1895.—Taking the figures as they stand in the official records, we find that in the year 1847 the deaths referred to all forms of tubercular disease taken together were equal to about one-sixth of the deaths from all causes, which then gave a rate of 24.7 per 1,000 living; whilst in 1895, for which year the returns are not yet published, the proportion has fallen to about one-ninth of the deaths from all causes, which in that year gave a rate of only 18.7 per 1,000 living. In 1851-60 the mortality at all ages differed very little in the two sexes; in 1891-95 the death-rate of females was 1,897 per million, or only about four-fifths of that of males, which was 2,362 per million. At several of the age-groups the proportions vary enormously. Thus we find that in the 10 years 1881-90, whilst among children under five years old the proportion of deaths from tubercular disease was not more than 8 per cent. of the total mortality, at ages from 15 to 35 years the proportion exceeded 40 per cent.

The following table, which shows the deaths in 1881-90, will make this clear:—

ALL FORMS OF TUBERCULOSIS. PROPORTION OF DEATHS TO DEATHS FROM ALL CAUSES.

Period.	Age.	Deaths from all causes.	Deaths from Tubercular Diseases.	Percentage.
1871-75	Under 5 years	1,028,780	81,172	7.9
	15-35 years	311,297	130,454	41.9
1876-80	Under 5 years	1,051,578	90,646	8.6
	15-35 years	285,569	124,884	43.7
1881-90	Under 5 years	2,009,984	159,138	7.9
	15-35 years	566,606	234,565	41.4

At every age group in both sexes, with few exceptions there has been a decrease in the aggregate mortality ascribed to tubercular disease from period to period.

In all periods the male rate of mortality under five years has been greater than the female rate, by nearly the same proportion. From the earliest period to the latest there has been a decline at this age group in both sexes, equal to about a quarter of the initial mortality.

Taking the years of age under five separately, there has been, from the first period to the last, a decline in the mortality of both sexes under one year of age equal to about 12 per cent., but since 1880 this decline has been somewhat irregular; at each of the ages 1-2, 2-3, 3-4 and 4-5, there has been (with one small exception), a successive decrease in the several periods for each sex, the total reduction in mortality in each year of age after the first being from 35 to 42 per cent. In all the periods the rates at the age 10-15 have been the lowest rates at any age up to 75, among males, and the rates at the age 5-10 have been the lowest rates at any age up to 75, among females. From 1851-60 the rates at the age 5-10 were always higher among males than among females. Since 1880 the reverse has been the case. In all the periods from 1851-95, the male rate at the age 10-15 has invariably been lower than the female. Among adults there has been since 1851 a remarkable change in the sex incidence of tubercular mortality. This point is further dealt with in connexion with what follows on the mortality from phthisis.

PHTHISIS.—TABLE B.

Incidence of Mortality, 1891-95.—Among children aged 5-10 years, without distinction of sex, phthisis

mortality in the quinquennium 1891-95 was very low (228 per million), the rates at the age-groups 0-5 and 10-15 years being 444 and 410 per million respectively.

In phthisis the real liability begins at the age-group 15-20 years, when the death-rate stands at 1,233 per million, and attains its maximum at the age-group 35-45, when the rate amounts to 2,771 per million; the mortality then declines, at first slowly, afterwards rapidly. Practically the incidence of phthisis is upon the ages from 15 to 75 years, very old people and young children being comparatively exempt. According to the experience of 1891-95, females seem to be rather less liable to death by phthisis than males at the age 0-5 years, more liable at the age 5-20 years, and again less liable at ages above 20 years. Liability to fatal phthisis appears to commence somewhat earlier in females than in males. The maximum mortality is reached at the same age-group 35-45 in both sexes, at which age-group the rates are 3,268 for males and 2,305 for females; but, whilst the male rate continues at almost the same point (falling only to 3,205 per million) throughout the 45-55 age-group, the female rate declines to 1,742 per million in that age-group, or by nearly one-fourth of the rate obtaining in the age-group immediately preceding.

Changes in Mortality from 1851-95.—Table B. indicates that, with a few trifling exceptions, every age-group in each sex has experienced a decrease in the mortality ascribed to phthisis. In every case the mortality in 1891-95 was lower than in 1851-60; but the rate of decrease has varied widely, and has been much greater among females than among males. The reduction indicated by the tables may not be wholly real, and may be due, in part, to the vaguer statement of causes of death in the earlier period, as, for instance, by the habitual use of the terms "consumption" and "decline" to describe any lingering disease of the lungs attended by "wasting." Considerations of this kind probably induced Dr. Greenhow, in his classical essay of 1860 on the influence of occupation on mortality, to group phthisis with other respiratory diseases under the title "pulmonary disease," in preference to dealing with these distinct groups separately, as is now the general practice. Although I have not thought it right to adopt a similar course on the present occasion, I have constructed a table (F.) which shows the mortality from diseases of the respiratory system, at the same ages and for the same groups of years that have been used for the table dealing with phthisis. These tables may therefore readily be compared.

Comparing 1891-95 with 1851-60, we find that phthisis mortality in males of all ages has been reduced by about one-third (or from 2,579 to 1,634 per million), and in females has been reduced by more than half (or from 2,774 to 1,303 per million). At the age-group 0-5 years the mortality of each sex has been reduced to about one-third of what it was in 1851-60. At age 5-10 years it has been reduced to about two-fifths (or from a rate of 525 to 197 for males, and from a rate of 620 to 260 for females). At the age 10-15 years, the male rate, which was in the earlier period 763 per million, has been reduced to about one-third, and the female rate (which was 1,293 per million) has been reduced to less than half. From 15 years upwards, the female rate has been reduced more than the male. From 25 years of age to the end of life, the male rate has been reduced in varying proportions, the rate of reduction gradually decreasing up to age 45-55 and then increasing. The reduction in the female rate at the successive age-groups after 25 years has not differed greatly from one half.

Tracing backward the incidence of maximum mortality from phthisis, we find that it has not always been at the age-group 35-45 years and at the same age-group for both sexes, as it is at present.

AGES OF MAXIMUM MORTALITY FROM PHTHISIS.

(The age-groups in heavy type have the maximum rates, the others being approximate).

Periods.	Males.	Females.
1851-60	20-25, 25-35, 35-45	25-35
1861-70	25-35, 35-45	25-35
1871-80	35-45	25-35
1881-85	35-45	25-35
1886-90	35-45, 45-55	25-35, 35-45
1891-95	35-45, 45-55	35-45

Thus the age of maximum phthisis mortality has been postponed in both sexes. In other words, either the saving of life has been greater at the ages which were formerly most liable to phthisis than at the ages immediately following, or persons specially liable to phthisis have lived somewhat longer than they would have done under earlier conditions.

The change in the *sex-incidence* of general tubercular mortality which has been previously referred to, is especially noticeable in the case of phthisis. In 1851-60 the phthisis mortality of females was greater than that of males at every age-group between five years of age and 45. In 1891-5, the phthisis mortality of females exceeded that of males at the age-groups from 5-20 years only.

Again in 1851-60 the maximum incidence of phthisis mortality among females was 4,575 per million, and occurred at the age-group 25-35. The maximum mortality among males was practically maintained throughout the three age-groups 20-25, 25-35, and 35-45, ranging only between 4,004 and 4,052 per million in these age-groups. Thus in 1851-60 the maximum mortality was 13 per cent. greater among females than among males. In 1891-5, on the other hand, the maximum mortality occurred in both sexes at the age-group 35-45 years, the rate among females being 2,305 per million or 29 per cent. less than the rate among males (which was 3,268 per million). It will thus be seen that the incidence of phthisis mortality as between adult males and adult females has been completely reversed within an interval of 45 years.

I submit two additional tables. Table G compares the phthisis mortality in 1861-70 with that in 1881-90 in each of the registration counties of England and Wales. It also shows the proportional decrease which has taken place in the phthisis rate of each county in the later decennium as compared with the earlier. It will be seen that the phthisis rate varies considerably in the several counties; Lancashire, North Wales, and South Wales showing high rates in both periods, both for males and females, and Worcester and certain other counties showing rates which, by comparison, may be considered low.

Table H shows that the mortality from phthisis is also very seriously affected by occupation. Thus among people presumably not widely different in respect of social position, such as tin miners and coal miners, a number of males living at age 25-65 which gave 508 deaths from phthisis among tin miners gave only 69 deaths (or only one-seventh) among the coal miners.

TABES MESENTERICA.—TABLE C.

Incidence of Mortality, 1891-95.—Tabes mesenterica is an indefinite but time-honoured term, under which are probably included, in addition to tubercular affections of the mesenteric glands, peritoneum and intestines, a considerable but unknown number of ill-defined ailments, in which wasting and diarrhoea are prominent symptoms. This disease in its fatal form affects young children almost exclusively. The mortality among infants under one year is very high, namely, 4,046 per million births, and the greater part of this mortality appears to fall on infants aged from three to six months, who die of it at the rate of 1,444 per million births. In the second year of life the mortality is still very high, namely, 1,504 per million births, but it is then considerably less than half the rate obtaining in the first year of life. In the third year the rate is 469 per million, or barely one-third of what it had been in the second year, and in the succeeding two or three years of life it rapidly diminishes. Among infants under one year males suffer more severely than females in the proportion of nearly five to four (the rates being respectively 4,455 and 3,623).

In the following three years the excess is less marked, and at some of the succeeding ages females suffer in excess. The figures at the higher ages are, however, too small to permit of trustworthy deductions.

Changes in mortality from 1851 to 1895.—The rates of mortality for both sexes at all ages, and at the age-group 0-5 years, show successive increases from 1851-60 to 1871-80, and decreases in the subsequent periods. Taking, however, the separate ages under five years, the

mortality at 2-3, 3-4, and 4-5 years decreased in each period (with one small exception among females). The mortality at ages 1-2 years follows the same rule as that at all ages and at 0-5 years; but the mortality under one year of age departs from this rule by increasing from the period 1851-5 to the period 1886-90; this is true for both sexes. Considering the separate parts of this year of life, the actual increase seems to have been confined to the age-group 3-6 months, the other age-groups under one year indicating a delayed decrease. A possible explanation of this is to be found in the relationship between tabes mesenterica and diarrhoea. Both diseases fall most severely on children under one year of age, and the mortality in both cases specially affects the age group 3-6 months. The period 1886-90 showed rather heavier diarrhoea mortality than the previous period 1851-5 had done. Reference to the Registrar-General's annual reports shows that, whether from the difficulties of diagnosis, which are often great, or because tabes mesenterica is really more fatal during epidemic diarrhoea periods, the rates from the two diseases almost invariably rise and fall together.

TUBERCULAR MENINGITIS (HYDROCEPHALUS).—TABLE D.

Incidence of mortality, 1891-5.—In common with the mortality from tabes mesenterica, that from tubercular meningitis is mainly confined to infancy and early childhood, and by far the greater part of the mortality takes place within the first two years of life. Unlike that from tabes mesenterica, the mortality from tubercular meningitis, within the first year of life, falls most heavily on infants over six months old.

Changes in mortality from 1851 to 1895.—In comparing the mortality from this disease in the ten-year period 1851-60 with that in the five-year period 1891-95, we find that a steady decline has taken place in the case of children of both sexes at ages under two years. A similar but less steady decline is also shown at ages 2-3, 3-4, and 4-5. But at ages above five years there was a marked increase in the mortality of the 1871-80 period which has been maintained in most of the subsequent quinquennia. This increase has been accompanied by an equally marked decrease in the mortality referred to "tuberculosis," pointing to changes of classification or of nomenclature, some deaths over five years of age which formerly would have been included with undefined forms of scrofula, having been classed since 1871 under the heading "tubercular meningitis." Possibly "tuberculosis" or "scrofula," coupled with "meningitis," as cause of death, may at one time have been classed under "tuberculosis" simply, instead of under "hydrocephalus" or "tubercular meningitis," as it should be.

SCROFULA AND OTHER FORMS OF TUBERCULAR DISEASE.—TABLE E.

This is a very indefinite and unsatisfactory section, and statistics with regard to it are inserted here only with the object of giving completeness to the set of tables.

The section is probably little better than an overflow from the other and larger sections of the tubercular group of diseases.

CONCLUSION.

Careful study of the several points raised in this memorandum, which are based on examination of the statistical data herewith submitted, leads, I think, to the conclusion that in the course of the last 45 years there has been a substantial and for the most part steady diminution in the mortality attributed to tubercular disease in England and Wales. And this conclusion is strengthened by the circumstance that, speaking generally, a similar diminution has been found to have occurred in the case of the mortality from the principal forms of disease which constitute the tubercular group. It is further strengthened by the fact that, in the case of phthisis, this decrease has been shared by all the counties of England. For reasons given in this memorandum, I do not think that the data at our disposal warrant the attempt to estimate either the amount or the proportion of decrease which has taken place between the earlier and the later periods referred to in the accompanying tables.

TABLE A.*
ENGLAND AND WALES.—MORTALITY FROM ALL FORMS OF TUBERCULAR DISEASE, IN SEVERAL PERIODS, 1851-1895.

Period.	Per Million Living.	Per Million Births.						Per Million Living.												
		0-3 Months.	3-6 Months.	6-12 Months.	Total under 1 Year.	1-	2-	3-	4-	Total under 5 Years.	5-	10-	15-	20-	25-	35-	45-	55-	65-	75-
PERSONS.	1851-60	—	—	—	9,689	6,890	3,169	1,768	1,331	5,764	1,218	1,359	3,200	4,361	4,463	4,308	3,589	2,986	2,154	929
	1861-70	—	—	—	9,54	6,410	2,734	1,476	1,076	5,445	979	1,094	2,833	4,053	4,333	4,102	3,428	2,767	1,724	617
	1871-80	—	—	—	9,720	5,936	2,322	1,261	955	5,209	861	920	2,205	3,221	3,693	3,807	3,197	2,529	1,572	537
	1881-85	1,530	2,643	4,605	8,778	5,078	2,078	1,174	935	4,547	874	865	1,923	2,695	3,273	3,413	2,937	2,290	1,411	536
	1886-90	1,610	2,800	4,599	9,009	4,818	1,917	1,140	853	4,441	819	798	1,652	2,327	2,829	3,099	2,757	2,244	1,450	605
	1891-95	1,488	2,710	4,294	8,492	4,477	1,873	1,100	856	4,155	762	725	1,510	2,081	2,503	2,912	2,563	2,057	1,252	514
MALES.	1851-60	—	—	—	10,721	7,377	3,306	1,785	1,327	6,310	1,233	1,118	2,558	4,276	4,198	4,126	3,963	3,482	2,582	1,057
	1861-70	—	—	—	10,598	6,878	2,854	1,509	1,094	5,993	1,024	895	2,375	4,019	4,189	4,239	3,949	3,417	2,161	736
	1871-80	—	—	—	10,767	6,433	2,449	1,317	986	5,774	896	745	1,846	3,202	3,771	4,181	3,923	3,274	2,020	649
	1881-85	1,755	2,923	5,115	9,793	5,464	2,214	1,198	953	5,050	856	660	1,598	2,629	3,360	3,826	3,666	3,042	1,882	677
	1886-90	1,868	3,103	5,133	10,104	5,195	2,048	1,160	864	4,958	780	603	1,428	2,409	2,980	3,552	3,561	3,014	1,913	784
	1891-95	1,703	3,000	4,714	9,417	4,781	1,976	1,125	848	4,593	742	565	1,317	2,239	2,711	3,415	3,348	2,821	1,686	630
FEMALES.	1851-60	—	—	—	8,610	6,381	3,026	1,750	1,335	5,216	1,204	1,605	3,735	4,428	4,701	4,288	3,234	2,524	1,788	831
	1861-70	—	—	—	8,447	5,921	2,610	1,443	1,058	4,896	935	1,204	3,291	4,081	4,465	3,979	2,937	2,167	1,346	526
	1871-80	—	—	—	8,634	5,419	2,190	1,203	923	4,644	826	1,093	2,564	3,239	3,618	3,464	2,531	1,857	1,189	452
	1881-85	1,296	2,351	4,076	7,723	4,678	1,937	1,149	917	4,047	892	1,070	2,246	2,754	3,192	3,029	2,276	1,325	1,072	429
	1886-90	1,343	2,487	4,044	7,874	4,426	1,780	1,120	842	3,928	857	993	1,873	2,253	2,691	2,675	2,025	1,571	1,045	473
	1891-95	1,268	2,410	3,858	7,536	4,162	1,765	1,074	864	3,722	783	885	1,701	1,939	2,314	2,441	1,846	1,393	897	429

* This Table, and also Tables B. to F., may be read thus (taking the bottom line, columns 3 to 10, in heavy type). According to the experience of 1891-95, out of every million female children born there died 1,268 under three months old, 2,410 from 3 to 6 months old, 4,162 from 1 to 2 years old, &c. &c. Further (taking the figures of the same line in ordinary type), out of every million females living there died, 1897 at all ages, 3,722 at ages under 5 years, 4,441 and 429 at ages over 75.

TABLE B.
ENGLAND AND WALES.—MORTALITY FROM **Phthisis**, in SEVERAL PERIODS, 1851-1895.

Period.	Per Million living.	Per Million Births.						Per Million Living.												
		0-3 Months.	3-6 Months.	6-12 Months.	Total under 1 Year.	1-	2-	3-	4-	Total under 5 Years.	5-	10-	15-	20-	25-	35-	45-	55-	65-	75-
PERSONS.	1851-60	—	—	—	2,032	1,479	793	471	409	1,305	572	1,025	2,961	4,181	4,317	4,091	3,466	2,840	1,983	808
	1861-70	—	—	—	1,370	1,139	603	367	314	968	454	825	2,651	3,928	4,243	4,026	3,340	2,656	1,603	539
	1871-80	—	—	—	1,180	883	423	263	233	767	358	661	2,036	3,117	3,619	3,745	3,132	2,449	1,476	492
	1881-85	132	252	481	865	650	327	216	201	569	312	560	1,695	2,535	3,154	3,312	2,849	2,197	1,362	490
	1886-90	117	219	429	765	590	275	196	175	502	271	498	1,420	2,144	2,691	2,985	2,656	2,150	1,363	555
1891-95	1,463	88	188	365	641	531	267	188	172	444	228	410	1,253	1,875	2,342	2,771	2,440	1,941	1,147	410
MALES.	1851-60	—	—	—	2,119	1,475	761	446	371	1,329	525	763	2,399	4,052	4,031	4,004	3,830	3,331	2,389	928
	1861-70	—	—	—	1,437	1,137	589	345	291	990	431	605	2,190	3,883	4,094	4,166	3,861	3,297	2,024	659
	1871-80	—	—	—	1,221	880	401	258	228	783	340	481	1,675	3,092	3,699	4,120	3,860	3,195	1,924	603
	1881-85	141	270	507	918	639	321	208	187	584	274	372	1,381	2,467	3,246	3,726	3,567	2,937	1,800	645
	1886-90	1,781	137	238	445	820	591	278	186	521	234	318	1,212	2,222	2,842	3,436	3,446	2,904	1,845	733
1891-95	1,634	99	206	374	679	546	272	192	163	467	197	260	1,075	2,026	2,548	3,268	3,205	2,686	1,572	563
FEMALES.	1851-60	—	—	—	1,942	1,482	825	498	448	1,281	620	1,293	3,516	4,288	4,575	4,178	3,121	2,383	1,635	716
	1861-70	—	—	—	1,299	1,139	618	389	337	947	477	1,045	3,112	3,967	4,378	3,900	2,850	2,065	1,239	447
	1871-80	—	—	—	1,137	885	447	268	238	750	375	846	2,397	3,140	3,543	3,401	2,464	1,777	1,093	407
	1881-85	1,738	122	233	454	809	661	332	224	553	350	749	2,006	2,596	3,070	2,927	2,197	1,541	995	372
	1886-90	1,497	97	201	410	708	588	272	207	483	307	658	1,626	2,075	2,552	2,563	1,936	1,490	966	423
1891-95	1,303	78	170	356	604	517	263	184	181	421	260	561	1,428	1,740	2,155	2,305	1,742	1,294	800	350

TABLE C.
ENGLAND AND WALES.—MORTALITY FROM **Tuberculosis**, in SEVERAL PERIODS, 1851-1895.

Period.	Per Million Living.	Per Million Births.						Per Million Living.													
		All Ages.	0-3 Months.	3-6 Months.	6-12 Months.	Total under 1 Year.	1-	2-	3-	4-	Total under 5 Years.	5-	10-	15-	20-	25-	35-	45-	55-	65-	75-
Males.	1851-60	260	—	—	—	3,169	1,906	787	344	214	1,625	157	91	51	31	21	15	19	20	20	8
	1861-70	295	—	—	—	3,800	2,140	774	315	187	1,856	139	81	60	38	27	21	23	27	20	6
	1871-80	318	—	—	—	4,467	2,231	695	279	167	2,028	129	78	60	37	26	22	21	23	24	9
	1881-85	289	970	1,455	1,931	4,356	1,931	638	254	164	1,852	128	81	53	36	27	23	22	26	24	11
	1886-90	265	963	1,567	1,932	4,462	1,705	526	223	138	1,764	115	70	58	42	32	26	23	23	22	11
1891-95	258	843	1,444	1,759	4,046	1,504	469	208	137	1,577	109	73	59	48	36	31	29	26	23	12	
Males.	1851-60	282	—	—	—	3,440	1,955	813	364	214	1,752	168	86	43	29	15	11	15	20	23	9
	1861-70	320	—	—	—	4,112	2,192	789	318	192	1,993	155	80	49	34	19	16	20	25	19	6
	1871-80	347	—	—	—	4,850	2,301	720	294	169	2,198	142	77	52	31	18	19	18	21	21	8
	1881-85	319	1,111	1,582	2,114	4,807	2,021	677	266	176	2,047	130	73	45	29	20	18	20	25	23	9
	1886-90	293	1,115	1,706	2,112	4,933	1,788	575	243	142	1,964	111	61	48	37	26	21	18	24	19	10
1891-95	259	970	1,586	1,899	4,455	1,561	484	214	133	1,737	109	68	48	36	28	25	27	26	25	16	
Females.	1851-60	239	—	—	—	2,885	1,854	760	324	215	1,498	146	96	58	32	26	18	22	19	17	8
	1861-70	272	—	—	—	3,474	2,086	757	312	182	1,718	124	82	70	43	34	25	26	28	21	6
	1871-80	290	—	—	—	4,069	2,158	670	263	165	1,858	117	80	68	42	33	25	25	25	26	9
	1881-85	261	823	1,323	1,741	3,887	1,839	598	242	152	1,659	125	89	61	43	34	27	23	27	25	12
	1886-90	240	806	1,423	1,745	3,974	1,619	474	203	133	1,566	120	80	67	46	37	31	27	21	25	11
1891-95	219	712	1,297	1,614	3,623	1,445	453	200	140	1,426	109	77	69	58	43	38	30	26	22	10	

TABLE D.
ENGLAND AND WALES.—MORTALITY FROM **Tubercular Meningitis (Hydrocephalus)**, in SEVERAL PERIODS, 1851-1895.

Period.	Per Million Living.	Per Million Births.						Per Million Living.													
		All Ages.	0-3 Months.	3-6 Months.	6-12 Months.	Total under 1 Year.	1-	2-	3-	4-	Total under 5 Years.	5-	10-	15-	20-	25-	35-	45-	55-	65-	75-
Persons.	1851-60	397	—	—	—	4,024	3,194	1,417	828	607	2,539	363	102	31	10	7	6	6	7	7	8
	1861-70	347	—	—	—	3,620	2,693	1,167	678	483	2,213	291	89	21	8	5	3	2	2	3	1
	1871-80	317	—	—	—	3,088	2,265	981	588	457	1,900	301	118	49	24	16	11	5	4	2	1
	1881-85	264	200	567	1,619	2,386	1,798	830	536	426	1,505	311	119	60	31	19	12	8	3	1	1
	1886-90	241	230	558	1,466	2,254	1,659	787	524	392	1,407	304	124	57	32	21	12	9	3	2	1
	1891-95	226	238	563	1,370	2,171	1,576	799	520	398	1,347	278	117	62	34	24	15	8	5	3	1
Males.	1851-60	464	—	—	—	4,665	3,632	1,550	847	636	2,915	396	105	31	12	7	7	7	8	8	10
	1861-70	412	—	—	—	4,239	3,102	1,286	731	519	2,578	326	93	20	9	5	3	2	2	3	2
	1871-80	377	—	—	—	3,651	2,670	1,096	631	487	2,242	331	119	48	25	17	12	6	4	2	1
	1881-85	305	237	675	1,892	2,804	2,077	920	561	442	1,750	327	114	58	34	21	12	9	4	1	1
	1886-90	276	271	638	1,730	2,639	1,912	857	541	400	1,627	312	116	53	32	21	12	10	4	2	3
	1891-95	256	263	653	1,595	2,511	1,759	857	520	408	1,530	284	114	61	35	24	18	9	7	4	—
Females.	1851-60	334	—	—	—	3,352	2,736	1,279	807	578	2,162	331	98	30	8	6	4	5	5	7	7
	1861-70	285	—	—	—	2,974	2,267	1,045	625	447	1,847	256	85	22	8	4	3	2	2	2	1
	1871-80	261	—	—	—	2,504	1,846	859	544	426	1,559	272	116	49	23	15	10	5	4	3	1
	1881-85	224	162	454	1,335	1,951	1,509	738	509	409	1,261	296	123	62	29	17	13	6	3	1	—
	1886-90	208	187	476	1,193	1,856	1,397	714	505	383	1,190	295	131	60	32	21	11	7	3	2	—
	1891-95	199	213	470	1,136	1,819	1,385	716	521	389	1,165	273	120	63	34	24	12	8	4	3	1

TABLE E.
ENGLAND AND WALES.—MORTALITY FROM SCROFULA AND OTHER FORMS OF TUBERCULAR DISEASE, IN SEVERAL PERIODS, 1851-1895.

Period.	Per Million Living.	Per Million Births.								Per Million Living.										
		0-3 Months.	3-6 Months.	6-12 Months.	Total under 1 Year.	1-	2-	3-	4-	Total under 5 Years.	5-	10-	15-	20-	25-	35-	45-	55-	65-	75-
PERSONS.	1851-60	—	—	—	464	311	172	125	101	295	126	141	157	139	112	96	98	119	144	105
	1861-70	—	—	—	755	438	190	116	92	408	95	99	101	79	58	52	63	82	98	71
	1871-80	—	—	—	985	557	223	131	98	514	73	60	60	43	32	29	39	53	70	35
	1881-85	228	369	574	1,171	699	283	168	144	621	123	105	115	93	73	66	58	64	54	34
	1886-90	300	456	772	1,528	864	329	197	148	768	129	116	117	109	85	76	69	68	63	38
1891-95	195	319	515	800	1,634	866	348	184	149	787	147	125	136	124	101	95	86	85	79	61
MALES.	1851-60	—	—	—	497	315	182	128	106	314	144	164	185	183	145	104	111	123	162	110
	1861-70	—	—	—	810	447	190	115	92	432	112	117	116	93	71	54	66	93	115	69
	1871-80	—	—	—	1,045	582	232	134	102	551	83	68	71	54	37	30	39	54	73	37
	1881-85	266	396	602	1,264	727	296	163	148	669	125	101	114	99	73	70	70	76	58	22
	1886-90	345	521	846	1,712	904	338	190	164	846	123	108	115	118	91	83	87	82	77	38
1891-95	213	371	555	846	1,772	915	363	199	144	859	152	123	133	142	111	104	107	102	85	51
FEMALES.	1851-60	—	—	—	431	309	162	121	94	275	107	118	131	100	94	88	86	117	129	10
	1861-70	—	—	—	700	429	190	117	92	384	78	82	87	63	49	51	59	72	84	72
	1871-80	—	—	—	924	530	214	128	94	477	62	51	50	34	27	28	37	51	67	35
	1881-85	189	341	546	1,076	669	269	174	140	574	121	109	117	86	71	62	50	54	51	45
	1886-90	166	253	696	1,336	822	320	205	132	689	135	124	120	100	81	70	55	57	52	39
1891-95	176	265	473	752	1,490	815	333	169	154	716	141	127	141	107	92	86	66	69	72	68

TABLE F.
ENGLAND AND WALES.—MORTALITY FROM DISEASES OF THE RESPIRATORY SYSTEM IN SEVERAL PERIODS, 1851-1895.

Period.	Per Million Living.	Per Million Births.						Per Million Living.												
		0-3 Months.	3-6 Months.	6-12 Months.	Total under 1 Year.	1-	2-	3-	4-	Total under 5 Years.	5-	10-	15-	20-	25-	35-	45-	55-	65-	75-
PERSONS.	1851-60	—	—	—	21,936	11,008	4,436	2,330	1,345	10,400	596	230	338	475	672	1,280	2,565	5,790	12,123	19,687
	1861-70	—	—	—	24,055	13,345	5,887	3,410	2,081	12,518	795	221	309	447	728	1,413	2,892	6,691	14,063	24,343
	1871-80	—	—	—	26,773	13,620	5,316	2,961	1,881	13,053	763	211	300	444	775	1,621	3,252	7,421	16,068	30,219
	1881-85	6,695	6,369	13,238	26,302	14,050	5,323	3,056	2,079	12,809	888	220	298	439	775	1,592	3,099	6,921	14,712	28,202
	1886-90	7,110	6,811	13,954	27,875	14,499	5,157	2,915	1,861	13,092	783	209	314	449	794	1,636	3,268	7,301	15,568	30,151
	1891-95	7,524	7,127	14,391	29,042	14,450	4,693	2,559	1,627	12,966	648	185	297	417	735	1,609	3,281	7,543	16,017	32,725
MALES.	1851-60	—	—	—	24,682	11,184	4,296	2,228	1,305	11,296	585	221	335	545	772	1,524	3,092	6,617	13,416	21,606
	1861-70	—	—	—	26,998	13,641	5,794	3,316	2,044	13,554	811	212	313	520	859	1,720	3,496	7,581	15,175	26,148
	1871-80	—	—	—	30,070	13,978	5,239	2,901	1,885	14,243	781	204	326	533	932	2,000	4,048	8,442	17,069	31,544
	1881-85	7,702	7,304	14,459	29,465	14,340	5,328	3,041	2,082	13,967	902	217	337	523	913	1,961	3,917	8,028	15,990	29,396
	1886-90	8,142	7,701	15,242	31,085	14,774	5,162	2,903	1,878	14,276	795	208	353	543	981	2,048	4,135	8,511	16,870	30,767
	1891-95	8,636	8,154	15,857	32,647	14,648	4,703	2,525	1,656	14,234	660	184	351	519	923	2,023	4,125	8,710	17,127	33,013
FEMALES.	1851-60	—	—	—	19,064	10,824	4,582	2,436	1,386	9,499	607	240	342	413	582	1,049	2,062	5,028	11,017	18,213
	1861-70	—	—	—	20,989	13,035	5,984	3,509	2,120	11,478	779	230	306	382	611	1,129	2,325	5,871	13,103	22,950
	1871-80	—	—	—	23,350	13,249	5,395	3,024	1,878	11,865	745	217	274	363	632	1,270	2,521	6,500	15,213	29,199
	1881-85	5,650	5,399	11,969	23,018	13,750	5,317	3,072	2,076	11,656	874	224	260	363	648	1,248	2,357	5,940	13,643	27,298
	1886-90	6,041	5,888	12,620	24,549	14,214	5,151	2,928	1,842	11,917	772	209	275	365	623	1,250	2,479	6,243	14,496	29,665
	1891-95	6,372	6,064	12,871	25,307	14,247	4,683	2,595	1,597	11,712	636	187	244	326	564	1,222	2,510	6,529	15,110	32,514

TABLE G.

PHTHISIS.

Mean Death-rates in Registration Counties per Million Living.

COUNTIES.	PERSONS.			MALES.			FEMALES.		
	1861-70.	1881-90.	Decrease per cent.	1861-70.	1881-90.	Decrease per cent.	1861-70.	1881-90.	Decrease per cent.
England and Wales	2,475	1,724	30	2,467	1,847	25	2,483	1,609	35
London	2,842	2,078	27	3,350	2,547	24	2,397	1,659	31
Surrey	2,114	1,574	26	2,410	1,822	24	1,830	1,352	26
Kent	2,092	1,511	28	2,082	1,554	25	2,102	1,470	30
Sussex	2,515	1,662	34	2,509	1,855	26	2,520	1,493	41
Hampshire	2,426	1,849	24	2,474	2,088	16	2,378	1,625	32
Berkshire	2,370	1,473	38	2,357	1,596	32	2,382	1,353	43
Middlesex	2,141	1,376	36	2,232	1,556	30	2,059	1,216	41
Hertford	1,920	1,434	25	1,898	1,546	19	1,941	1,327	32
Buckingham	2,063	1,295	37	1,876	1,252	33	2,244	1,337	40
Oxford	2,270	1,388	39	2,141	1,459	32	2,396	1,321	45
Northampton	2,142	1,413	34	1,863	1,443	23	2,418	1,384	43
Huntingdon	2,418	1,536	36	2,302	1,468	36	2,531	1,602	37
Bedford	2,368	1,507	36	2,009	1,388	31	2,690	1,612	40
Cambridge	2,408	1,666	31	2,331	1,674	28	2,483	1,659	33
Essex	2,164	1,431	34	2,093	1,479	29	2,235	1,383	38
Suffolk	2,441	1,707	30	2,154	1,663	23	2,716	1,748	36
Norfolk	2,395	1,495	38	2,206	1,462	34	2,569	1,527	41
Wiltshire	2,038	1,451	29	1,923	1,429	26	2,149	1,471	32
Devon	2,022	1,392	31	1,797	1,352	25	2,236	1,430	36
Devon	2,317	1,708	26	2,293	1,757	23	2,339	1,663	29
Cornwall	2,491	1,766	29	2,623	1,877	28	2,372	1,669	30
Somerset	1,901	1,332	29	1,879	1,428	24	1,922	1,284	33
Gloucester	2,116	1,480	30	2,174	1,542	29	2,065	1,426	31
Hereford	1,806	1,249	31	1,746	1,206	31	1,866	1,291	31
Shropshire	2,169	1,369	37	2,022	1,368	32	2,316	1,371	41
Stafford	2,043	1,346	34	1,945	1,412	27	2,142	1,279	40
Worcester	1,704	1,196	30	1,628	1,338	18	1,774	1,067	40
Warwick	2,240	1,604	28	2,380	1,889	21	2,107	1,335	37
Leicester	2,183	1,292	41	1,903	1,372	28	2,450	1,217	50
Rutland	1,899	1,272	33	1,613	1,191	26	2,183	1,352	38
Lincoln	1,959	1,467	25	1,688	1,326	21	2,226	1,606	28
Nottingham	2,482	1,605	35	2,090	1,604	23	2,853	1,607	44
Derby	2,494	1,406	44	2,062	1,365	34	2,925	1,446	51
Cheshire	2,444	1,606	34	2,282	1,667	27	2,596	1,549	40
Lancashire	2,923	1,954	33	2,904	2,101	28	2,940	1,816	38
West Riding	2,649	1,852	30	2,540	1,985	22	2,755	1,724	37
East Riding	2,329	1,653	29	2,196	1,685	23	2,458	1,622	34
North Riding	1,963	1,467	25	1,737	1,379	21	2,189	1,557	39
Darham	2,052	1,699	17	1,830	1,592	13	2,387	1,811	21
Northumberland	2,495	2,086	16	2,458	2,121	14	2,532	2,051	19
Cumberland	2,761	1,621	41	2,530	1,591	37	2,985	1,651	45
Westmorland	2,451	1,404	43	2,288	1,354	41	2,618	1,451	45
Monmouthshire	2,085	1,411	32	1,914	1,286	33	2,267	1,543	32
South Wales	2,981	2,008	33	2,969	1,936	35	2,993	2,080	31
North Wales	3,277	2,077	37	3,121	2,012	36	3,431	2,140	38

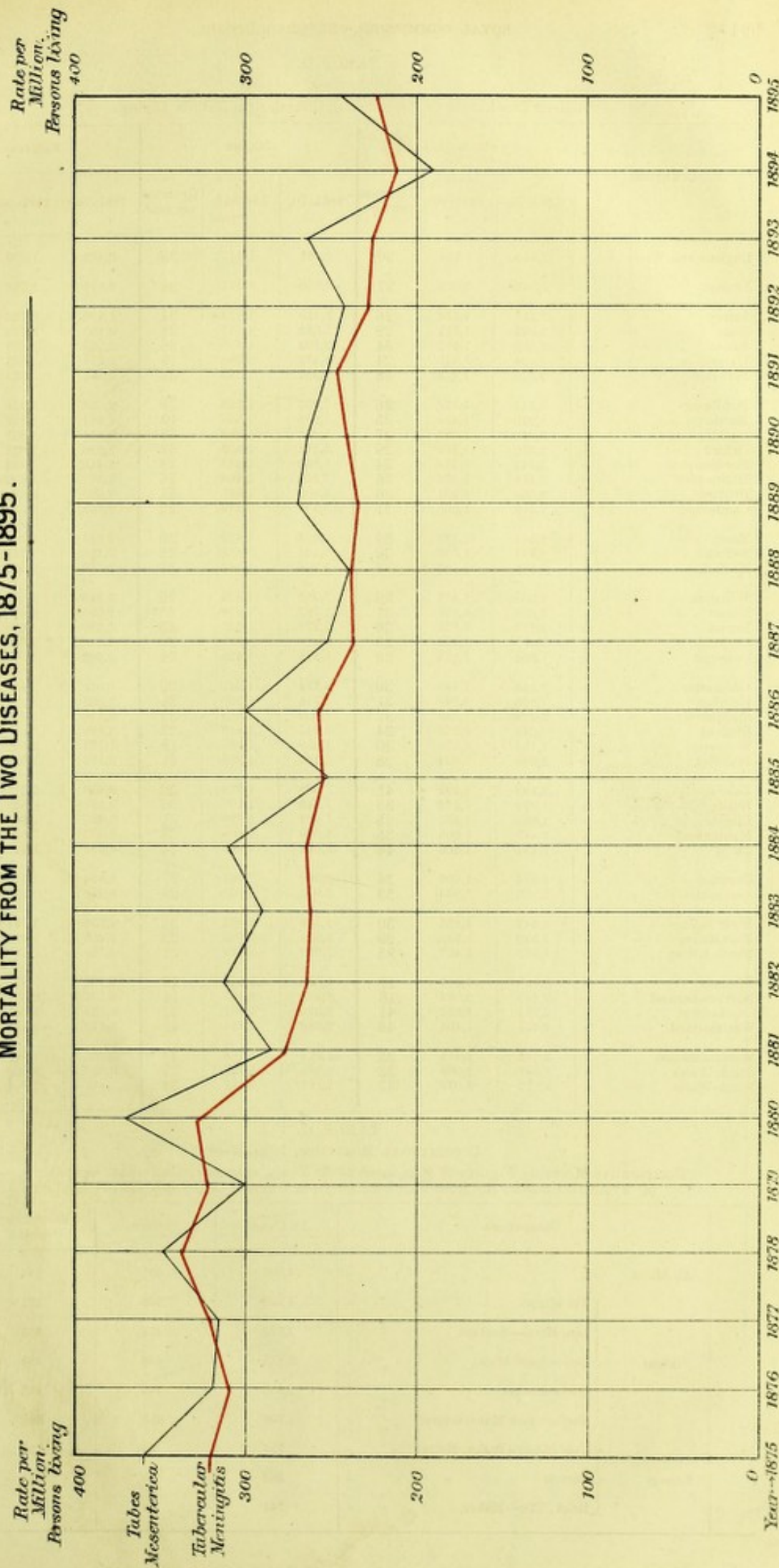
TABLE H.

OCCUPATIONAL MORTALITY, 1890-91-92.

Comparative Mortality Figures of Men, aged 25-65 Years, engaged in different Occupations:—
(a) From all Causes; (b) from Phthisis; (c) from Diseases of the Respiratory System.

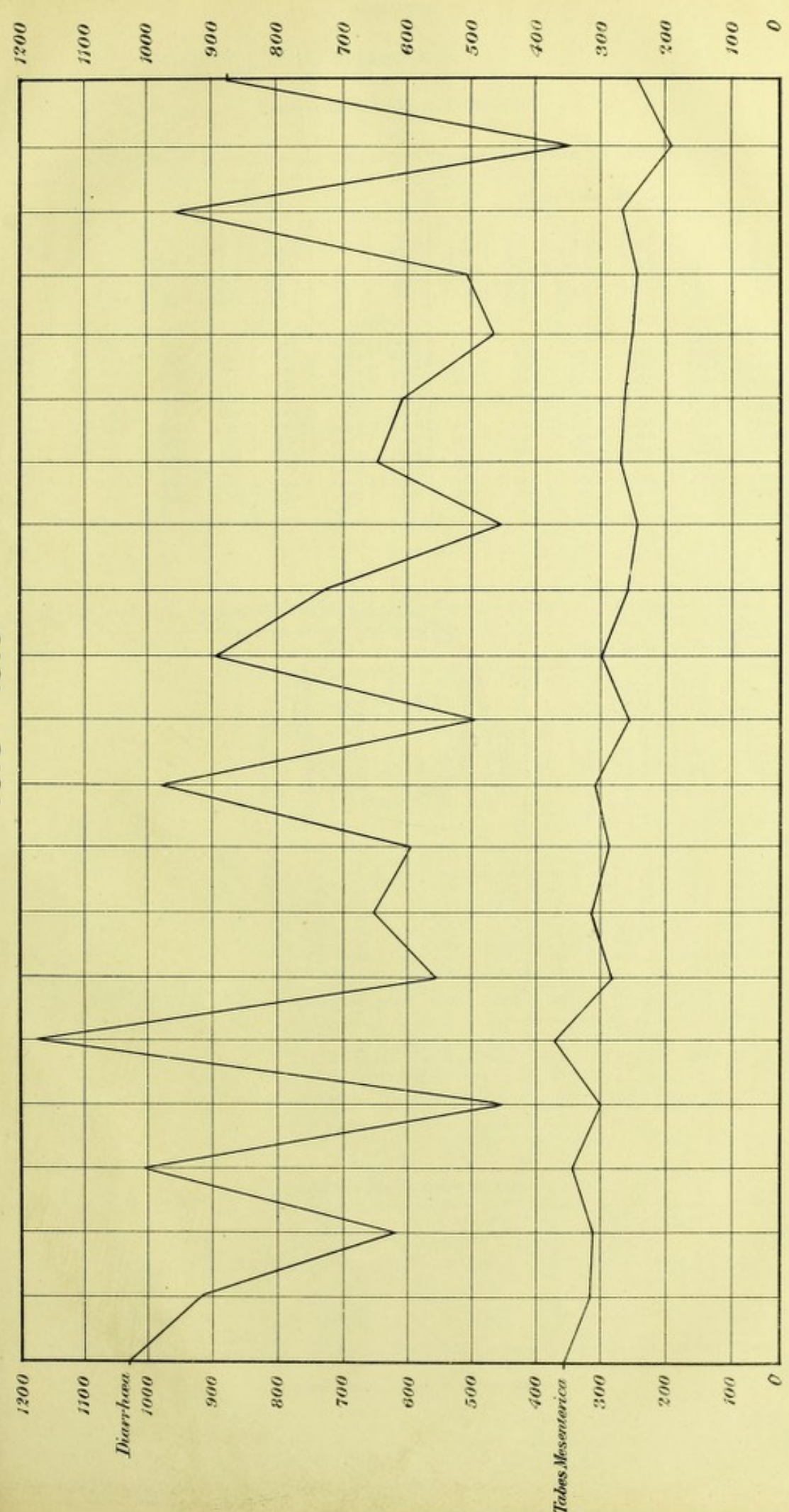
Occupations.		All Causes.	Phthisis.	Respiratory Diseases.
All Males	-	1,000	192	224
Highest	Tin Miners	1,409	508	377
	Inn, Hotel—Servant	1,725	476	363
	Unoccupied Males	2,215	448	294
	Costermonger	1,652	443	403
	Earthenware Manufacturer	1,706	333	668
Lowest	Coal Miner (Derby, Notts)	727	69	159
	Farmer	563	79	90
	Brick, Tile—Maker	741	84	201

TABES MESENTERICA AND TUBERCULAR MENINGITIS-DIAGRAM SHOWING ANNUAL VARIATIONS IN THE MORTALITY FROM THE TWO DISEASES, 1875-1895.





1875 - 1895.
 SHOWING ANNUAL VARIATIONS IN THE MORTALITY FROM THE TWO DISEASES. Rate per
 Million
 Persons Living





APPENDIX D.

Tables handed in by Dr. A. K. Chalmers.

1.

GLASGOW.—DEATHS AND DEATH RATE per MILLION from TUBERCULOUS DISEASES for 12 YEARS (1883-94).

Year.	DEATHS.						DEATH RATES PER MILLION.					
	Tubes Mesenterica.	Tubercular Meningitis.	Other Forms of Tuberculosis (Scrofula).	Tuberculous Diseases not Phthisis.	Phthisis.	All Tuberculous Diseases.	Tubes Mesenterica.	Tubercular Meningitis.	Other Forms of Tuberculosis (Scrofula).	Tuberculous Diseases not Phthisis.	Phthisis.	All Tuberculous Diseases.
1883	293	186	109	588	1,758	2,346	560	356	208	1,124	3,361	4,484
1884	239	228	120	587	1,614	2,201	452	432	227	1,111	3,054	4,165
1885	254	254	127	635	1,584	2,219	476	476	237	1,189	2,967	4,156
1886	263	215	132	610	1,552	2,162	487	399	245	1,131	2,878	4,009
1887	204	197	146	547	1,361	1,908	374	362	268	1,004	2,499	3,503
1888	198	223	118	539	1,285	1,824	360	405	215	980	2,336	3,316
1889	193	232	95	520	1,292	1,812	347	418	171	936	2,324	3,260
1890	202	239	103	544	1,403	1,947	360	426	183	969	2,499	3,468
1891	144	258	110	512	1,371	1,883	254	455	194	903	2,418	3,321
1892	184	229	102	515	1,463	1,978	275	342	152	769	2,187	2,956
1893	226	237	135	598	1,500	2,098	333	350	199	882	2,213	3,095
1894	186	226	168	580	1,560	2,140	270	329	245	844	2,271	3,115

2.

OLD GLASGOW, 6 YEARS, 1890-95. DEATHS AND DEATH RATES per 100,000 at certain PERIODS of LIFE.

AGES.	DEATHS.						DEATH RATES PER 100,000.					
	Tubes Mesenterica.	Tubercular Meningitis.	Other Forms of Tuberculosis (Scrofula).	Tuberculous Diseases not Phthisis.	Phthisis.	All Tuberculous Diseases.	Tubes Mesenterica.	Tubercular Meningitis.	Other Forms of Tuberculosis (Scrofula).	Tuberculous Diseases not Phthisis.	Phthisis.	All Tuberculous Diseases.
Under 1 year	199	383	139	721	101	822	197	379	138	714	100	814
" 5 years	540	637	297	1,474	316	1,790	159	188	87	434	93	527
" 10 "	150	154	116	420	243	663	39	40	30	109	63	172
" 15 "	61	36	59	156	316	472	17	10	16	43	88	131
" 20 "	19	20	42	81	971	1,052	5	6	12	23	279	302
" 30 "	15	14	96	125	2,244	2,369	2	2	15	19	340	359
" 40 "	8	22	50	80	1,891	1,971	2	5	10	17	395	412
" 50 "	6	2	26	34	1,108	1,142	2	1	7	10	316	326
" 60 "	4	—	22	26	509	535	2	—	9	11	222	233
60 years and upwards	1	1	7	9	194	203	5	5	4	5	105	110
All ages	1,003	1,269	854	3,126	7,893	11,019	29	37	25	91	230	321
Percentage supplied by each class to total deaths from tuberculous diseases							9	11	8	28	72	100

3.

GLASGOW.—DEATHS under 10 YEARS.

Period.	All Causes.	Zymotics.	All Tuberculous Diseases.
1870-74	38,178	12,802	5,554
1890-94*	32,644	9,677	2,972

* In 1890-94 29·6 per cent. of the deaths from all causes were due to zymotics, and 9·1 per cent. to tuberculous diseases.

APPENDIX E.

Tables handed in by Dr. Niven.

1.

1881 TO 1895.—MANCHESTER.

ANNUAL RATES OF MORTALITY per 1,000 PERSONS living.

Period.	Tabes Mesenterica.	Phthisis.	Other Tubercular Diseases.	Period.	Tabes Mesenterica.	Phthisis.	Other Tubercular Diseases.
<i>Quinquennial Periods:</i>				<i>Unions of Manchester, Chorlton, and Prestwich (continued):</i>			
1881-85 - -	0·35	2·42	0·57	1886 - - -	0·43	2·44	0·59
1886-90 - -	0·36	2·24	0·59	1887 - - -	0·39	2·19	0·53
1891-95 - -	0·22	2·09	0·75	1888 - - -	0·31	2·14	0·62
<i>Average 10 Years:</i>				1889 - - -	0·36	2·12	0·59
1881-95 - -	0·31	2·25	0·63	1890 - - -	0·33	2·33	0·62
<i>Unions of Manchester, Chorlton, and Prestwich:</i>				<i>City of Manchester as now constituted:</i>			
1881 - - -	0·28	2·46	0·52	1891 - - -	0·25	2·20	0·78
1882 - - -	0·40	2·41	0·61	1892 - - -	0·21	2·05	0·75
1883 - - -	0·34	2·54	0·59	1893 - - -	0·26	2·05	0·76
1884 - - -	0·39	2·34	0·56	1894 - - -	0·18	1·97	0·67
1885 - - -	0·36	2·34	0·56	1895 - - -	0·22	2·16	0·77

2.

A TABLE showing the INCIDENCE of ABDOMINAL TUBERCULOSIS in CATTLE of different AGES slaughtered in the MANCHESTER WATER STREET ABATTOIR, and not specially selected.

No.	No. Tuberculous.	Condemned as unfit for Food.	Number in which the Abdominal Organs only were affected.	Number in which both Abdominal and Thoracic Organs were affected.	Tuberculous Udders.
Cows - - 168	69 or 41 per cent.	11	19	23	2
Heifers - - 124	27 „ 22 „	3	19	4	0
Bullocks - - 75	12 „ 16 „	0	8	2	0
Bulls - - 8	2 „ 25 „	0	0	2	0
Calves - - 23	(17) „ 4 „	0	0	0	0

APPENDIX F.

Table handed in by Dr. Newsholme.

TOTAL NUMBER OF ANIMALS DESTROYED IN BRIGHTON, from 1889 to 1896 inclusive.

A.—FOR TUBERCULOSIS.

Year.	Beasts.				Sheep.				Pigs and Sows.			
	Whole Animal.		Part of Animal.		Whole Animal.		Part of Animal.		Whole Animal.		Part of Animal.	
	Con- demned by Magis- trate.	Volun- tarily by Butcher.	Magis- trate.	Volun- tarily.	Magis- trate.	Volun- tarily.	Magis- trate.	Volun- tarily.	Magis- trate.	Volun- tarily.	Magis- trate.	Volun- tarily.
1889 - -	1	1	—	—	—	—	—	—	—	—	—	—
1890 - -	3	4*	—	—	—	—	—	—	—	—	—	—
1891 - -	—	5	—	—	—	—	—	—	—	—	—	—
1892 - -	4	11	2	—	—	—	—	—	—	—	—	—
1893 - -	1	10	2	—	—	—	—	—	1	—	—	—
1894 - -	1	4	—	2†	—	—	—	—	—	2	—	—
1895 - -	—	10	—	6†	—	—	—	—	2	3	—	—
1896 - -	—	13	—	8†	—	—	—	—	—	13	—	12
	10	58	4	16	—	—	—	—	3	18	—	12

* One of these carcasses was a seven days old calf.

† These refer to lungs only, or lungs and liver.

B.—FOR ALL OTHER DISEASES, EXCLUDING TUBERCULOSIS.

Year.	Beasts.				Sheep.				Pigs and Sows.			
	Whole Animal.		Part of Animal.		Whole Animal.		Part of Animal.		Whole Animal.		Part of Animal.	
	Magis- trate.	Volun- tarily.	Magis- trate.	Volun- tarily.	Magis- trate.	Volun- tarily.	Magis- trate.	Volun- tarily.	Magis- trate.	Volun- tarily.	Magis- trate.	Volun- tarily.
1889 - -	—	—	—	—	—	—	—	—	—	—	—	—
1890 - -	—	—	1	1	1	3	1	1	—	1	—	—
1891 - -	1	1	—	3	—	4	—	—	—	1	—	1
1892 - -	—	—	1	1	1	1	—	—	—	2	—	—
1893 - -	—	2	—	4	—	3	—	6	—	1	—	—
1894 - -	1	2	—	8	—	8	—	1	—	3	—	2
1895 - -	2	1	6	5	—	13	—	—	—	1	—	30*
1896 - -	—	5	—	30	—	6	—	2	—	9	—	331*
	4	11	8	52	2	38	1	10	—	18	—	364

* These were pigs' livers, lungs, and intestines.

Total number of whole animals :—
 (a.) Tuberculosis - - - 91
 (b.) Other diseases - - - 73 } or omitting sheep, 33.
 Total number of parts of animals :—
 (a.) Tuberculosis - - - 32
 (b.) Other diseases - - - 435

Table prepared by Dr. Brown, Medical Officer of Health,

POST-MORTEM APPEARANCES OF CATTLE examined by the MEDICAL OFFICER of HEALTH

Date.	Description of Carcase.	Age.	Weight.	Mouth.	Head.	Heart.	Pericardium.	Right Lung.	Left Lung.	Right Costal Pleura.
1895. 15th Feb.	Heifer	4 years	Lbs. 575	Full	Normal	Normal	Not present for examination.	Surface covered with tubercle.	Surface covered with tubercle.	Somewhat tubercular.
13th March	Cow	7 years	465	Full	Normal	Muscular substance normal.	Tubercular on external surface.	Tubercular	Tubercular	Tubercular
27th March	Bullock	4 years	760	6 teeth	Normal	Normal	Not present for examination.	Tubercular on surface.	Tubercular on surface.	Tubercular
9th April	Cow	years	512	Full	Normal	Much enlarged.	Inflamed, with thick masses of lymph internally.	Tubercular	Tubercular	Tubercular
9th May	Bull	4 years	—	—	—	Normal	Slightly tubercular.	Tubercular	Tubercular	Tubercular
30th May	Cow	6 years	—	Full	Normal	Normal	Not present for examination.	Normal	Normal	Normal
15th June	Cow	Very old	448	8 teeth much worn.	Normal	Normal	Tubercular	Tubercular	Tubercular	Tubercular
23rd Aug.	Bull calf	3 weeks	—	—	Apparently normal.	Normal	Not present for examination.	Normal	Upper solid from grey tubercle.	Normal
16th Oct.	Heifer	—	430	8 teeth	Normal	—	Lymph on external surface of pericardial sac.	Tubercular	Tubercular	Tubercular
12th Nov.	Cow	6 years	396	8 teeth	Normal	Normal	Not present for examination.	Tubercular	Normal	Markedly tubercular.
1896. 21st Jan.	Cow	—	477	Full	Normal	Normal	Not present for examination.	Tubercular	Tubercular	Tubercular
29th Jan.	Cow	Old	717	—	—	Normal	Not present for examination.	Tubercular	Tubercular	Tubercular
6th Feb.	Cow	5 years	448	Full	—	—	Tubercular	Tubercular	Tubercular	Tubercular
9th Feb.	Cow	—	450	Full	—	Normal	Not present for examination.	Tubercular on whole surface.	Tubercular on whole surface.	Tubercular in fine granular and lymph form.
12th Feb.	Cow	5 years	475	Full	—	Normal	Normal	Tubercular chiefly on surface.	Tubercular chiefly on surface.	Tubercular
3rd March	Cow	—	658	Full	—	Muscle hypertrophied.	Adherent	Normal	Normal	Normal
18th March	Cow	8 years	444	Full	—	Normal	Not examined.	Thickened pleura.	Thickened pleura.	Covered with inflammatory lymph.
18th March	Bullock	2 year	255	—	—	Normal	Normal	Normal	Normal	Normal
								Tubercular glands of large size in connexion with lungs.		
15th April	Cow	—	485	Full	—	Normal	Tubercular	Tubercular	Tubercular	Tubercular
15th April	Cow	—	673	Full	—	Surface tubercular	Adherent	Lungs together weighed 40 lbs. (Normal lungs, 6 lbs.)	Tubercular	Tubercular
23rd April	Cow	Old	512	Full	—	Normal	Not examined.	Lungs together weighed 28 lbs. (Normal lungs, 6 lbs.)	Tubercular	Tubercular
30th April	Cow	Old	508	Full	—	Tubercular on surface.	Tubercular on both surfaces.	Tubercular on surface.	Tubercular chiefly on surface.	Tubercular
5th May	Bullock	Four years	820	—	—	Tubercular on surface. Enlarged.	Adherent by firm lymph.	Tubercular on surface.	Tubercular on surface.	Had been removed from costal surfaces.
6th May	Cow	6 years	535	—	Two large tubercular masses on each side of the throat, apparently glandular in origin. One about size of a goose's egg containing pulaceous matter.	Normal	Tubercular	Tubercular on surface. Large tubercular bosses on surface of both lungs.	Tubercular on surface. Large tubercular bosses on surface of both lungs.	Tubercular bosses.

G.

Carlisle, handed in by Mr. J. Bell.

at the CARLISLE PUBLIC SLAUGHTER-HOUSES from February 1895 to March 1897.

Left Costal Pleura.	Stomachs.	Intestines.	Liver.	Spleen.	Kidneys.	Peritoneum.	Uterus.	Udder.	Result of examination.
Somewhat tubercular.	Peritoneal surface markedly tubercular.	Normal	Tubercular on surface.	Normal	Not present for examination.	Markedly tubercular.	Not present for examination.	Not present for examination.	Unfit for food.
Tubercular	Normal	Normal	Normal	Not present for examination.	Not examined.	Normal	Not present for examination.	Normal	Unfit for food.
Tubercular	Normal	Not present for examination.	Normal except a few flakes.	Tubercular on surface.	Normal	Tubercular on left flank.	—	—	Unfit for food.
Tubercular	Two of them tubercular.	Tubercular	Tubercular	Tubercular	Normal	Tubercular	Not present for examination.	Not examined	Unfit for food.
Tubercular	Tubercular	Tubercular	Tubercular	Tubercular	Not examined.	Tubercular	—	—	Unfit for food.
Normal	1st and 2nd tubercular on surface.	Peritoneal fat tubercular. Not examined.	Tubercular on surface.	Tubercular on surface.	Not examined.	Tubercular	Not examined.	Normal	Unfit for food.
Tubercular	Tubercular	Not examined.	Tubercular	Tubercular	Not examined.	Tubercular	Not examined.	Markedly tubercular.	Unfit for food.
Tubercular	Not present for examination.	Not present for examination.	Normal	Normal	Normal	Normal	—	—	Unfit for food.
Tubercular	Tubercular on surface.	Not examined.	Slightly tubercular on surface.	Slightly tubercular on surface.	Not examined.	Tubercular	Not examined.	Not examined.	Unfit for food.
Slightly tubercular.	Normal	Normal	Normal	Normal	Not examined.	Normal	Not examined.	Apparently normal.	Unfit for food.
Tubercular	Tubercular	—	Tubercular	Tubercular	Normal	Normal	—	—	Unfit for food.
Tubercular	Tubercular	Not examined.	Tubercular	Somewhat tubercular.	Not examined.	Tubercular	Not examined.	Tubercular	Unfit for food.
Tubercular	Tubercular	Tubercular	Tubercular on surface.	Tubercular on surface.	Tubercular	Tubercular	—	—	Unfit for food.
Tubercular in fine granular and lymph form.	Normal	Normal	Tubercular on surface.	Normal	Normal	Tubercular in fine granular and lymph form.	Not examined.	Right side normal. Left side much enlarged, and all its ducts dilated and filled with pus. Section very yellow in colour.	Unfit for food.
Tubercular	Two large stomachs tubercular.	Mesenteric fat tubercular.	Tubercular on surface.	Tubercular on surface.	Not examined.	Tubercular	Normal	Section very yellow in colour.	Unfit for food.
Normal	Large stomach tubercular on surface.	—	Much enlarged, weighed 41 lbs. Large tubercular masses with soft caseous deposits in their interior.	Normal	Not examined.	Somewhat tubercular on both sides, worst on right.	Not examined.	Normal	Unfit for food.
Covered with inflammatory lymph.	Tubercular	Not present for examination.	Normal	Thickened capsule.	Not examined.	Tubercular, especially on left side.	Not examined.	Normal	Unfit for food.
Normal	Slightly tubercular on surface.	Not present for examination.	Large tubercular masses, some as large as fist, with a yellow caseous and gritty section. Some with well defined cavity in interior.	Not examined.	Normal	Tubercular	—	—	Unfit for food.
Tubercular	Tubercular	—	Tubercular	Tubercular	—	Tubercular	—	Not examined	Unfit for food.
Tubercular	Tubercular	—	Somewhat fatty.	Tubercular	—	Tubercular	—	Not examined	Unfit for food.
Normal	1st one tubercular.	Tubercular	Tubercular on surface.	Tubercular on surface.	Not examined.	Tubercular	Not examined.	Apparently normal.	Unfit or food.
Tubercular	1st, 2nd, and 4th tubercular.	Normal	Tubercular on surface.	Tubercular on surface.	Normal	Tubercular	Markedly tubercular.	Tubercular on section.	Unfit for food.
Had been removed from costal surfaces.	1st, 2nd, and 4th tubercular; 3rd could not be found.	Normal	Normal	Not to be found.	—	Normal	—	—	Unfit for food.
Tubercular bosses.	Normal	Normal	Normal	Normal	Not examined.	Normal	Normal	—	Unfit for food.

Date.	Description of Carcase.	Age.	Weight.	Mouth.	Head.	Heart.	Pericardium.	Right Lung.	Left Lung.	Right Costal Pleura.
1896.			Lbs.							
15th June	Cow	Old	432	Full	Normal	Normal	Tubercular on external surface.	Tubercular	Normal	Tubercular
25th June	Bull stirk	—	259	—	Normal	Normal	Normal	Tubercular	Tubercular	Tubercular
8th July	Cow	—	433	Full	—	Not present for examination.	Not present for examination.	Tubercular	Tubercular	Tubercular
15th August	Cow	—	638	Full	Normal	Normal	Not present for examination.	Lymph on surface. Pus in air cavities.	Lymph on surface. Pus in air cavities.	Tubercular
26th August	Cow	—	405	Full	—	Normal	Normal	Tubercular	Tubercular	Tubercular
31st August	Heifer	3 years	697	6 teeth	—	Normal	Not present for examination.	Normal	Normal	Normal
7th Sept.	Cow	—	382	Full	—	Small and pale.	Not present for examination.	Not present for examination.	Not present for examination.	Tubercular
23rd Sept.	Cow	—	616	Full	Normal	Normal	Normal	Tubercular	Tubercular	Tubercular
8th Oct.	Cow	—	390	Full	Normal	Normal	Normal	Tubercular	Tubercular	Tubercular
21st Oct.	Cow	6 years	641	—	Normal	Normal	Normal	Tubercular on surface.	Tubercular on surface.	Tubercular on surface.
27th Oct.	Cow	—	520	Full	—	Tubercular on surface.	Tubercular and adherent.	Tubercular on surface.	Tubercular on surface.	Tubercular on surface.
11th Nov.	Cow	3 years	478	—	Not present for examination.	Not present for examination.	Normal	Tubercular	Normal	Tubercular
14th Nov.	Cow	3 years	423	—	Normal	Normal	Normal	Tubercular on surface.	Tubercular on surface.	Tubercular on surface.
2nd Dec.	Cow	8 years	412	Full	—	Not present for examination.	Not present for examination.	Tubercular on surface.	Tubercular on surface.	Tubercular
2nd Dec.	Heifer	2 years	541	—	—	Normal	Not present for examination.	Tubercular	Tubercular	Tubercular, great masses.
16th Dec.	Cow	—	637	Full	Normal	Tubercular on surface. Soft lymph.	Tubercular and adherent.	Tubercular	Tubercular	Tubercular
1897.										
2nd Feb.	Cow	6 years	648	—	—	Pericarditis	Adherent	Lymph deposit on surface.	Lymph deposit on surface.	Tubercular, lymph deposit all over.
16th Feb.	Cow	—	682	Full	—	—	Tubercular	Tubercular	Tubercular	Tubercular
16th Feb.	Cow	—	660	Full	—	Tubercular pericarditis.	Tubercular	Tubercular	Tubercular	Tubercular
23rd Feb.	Bullock	2 years	271	—	Normal	Normal	Not present for examination.	Very tubercular, great masses containing pus.	Very tubercular, great masses containing pus.	Lymph deposit all over costal surface.
23rd Feb.	Heifer	—	624	—	—	—	Normal	Very tubercular.	Very tubercular.	Very tubercular.
10th March	Cow	—	489	Full	—	Normal	Normal	Tubercular	Tubercular	Tubercular
10th March	Cow	—	487	Full	—	Normal	Normal	Tubercular	Tubercular	Tubercular
17th March	Cow	Old	441	—	—	Tubercular on surface.	Tubercular	Tubercular	Tubercular	Tubercular

Left Costal Pleura.	Stomachs.	Intestines.	Liver.	Spleen.	Kidneys.	Peritoneum.	Uterus.	Udder.	Result of Ex- amination.
Tubercular	Normal	—	Enlarged and thickened bile ducts.	Normal	Not examined.	—	Containing placental masses.	—	Unfit for food.
Tubercular	Normal	Tubercular	Tubercular	Normal	Normal	Tubercular	Not examined.	Not examined.	Unfit for food.
Tubercular	Normal	Normal	Normal	Normal	Not examined.	Normal	Not examined.	Not examined.	Unfit for food.
Tubercular	—	—	Lymph on surface.	Tubercular	Not examined.	Red glairy lymph on surface.	Not examined.	Tubercular	Unfit for food.
Tubercular	—	—	Very tubercular.	Normal	Normal	Normal	Tubercular	Normal	Unfit for food.
Normal	—	Normal	Tubercular throughout. Very marked.	Normal	Normal	Tubercular on right side.	Not examined.	—	Unfit for food.
Tubercular	Normal	Normal	Tubercular	Normal	Normal	Tubercular	Not examined.	Tubercular	Unfit for food.
Tubercular	Normal	Partially inflamed.	Tubercular	Tubercular	Not examined.	Tubercular	Not examined.	Normal	Unfit for food.
Tubercular	Normal	Normal	Tubercular	Tubercular	Not examined.	Tubercular	Normal	Normal	Unfit for food.
Tubercular on surface.	Normal	Normal	Normal	Normal	Not examined.	Normal	Normal	Apparently normal.	Unfit for food.
Tubercular on surface.	2nd one tubercular.	—	Tubercular all over surface.	Tubercular	Not examined.	Tubercular	Not examined.	Not examined.	Unfit for food.
Normal	Normal	Normal	One tubercular deposit.	Normal	Normal	Normal	Not examined.	Not examined.	Unfit for food.
Tubercular on surface.	Paunch tubercular.	Very tubercular.	Normal	Normal	Normal	Tubercular	Fallopian tubes tubercular.	—	Unfit for food.
Tubercular	Tubercular	Tubercular	Capsule thickened.	Not present for examina- tion.	Normal	Very tubercular.	Not examined.	Not examined.	Unfit for food.
Tubercular, great masses.	Normal	Normal	Normal	Normal	Normal	Normal	Not examined.	Not examined.	Unfit for food.
Tubercular	Tubercular	—	A few tubercles on surface.	Tubercular	—	Tubercular	Not examined.	Not examined.	Unfit for food.
Tubercular, lymph deposit all over.	Normal	Normal	Normal	Normal	Normal	Tubercular deposit all over.	Not examined.	Not examined.	Unfit for food.
Tubercular	Tubercular	Tubercular	Tubercular	Tubercular	Not examined.	Tubercular	Tubercular	Tubercular	Unfit for food.
Tubercular	Normal	Normal	Normal	Normal	Not present for examina- tion.	—	Normal	Not examined.	Unfit fo food.
Lymph deposit all over costal surface.	Normal	Normal	Normal	Normal	Normal	Normal	—	—	Unfit for food.
Slightly tubercular.	Normal	Normal	Tubercular	Normal	Normal	Tubercular on right side.	Normal	Not examined.	Unfit for food.
Tubercular	Normal	Normal	Tubercular	Tubercular	Normal	Tubercular	Normal	Tubercular	Unfit for food.
Tubercular	Normal	Normal	Tubercular	Normal	Normal	Tubercular	Tubercular	Normal	Unfit for food.
Tubercular	Tubercular	Tubercular	Tubercular	Tubercular	One lobule tubercular.	Tubercular	Tubercular	Normal	Unfit for food.

(Signed) WILLIAM BROWN, F.R.C.S.E.,
Medical Officer of Health for Carlisle.

APPENDIX H.

Table handed in by Dr. H. H. Littlejohn, Medical Officer of Health of Sheffield.

TABLE showing CARCASSES condemned as unfit for FOOD, in SHEFFIELD, during the years 1890-1896, together with those condemned on account of TUBERCULOSIS.

Year.	Beef.		Mutton.		Pork.		Veal.		All Carcases.	
	Total.	Tubercular.	Total.	Tubercular.	Total.	Tubercular.	Total.	Tubercular.	Total.	Tubercular.
1890 -	96	59	58	—	11	1	35	—	200	60
1891 -	77	43	61	—	13	2	36	2	187	47
1892 -	82	44	85	—	17	—	42	1	226	45
1893 -	111	70	69	—	9	—	38	—	227	70
1894 -	87	43	55	1	50	2	43	3	235	49
1895 -	78	40	54	—	45	—	29	1	206	41
1896 -	73	34	86	—	65	5	35	1	259	40

APPENDIX I:

Papers handed in by Mr. Clement Stephenson, Chief Veterinary Inspector, Newcastle-on-Tyne.

1.

Continuation of Report *re* Tuberculosis found in cattle at knackers' yards. See Appendix 3 A to Minutes of Evidence of the Departmental Committee to inquire into Pleuro-pneumonia and Tuberculosis, 1888.

Year.	Tuberculosis.	Other Causes.
1888 - - -	9	10
1889 - - -	6	16
1890 - - -	4	9
1891 - - -	10	13
1892 - - -	13	15
1893 - - -	7	18
1894 - - -	7	14
1895 - - -	7	9
1896 - - -	7	10
	70	114
		70
Total -		184

We got 18 tubercular cattle out of the market, not enumerated in the above.

In the eight years 1871-1878 there were 53 cases of tuberculosis, and from other causes 558, making a total of deaths of 591, as against 184 in years 1888-1896.

2.

REPORTED CASES OF PLEURO-PNEUMONIA AND SWINE FEVER in the County of NORTHUMBERLAND which, upon investigation, proved to be Tuberculosis. (Continuation of Appendix 3 C to Minutes of Evidence of the Departmental Committee to inquire into Pleuro-pneumonia and Tuberculosis, 1888.)

Year.	Cattle.	Swine.
1888 - - -	1	1
1889 - - -	3	2
1890 - - -	—	2
1891 - - -	3	2
1892 - - -	3	—
1893 - - -	1	—
1894 - - -	2	—
1895 - - -	—	—
1896 - - -	—	1
	13	8

In the nine years, 1879 to 1887 (see Appendix C, page 295), there were 23 cases of tuberculosis, all in cattle.

In nine years, 1888 to 1896, 13 cases in cattle.

3.

NEWCASTLE AND DISTRICT BUTCHERS' ASSOCIATION.

SIXTH ANNUAL REPORT and BALANCE SHEET.

GENTLEMEN,

YOUR Committee have pleasure in presenting their Sixth Annual Report for the year ending May 31st, 1897.

During the year there has been a larger number of our members availing themselves of the benefits of

the Insurance Fund. Your Committee would impress upon each member of the Association to avail himself of the advantages of such a useful mutual aid in the event of his being unfortunate enough to lose an animal, especially seeing that the cost is so small as compared with the benefits received, and sense of security felt. Since the commencement of the Insurance Fund in 1892, we have returned to members insuring no less a sum than 779*l.* 9*s.* 7*d.*, which, added to this year's dividend of 235*l.* 2*s.* 10*d.*, making a grand total of 1,014*l.* 12*s.* 5*d.*, returned during the five years' work, after carrying a balance forward to next year of 15*l.* 12*s.* 7*d.*, is a state of things we venture to hope you will regard as highly satisfactory.

For a statement of the Association funds we would refer you to the annexed balance-sheet.

The following gentlemen retire from the committee by rotation:—President, vice-presidents, treasurer, secretary, and six members of the executive committee—Mr. R. Swan, Mr. M. C. Potts, Mr. Thomas Douglas, Mr. Ed. Scott, Mr. T. N. Richardson, Mr. R. J. Young, all of whom are eligible for re-election.

A. H. MCBRYDE, President.

W. C. BROWN, Treasurer.

WM. THOMPSON, Secretary.

698, Scotswood Road.

BALANCE SHEET OF INSURANCE.

Dr.

	£	s.	d.
To compensation—five claims - - - -	35	12	4
„ R. Mayne (printing) - - - -	2	16	6
„ Postages, sundries, &c. - - - -	1	7	4
„ Secretary - - - -	12	10	0
„ Balance - - - -	251	0	8
	303	6	10
„ Balance brought down - - - -	251	0	8

Cr.

	£	s.	d.
By premiums - - - -	282	9	6
„ balance from last year - - - -	20	17	4
	303	6	10
By dividend on 282 <i>l.</i> 4 <i>s.</i> - - - -	235	2	10
„ unclaimed - - - -	0	5	6
„ balance carried forward - - - -	15	12	4
	251	0	8

To balance carried forward, 15*l.* 12*s.* 4*d.*

Audited and found correct, July 7th, 1897.

JOHN DAVIDSON, } Auditors.
R. J. YOUNG, }

RULES.

1. That this society be called "The Newcastle and District Butchers' Insurance."

2. That its object be to compensate members losing cattle, seized or surrendered, and destroyed, affected with tuberculosis or other disease, or by accident.

3. At the first meeting a president, vice-presidents, treasurer, secretary, and committee (with power to add to their number), shall be elected for the ensuing year.

4. That no person be admitted a member unless previously a member of the Butchers' Association.

5. Members joining this insurance must insure all cattle, week by week, purchased by them during the year; failing compliance with these conditions to be out of benefit.

6. Any member four weeks in arrears to be notified by the secretary, and failing to pay all back subscriptions to forfeit all moneys already paid in.

7. That the premium be 1*s.* for every bullock or heifer, and 1*s.* 6*d.* premium for every cow slaughtered.

8. Insurance premiums to be paid at the office of Mr. J. A. Baty, Cattle Market Exchange, or to the secretary, previous to the animal being slaughtered.

9. Any member having a beast condemned shall at once give notice, in writing, to the secretary, with all particulars as to cost, &c., and the officials of the Association shall be empowered to make all necessary inquiries for the guidance of the committee.

10. That two-thirds of the value of the beast be the compensation granted, together with such offal as allowed, and that no compensation be granted for a beast of less value than 8*l.*

11. That all funds be paid into the North-Eastern Bank, in the joint names of the president, treasurer, and secretary.

12. All moneys to be paid into the bank by the treasurer within four days from the closing of the accounts for that week.

13. In the event of a lack of funds a levy shall be made upon each member to meet any deficiency.

14. That any alteration, repeal, or addition to the existing rules shall be considered at the annual meeting. Notice of such repeal, addition, or alteration, to be forwarded to the secretary two months prior to the annual meeting, the secretary to lay the same before the committee of management at their next meeting; provided always that such meeting takes place previous to the said annual meeting; but in case there should be no meeting of the committee, then the secretary shall call a special meeting of the committee one month previous to the annual meeting to consider the propriety of recommending the adoption or rejection of any alteration, repeal, or addition, which may be brought before the members for their consideration at the annual meeting.

15. After such a sum as may be agreed upon by the members has been set to form a reserve fund, all funds shall be divided at the end of the current year, *pro rata*.

APPENDIX J.

Paper handed in by Mr. S. B. Provis, C.B.

STATEMENT showing I. the ENACTMENTS in GENERAL STATUTES, and II. the GENERAL ORDERS and MODEL BYELAWS issued by the LOCAL GOVERNMENT BOARD or their PREDECESSORS which are applicable to the ADMINISTRATIVE COUNTY of LONDON, and the rest of ENGLAND and WALES respectively, and which relate to (1) UNSOUND MEAT, MILK, or the products of MILK, (2) SLAUGHTER-HOUSES, and (3) DAIRIES, COWSHEDS, and MILKSHOPS.

I.—ENACTMENTS IN GENERAL STATUTES APPLICABLE TO THE ADMINISTRATIVE COUNTY OF LONDON.

(1.) *Unsound Meat, Milk, or the Products of Milk.*

PUBLIC HEALTH (LONDON) ACT, 1891.

Section 47.—(1.) Any medical officer of health or sanitary inspector may at all reasonable times enter any premises and inspect and examine

- (a) any animal intended for the food of man which is exposed for sale, or deposited in any place for the purpose of sale, or of preparation for sale, and
- (b) any article, whether solid or liquid, intended for the food of man, and sold or exposed for sale or deposited in any place for the purpose of sale or of preparation for sale,

the proof that the same was not exposed or deposited for any such purpose or was not intended for the food of man resting with the person charged; and if any such animal or article appears to such medical officer or inspector to be diseased, or unsound, or unwholesome, or unfit for the food of man, he may seize and carry away the same himself or by an assistant, in order to have the same dealt with by a justice.

(2.) If it appears to a justice that any animal or article which has been seized or is liable to be seized under this section is diseased, or unsound, or unwholesome, or unfit for the food of man, he shall condemn the same, and order it to be destroyed or so disposed of as to prevent it from being exposed for sale or used for the food of man; and the person to whom the same belongs or did belong at the time of sale or exposure for sale, or deposit for the purpose of sale or of preparation for sale, or in whose possession or on whose premises the same was found, shall be liable on summary conviction to a fine not exceeding fifty pounds for every animal, or article, or if the article consists of fruit, vegetables, corn, bread or flour, for every parcel thereof so condemned, or, at the discretion of the court, without the infliction of a fine, to imprisonment for a term of not more than six months with or without hard labour.

(3.) Where it is shown that any article liable to be seized under this section, and found in the possession of any person was purchased by him from another person for the food of man, and when so purchased was in such a condition as to be liable to be seized and condemned under this section, the person who so sold the same shall be liable to the fine and imprisonment above mentioned, unless he proves that at the time he sold the article he did not know, and had no reason to believe, that it was in such condition.

(4.) Where a person convicted of an offence under this section has been within twelve months previously convicted of an offence under this section, the court may, if it thinks fit, and finds that he knowingly and wilfully committed both such offences, order that a notice of the facts be affixed, in such form and manner, and for such period not exceeding twenty-one days, as the court may order, to any premises occupied by that person, and that the person do pay the costs of such affixing; and if any person obstructs the affixing of such notice, or removes, defaces, or conceals the notice while affixed during the said period, he shall for each offence be liable to a fine not exceeding five pounds.

(5.) If the occupier of a licensed slaughter-house is convicted of an offence under this section, the court

convicting him may cancel his licence for such slaughter-house.

(6.) If any person obstructs an officer in the performance of his duty under any warrant for entry into any premises granted by a justice in pursuance of this Act* for the purposes of this section, he shall, if the court is satisfied that he obstructed with intent to prevent the discovery of an offence under this section, or has within twelve months previously been convicted of such obstruction, be liable to imprisonment for any term not exceeding one month in lieu of any fine authorised by this Act for such obstruction.

(7.) A justice may act in adjudicating on an offender under this section, whether he has or has not acted in ordering the animal or article to be destroyed or disposed of.

(8.) Where a person has in his possession any article which is unsound or unwholesome or unfit for the food of man, he may, by written notice to the sanitary authority, specifying such article, and containing a sufficient identification of it, request its removal, and the sanitary authority shall cause it to be removed as if it were trade refuse.†

(2.) *Slaughter-houses.*

PUBLIC HEALTH (LONDON) ACT, 1891.

Section 19.—(1.) If any person—

- (b.) establishes anew, without the sanction of the county council, the following businesses, or any of them; that is to say, the business of fellmonger, tripe boiler, slaughterer of cattle or horses, or any other business which the county council may declare by order confirmed by the Local Government Board and published in the London Gazette to be an offensive business,

he shall be liable to a fine not exceeding fifty pounds in respect of the establishment thereof, and any person carrying on the same when established shall be liable to a fine not exceeding fifty pounds for every day during which he so carries on the same.

(3.) The county council shall give their sanction by order, but, at least fourteen days before making any such order, shall make public the application for it, by serving on the sanitary authority within whose district the premises on which the business is proposed to be established are situate, and by advertising notice of the application and of the time and place at which they will be willing to hear all persons objecting to the order, and by causing a copy of the notice to be affixed in a conspicuous part of the said premises; and they shall consider any objections made at that time and place, and shall grant or withhold their sanction as they think expedient.

(4.) The county council may make byelaws for regulating the conduct of any businesses specified in this section, which are for the time being lawfully carried on in London, and the structure of the premises on which any such business is being carried on, and the mode in which the said application is to be made.

* See section 115.

† See section 3.

(5.) Any such byelaw may empower a petty sessional court by summary order to deprive any person, either temporarily or permanently, of the right of carrying on any business to which such byelaw relates, as a punishment for breaking the same, and any person disobeying such order shall be liable to a fine not exceeding fifty pounds for every day during which such disobedience continues.

(6.) Any sanitary authority or person aggrieved by any proposed byelaw under this section, or by any proposed alteration or repeal of a byelaw, may forward notice of his objection to the Local Government Board, who shall consider the same.

(7.) There shall be charged for an order of the county council under this section, and carried to the county fund, such fee not exceeding forty shillings as the county council may fix.

(8.) For the purposes of this section a business shall be deemed to be established anew not only if it is established newly, but also if it is removed from any one set of premises to any other premises, or if it is renewed on the same set of premises after having been discontinued for a period of nine months or upwards, or if any premises on which it is for the time being carried on are enlarged without the sanction of the county council; but a business shall not be deemed to be established anew on any premises by reason only that the ownership of such premises is wholly or partially changed, or that the building in which it is established having been wholly or partially pulled down or burnt down has been reconstructed without any extension of its area.

(9.) Nothing in this section shall render an order of the county council necessary to authorise the slaughter of cattle at the Metropolitan Cattle Market, or at the cattle market at Deptford, or shall authorise the making of byelaws affecting either of those markets or the slaughter-houses erected thereat either before or after the commencement of this Act.

(10.) In the application of this section to the City of London, the commissioners of sewers shall be substituted for the county council, and the consolidated rate for the county fund.

Section 20.—(1.) A person carrying on the business of a slaughterer of cattle or horses, knacker, or dairyman, shall not use any premises in London (outside the City of London) as a slaughter-house, or knacker's yard, or a cow-house or place for the keeping of cows, without a licence from the county council, and if he does he shall for each offence be liable to a fine not exceeding five pounds, and the fact that cattle have been taken into unlicensed premises shall be *prima facie* evidence that an offence under this section has been committed.

(2.) A licence under this section shall expire on such day in every year as the county council fix, and when a licence is first granted shall expire on the day so fixed which secondly occurs after the grant of the licence, and a fee not exceeding five shillings to be carried to the county fund may be charged for the licence.

(3.) Not less than fourteen days before a licence for any premises is granted or renewed under this section, notice of the intention to apply for it shall be served on the sanitary authority of the district in which the premises are situate, and that sanitary authority, if they think fit, may show cause against the grant or renewal of the licence.

(4.) An objection shall not be entertained to the renewal of a licence under this section, unless seven days' previous notice of the objection has been served on the applicant, save that, on an objection being made of which notice has not been given, the county council may, if they think it just so to do, direct notice thereof to be served on the applicant, and adjourn the question of the renewal to a future day, and require the attendance of the applicant on that day, and then hear the case, and consider the objection, as if the said notice had been duly given.

(5.) Where a committee of the county council determine to refuse, or to recommend the council to refuse, the renewal of any licence under this section, the county council shall, on written application made within seven days after such determination is made known to the applicant, hear the applicant against such refusal.

(6.) For the purposes of this section a licence shall be deemed to be renewed where a further licence is granted in immediate succession to a prior licence for the same premises.

(7.) The sanitary authority shall have a right to enter any slaughter-house or knacker's yard at any hour by

day or at any hour when business is in progress or is usually carried on therein, for the purpose of examining whether there is any contravention therein of this Act or of any byelaw made thereunder.

(8.) Nothing in this section shall extend to slaughter-houses erected before or after the commencement of this Act in the Metropolitan Cattle Market under the authority of the Metropolitan Market Act, 1851, or the Metropolitan Market Act, 1857.

(3.) Dairies, Cowsheds, and Milkshops.

PUBLIC HEALTH (LONDON) ACT, 1891.

Section 28.—(1.) The Local Government Board may make such general or special orders as they think fit for the following purposes, or any of them, that is to say,—

- (a.) for the registration with the county council of all persons carrying on the trade of dairymen;
- (b.) for the inspection of cattle in dairies, and for prescribing and regulating the lighting, ventilation, cleansing drainage, and water supply of dairies in the occupation of persons carrying on the trade of dairymen;
- (c.) for securing the cleanliness of milk-vessels used for containing milk for sale by such persons;
- (d.) for prescribing precautions to be taken for protecting milk against infection or contamination;
- (e.) for authorising the county council to make byelaws for the purposes aforesaid, or any of them.

(2.) The county council for the purpose of enforcing the said orders and any byelaws made thereunder shall have the same right to be admitted to any premises as a sanitary authority have under this Act for the purpose of examining as to the existence of a nuisance liable to be dealt with summarily, and the provisions of this Act shall apply accordingly as if they were herein re-enacted and in terms made applicable to this section, and in particular with the substitution of the county council for the sanitary authority.*

(3.) The Local Government Board may by any such order impose the like fines for offences against orders made under this section as may be imposed for offences against the byelaws of a sanitary authority under this Act.†

(4.) In the application of this section to the City of London, the mayor, commonalty, and citizens of the city acting by the council shall be substituted for the county council, and their expenses in the execution of this section shall be paid out of the consolidated rate.

Section 71.—(1.) If the medical officer of health of any district has evidence that any person in the district is suffering from a dangerous infectious disease attributable to milk supplied within the district from any dairy situate within or without the district, or that the consumption of milk from such dairy is likely to cause any such infectious disease to any person residing in the district, such medical officer shall, if authorised by an order of a justice having jurisdiction in the place where the dairy is situate, have power to inspect the dairy, and if accompanied by a veterinary inspector or some other properly qualified veterinary surgeon to inspect the animals therein; and, if on such inspection the medical officer of health is of opinion that any such infectious disease is caused from consumption of the milk supplied therefrom, he shall report thereon to the sanitary authority, and his report shall be accompanied by any report furnished to him by the said veterinary inspector or veterinary surgeon, and the sanitary authority may thereupon serve on the dairymen notice to appear before them within such time, not less than twenty-four hours, as may be specified in the notice, to show cause why an order should not be made requiring him not to supply any milk therefrom within the district until the order has been withdrawn by the sanitary authority.

(2.) The sanitary authority, if in their opinion he fails to show such cause, may make the said order, and shall forthwith serve notice of the facts on the county council of the county in which the dairy is situate, and on the Local Government Board, and, if the dairy is situate within the district of another sanitary authority, on such authority.

* See sections 10 and 115.

† See section 114 of the same Act, and Section 183 of the Public Health Act, 1875.

(3.) The said order shall be forthwith withdrawn on the sanitary authority or their medical officer of health on their behalf being satisfied that the milk supply has been changed, or that the cause of the infection has been removed.

(4.) If any person refuses to permit the medical officer of health, on the production of a justice's order under this section, to inspect any dairy, or if so accompanied as aforesaid to inspect the animals kept there, or, after any such order has been made, supplies any milk within the district in contravention of the order or sells it for consumption therein, he shall, on the information of the sanitary authority, be liable to a fine not exceeding five pounds, and if the offence continues, to a further fine not exceeding forty shillings for every day during which the offence continues.

(5.) Provided that—

(a.) proceedings in respect of the offence shall be taken before a court having jurisdiction in the place where the dairy is situate, and

(b.) a dairyman shall not be liable to an action for breach of contract if the breach be due to an order under this section.

(6.) Proceedings may be taken under this section in respect of a dairy situate in the district of a local authority under the Public Health Acts, and the notice of the facts shall be served on the local authority as if they were a sanitary authority within the meaning of this Act.

(7.) Nothing in or done under this section shall interfere with the operation or effect of the Contagious Diseases (Animals) Acts, 1878 to 1886, or this Act, or of any order, licence, or act of the Board of Agriculture or the Local Government Board thereunder, or of any order, byelaw, regulation, licence, or act of a local authority made, granted, or done under any such order of the Board of Agriculture or the Local Government Board, or exempt any dairy, building, or thing or any person from the provisions of any general Act relating to dairies, milk, or animals.

I.—ENACTMENTS IN GENERAL STATUTES APPLICABLE TO ENGLAND AND WALES OUTSIDE THE ADMINISTRATIVE COUNTY OF LONDON.

(1.) *Unsound Meat, Milk, or Products of Milk.*

PUBLIC HEALTH ACT, 1875.

Section 116. Any medical officer of health or inspector of nuisances may at all reasonable times inspect and examine any animal carcase meat poultry game flesh fish fruit vegetables corn bread flour or milk exposed for sale, or deposited in any place for the purpose of sale, or of preparation for sale, and intended for the food of man, the proof that the same was not exposed or deposited for any such purpose, or was not intended for the food of man, resting with the party charged; and if any such animal carcase meat poultry game flesh fish fruit vegetables corn bread flour or milk appears to such medical officer or inspector to be diseased or unsound or unwholesome or unfit for the food of man, he may seize and carry away the same himself or by an assistant, in order to have the same dealt with by a justice.

Section 117. If it appears to the justice that any animal carcase meat poultry game flesh fish fruit vegetables corn bread flour or milk so seized is diseased or unsound or unwholesome or unfit for the food of man, he shall condemn the same, and order it to be destroyed or so disposed of as to prevent it from being exposed for sale or used for the food of man; and the person to whom the same belongs or did belong at the time of exposure for sale, or in whose possession or on whose premises the same was found, shall be liable to a penalty not exceeding twenty pounds for every animal carcase or fish or piece of meat flesh or fish, or any poultry or game, or for the parcel of fruit vegetables corn bread or flour or for the milk so condemned, or, at the discretion of the justice, without the infliction of a fine, to imprisonment for a term of not more than three months.

The justice who, under this section, is empowered to convict the offender may be either the justice who may have ordered the article to be disposed of or destroyed, or any other justice having jurisdiction in the place.

Section 118. Any person who in any manner prevents any medical officer of health or inspector of nuisances

from entering any premises and inspecting any animal carcase meat poultry game flesh fish fruit vegetables corn bread flour or milk exposed or deposited for the purpose of sale, or of preparation for sale, and intended for the food of man, or who obstructs or impedes any such medical officer or inspector or his assistant, when carrying into execution the provisions of this Act, shall be liable to a penalty not exceeding five pounds.

Section 119. On complaint made on oath by a medical officer of health, or by an inspector of nuisances, or other officer of a local authority, any justice may grant a warrant to any such officer to enter any building or part of a building in which such officer has reason for believing that there is kept or concealed any animal carcase meat poultry game flesh fish fruit vegetables corn bread flour or milk which is intended for sale for the food of man, and is diseased unsound or unwholesome, or unfit for the food of man; and to search for seize and carry away any such animal or other article in order to have the same dealt with by a justice under the provisions of this Act.

Any person who obstructs any such officer in the performance of his duty under such warrant shall, in addition to any other punishment to which he may be subject, be liable to a penalty not exceeding twenty pounds.

Section 167 of the Public Health Act, 1875, incorporates with that Act certain sections of the Markets and Fairs Clauses Act, 1847, for the purpose of enabling the town council or urban district council to establish or to regulate markets. Amongst the sections thus incorporated is the following:—

Section 15. Every person who shall sell or expose for sale any unwholesome meat or provisions in the market or fair shall be liable to a penalty not exceeding five pounds for every such offence; and any inspector of provisions appointed by the undertakers may seize such unwholesome meat or provisions, and carry the same before a justice, and thereupon such proceedings shall be had as are herein-after directed to be had in the case of any cattle or carcase seized in any slaughter-house and carried before a justice; and every person who shall obstruct or hinder the inspector of provisions from seizing or carrying away such unwholesome meat or provisions shall be liable to a penalty not exceeding five pounds for every such offence.

PUBLIC HEALTH ACTS AMENDMENT ACT, 1890.

Section 28.†—(1.) Sections one hundred and sixteen to one hundred and nineteen of the Public Health Act, 1875 (relating to unsound meat), shall extend and apply to all articles intended for the food of man, sold or exposed for sale, or deposited in any place for the purpose of sale, or of preparation for sale within the district of any local authority.

(2.) A justice may condemn any such article, and order it to be destroyed or disposed of, as mentioned in section one hundred and seventeen of the Public Health Act, 1875, if satisfied on complaint being made to him that such article is diseased, unsound, unwholesome, or unfit for the food of man, although the same has not been seized as mentioned in section one hundred and sixteen of the said Act.

NOTE.—Sections 117 and 119 of the Public Health Act, 1875 are set out above.

(2.) *Slaughter-houses.*

PUBLIC HEALTH ACT, 1875.

Section 169.†. Any urban authority may, if they think fit, provide slaughter-houses, and they shall make byelaws with respect to the management and charges for the use of any slaughter-houses so provided.

For the purpose of enabling any urban authority to regulate slaughter-houses within their district, the provisions of the Towns Improvement Clauses Act, 1847, with respect to slaughter-houses shall be incorporated with this Act.

* See section 29 of the same Act.

† This section only applies to those urban districts in which the town council or urban district council have adopted the Act or Part III. of it, and to those rural districts in which the rural district council have adopted so much of Part III. as is applicable to a rural district or in which the Local Government Board have put the section in force.

‡ These sections apply to all urban districts, and to those rural districts or parts of rural districts in which they have been put in force by an order of the Local Government Board under section 276 of the Act. The first paragraph of section 169 has not been thus put in force.

Nothing in this section shall prejudice or affect any rights, powers, or privileges of any persons incorporated by any local Act passed before the passing of the Public Health Act, 1848, for the purpose of making and maintaining slaughter-houses.

Section 170.* The owner or occupier of any slaughter-house licensed or registered under this Act shall, within one month after the licensing or registration of the premises, affix, and shall keep undefaced and legible on some conspicuous place on the premises, a notice with the words "Licensed slaughter-house" or "Registered slaughter-house," as the case may be.

Any person who makes default in this respect, or who neglects or refuses to affix or renew such notice after requisition in writing from the urban authority, shall be liable to a penalty not exceeding five pounds for every such offence, and of ten shillings for every day during which such offence continues after conviction.

The following are the provisions of the Towns Improvement Clauses Act, 1847, which are incorporated with section 169 of the Public Health Act, 1875. The Commissioners mentioned therein are the urban authority:—

Section 125. The Commissioners may license such slaughter-houses and knacker's yards as they from time to time think proper for slaughtering cattle within the limits of the special Act.†

Section 126. No place shall be used or occupied as a slaughter-house or knacker's yard within the said limits which was not in such use and occupation at the time of the passing of the special Act,‡ and has so continued ever since, unless and until a licence for the erection thereof, or for the use and occupation thereof as a slaughter-house or knacker's yard, have been obtained from the Commissioners; and every person who, without having first obtained such licence as aforesaid, uses as a slaughter-house or knacker's yard any place within the said limits not used as such at the passing of the special Act, and so continued to be used ever since, shall for each offence be liable to a penalty not exceeding five pounds, and a like penalty for every day after the conviction for such offence upon which the said offence is continued.

Section 127. Every place within the limits of the special Act which shall be used as a slaughter-house or knacker's yard shall, within three months after the passing of such Act, be registered by the owner or occupier thereof at the office of the Commissioners, and on application to the Commissioners for that purpose, the Commissioners shall cause every such slaughter-house or knacker's yard to be registered in a book to be kept by them for that purpose; and every person who after the expiration of the said three months, and after one week's notice of this provision from the Commissioners, uses or suffers to be used any such place as a slaughter-house or knacker's yard, without its being so registered, shall be liable to a penalty not exceeding five pounds for such offence, and a penalty not exceeding ten shillings for every day after the first day during which such place shall be used as a slaughter-house or knacker's yard without having been so registered.

Section 128. The Commissioners shall from time to time, by byelaws, to be made and confirmed in the manner herein-after provided,§ make regulations for the licensing, registering, and inspection of the said slaughter-houses and knacker's yards, and preventing cruelty therein, and for keeping the same in a cleanly and proper state, and for removing filth at least once in every twenty-four hours, and requiring them to be provided with a sufficient supply of water, and they may impose pecuniary penalties on persons breaking such byelaws; provided that no such penalty exceed for any one offence the sum of five pounds, and in the case of a continuing nuisance the sum of ten shillings for every day during which such nuisance shall be continued after the conviction for the first offence.

Section 129. The justices before whom any person is convicted of killing or dressing any cattle contrary to the provisions of this or the special Act, or of the

non-observance of any of the bye-laws or regulations made by virtue of this or the special Act, in addition to the penalty imposed on such person under the authority of this or the special Act, may suspend for any period not exceeding two months the licence granted to such person under this or the special Act, or in case such person be the owner or proprietor of any registered slaughter-house or knacker's yard, may forbid for any period not exceeding two months the slaughtering of cattle therein; and such justices, upon the conviction of any person for a second or other subsequent like offence, may, in addition to the penalty imposed under the authority of this or the special Act, declare the licence granted under this or the special Act revoked, or, if such person be the owner or proprietor of any registered slaughter-house, may forbid absolutely the slaughtering of cattle therein; and whenever the licence of any such person is revoked as aforesaid, or whenever the slaughtering of cattle in any registered slaughter-house or knacker's yard is absolutely forbidden as aforesaid, the Commissioners may refuse to grant any licence whatever to the person whose licence has been so revoked, or on account of whose default the slaughtering of cattle in any registered slaughter-house has been forbidden.

Section 130. Every person who during the period for which any such licence is suspended, or after the same is revoked as aforesaid, slaughters cattle in the slaughter-house or knacker's yard to which such licence relates, or otherwise uses such slaughter-house or knacker's yard, or allows the same to be used as a slaughter-house or knacker's yard, and every person who during the period that the slaughtering of cattle in any such registered slaughter-house or knacker's yard is forbidden as aforesaid, or after such slaughtering has been absolutely forbidden therein, slaughters any cattle in any such registered slaughter-house, shall be liable to a penalty not exceeding five pounds for such offence, and a further penalty of five pounds for every day on which any such offence is committed after the conviction for the first offence.

Section 131. The inspector of nuisances, the officer of health, or any other officer appointed by the commissioners for that purpose, may at all reasonable times, with or without assistants, enter into and inspect any building or place whatsoever within the said limits kept or used for the sale of butchers' meat, or for slaughtering cattle, and examine whether any cattle, or the carcass of any such cattle, is deposited there, and in case such officer shall find any cattle, or the carcass or part of the carcass of any beast, which appears unfit for the food of man, he may seize and carry the same before a justice, and such justice shall forthwith order the same to be further inspected and examined by competent persons; and in case upon such inspection and examination, such cattle, carcass, or part of a carcass be found to be unfit for the food of man, such justice shall order the same to be immediately destroyed or otherwise disposed of in such way as to prevent the same being exposed for sale or used for the food of man; and such justice may adjudge the person to whom such cattle, carcass, or part of a carcass belongs, or in whose custody the same is found, to pay a penalty not exceeding ten pounds for every such animal or carcass or part of a carcass so found; and the owner or occupier of any building or place kept or used for the sale of butchers' meat, or for slaughtering cattle, and every other person, who obstructs or hinders such inspector or other officer from entering into and inspecting the same, and examining, seizing, or carrying away any such animal or carcass or part of a carcass so appearing to be unfit for the food of man, shall be liable to a penalty not exceeding five pounds for each offence.

PUBLIC HEALTH ACTS AMENDMENT ACT, 1890.

Section 29.* Licences granted after the adoption of this part of this Act for the use and occupation of places as slaughter-houses shall be in force for such time or times only, not being less than twelve months, as the urban authority shall think fit to specify in such licences.

Section 30.*—(1.) Upon any change of occupation of any building within an urban sanitary district registered or licensed for use and used as a slaughter-house, the person thereupon becoming the occupier or joint

* These sections apply to all urban districts, and to those rural districts or parts of rural districts in which they have been put in force by an order of the Local Government Board under section 276 of the Act. The first paragraph of section 169 has not been thus put in force.

† "The limits of the special Act" means the limits of the district.

‡ See section 316 of the Public Health Act, 1875.

§ The term "the special Act" includes the Public Health Act, 1875.

See section 316 of that Act.

§ Now see the Public Health (Confirmation of Byelaws) Act, 1884.

* The remark in the note to section 28 of the same Act, *ante*, p. 376, applies to these sections.

occupier shall give notice in writing of the change of occupation to the inspector of nuisances.

(2.) A person who fails or neglects to give such notice within one month after the change of occupation occurs shall be liable to a penalty not exceeding five pounds.

(3.) Notice of this enactment shall be endorsed on all licences granted after the adoption of this part of this Act.

Section 31.* If the occupier of any building licensed as aforesaid to be used as a slaughter-house for the killing of animals intended as human food is convicted by a court of summary jurisdiction of selling or exposing for sale, or for having in his possession or on his premises, the carcass of any animal, or any piece of meat or flesh diseased or unsound, or unwholesome or unfit for the use of man as food, the court may revoke the licence.

(3.) *Dairies, Cowsheds, and Milkshops.*

CONTAGIOUS DISEASES (ANIMALS) ACT, 1878.

Section 34. The Privy Council may from time to time make such general or special orders as they think fit, subject and according to the provisions of this Act, for the following purposes, or any of them :

- (i.) For the registration with the local authority of all persons carrying on the trade of cowkeepers, dairymen, or purveyors of milk.
- (ii.) For the inspection of cattle in dairies, and for prescribing and regulating the lighting, ventilation, cleansing, drainage, and water supply of dairies and cowsheds in the occupation of persons following the trade of cowkeepers or dairymen.
- (iii.) For securing the cleanliness of milk-stores, milk-shops, and of milk-vessels used for containing milk for sale by such persons.
- (iv.) For prescribing precautions to be taken for protecting milk against infection or contamination.
- (v.) For authorising a local authority to make regulations for the purposes aforesaid, or any of them, subject to such conditions, if any, as the Privy Council prescribe.

CONTAGIOUS DISEASES (ANIMALS) ACT, 1886.

Section 9.—(1.) The powers vested in the Privy Council of making general or special orders under section thirty-four of the principal Act,† for the purposes in that section mentioned, are hereby transferred to and shall henceforth be exercisable by the Local Government Board; every such order shall have effect as if enacted in this section, and shall be published in such manner as the Local Government Board may direct, and the said Board may from time to time alter or revoke any such order.

(2.) For the purposes of the said section and this section, and of any order in force thereunder, the expression local authority, unless the context otherwise requires, in the metropolis has the same meanings as in the principal Act, and elsewhere has the same meanings as in the Public Health Act, 1875.‡

(3.) Any expenses incurred by a local authority in the metropolis in pursuance of section thirty-four of the principal Act, as amended by this section, shall be defrayed out of the local rate applicable to their expenses under the principal Act; and any expenses so incurred by any other local authority shall be defrayed as if they were incurred in the execution of the Public Health Act, 1875, and in the case of a rural sanitary authority shall be deemed to be general expenses.

(4.) The local authority and their officers, for the purpose of enforcing the said orders and any regulations made thereunder, shall have the same right to be admitted to any premises as the local authority, within the meaning of the Public Health Act, 1875, and their officers have, under section one hundred and two of that Act, for the purpose of examining as to the existence of any nuisance thereon; and if such admission is refused the like proceedings may be taken, with the like incidents and consequences as to orders for

admission, penalties, costs, expenses, and otherwise, as in the case of a refusal to admit to premises for any of the purposes of the said section one hundred and two, and as if the local authority mentioned in the said Act included a local authority in the metropolis as defined in this section.

Provided that nothing in this section shall authorise any person, except with the permission of the local authority under the principal Act, to enter any cowshed or other place in which an animal affected with any disease is kept, and which is situate in a place declared to be infected with such disease.

(5.) The like penalties for offences against orders or regulations made for the purposes of section thirty-four of the principal Act as amended by this section may be imposed by the Local Government Board or local authority making the same, and such offences may be prosecuted and penalties recovered in a summary manner, and subject to the like provisions, as if such orders or regulations were byelaws of a local authority under the Public Health Act, 1875, and as if the local authority mentioned in that Act included a local authority in the metropolis as defined in this section.*

(6.) Whereas under the powers of the principal Act the Privy Council have made an Order known as the Dairies, Cowsheds, and Milkshops Order of 1885, and certain authorities have made regulations under that Order, or having effect in pursuance thereof; and it is expedient by reason of the foregoing provisions of this section to make provision respecting such order and regulations: Be it therefore enacted as follows:—

(a.) The Dairies, Cowsheds, and Milkshops Order of 1885, and any regulations thereunder, or having effect in pursuance thereof, made by any local authority under the principal Act, other than the local authority of a county, shall be deemed to have been made respectively by the Local Government Board and by a local authority under this section; and any such regulations made by the local authority of a county, within the meaning of the principal Act, shall, so far as they extend to the district of any local authority as defined in this section, be deemed to have been made by such local authority.

(b.) So much of any register kept by the local authority of any county under the said order as relates to the district of any local authority as defined in this section, or a copy thereof, shall, as soon as may be after the passing of this Act, be delivered to the local authority by the local authority of the county.

INFECTIOUS DISEASES (PREVENTION) ACT, 1890.

Section 4.† In case the medical officer of health is in possession of evidence that any person in the district is suffering from infectious disease attributable to milk supplied within the district from any dairy situate within or without the district, or that the consumption of milk from such dairy is likely to cause infectious disease to any person residing in the district, such medical officer shall, if authorised in that behalf by an order of a justice having jurisdiction in the place where such dairy is situate, have power to inspect such dairy, and if accompanied by a veterinary inspector or some other properly qualified veterinary surgeon to inspect the animals therein, and if on such inspection the medical officer of health shall be of opinion that infectious disease is caused from consumption of the milk supplied therefrom, he shall report thereon to the local authority, and his report shall be accompanied by any report furnished to him by the said veterinary inspector or veterinary surgeon, and the local authority may thereupon give notice to the dairyman to appear before them within such time, not less than twenty-four hours, as may be specified in the notice, to show cause why an order should not be made requiring him not to supply any milk therefrom within the district until such order has been withdrawn by the local authority, and if, in the opinion of the local authority, he fails to show such cause, then the local authority may make such order as aforesaid; and the local authority shall forthwith give notice of the facts to the sanitary authority and county council (if any) of the district or county in

* The remark in the note to section 28 of the same Act, *ante*, p. 376, applies to these sections.

† The "principal Act" is the Contagious Diseases (Animals) Act, 1878.

‡ The section is now repealed as regards the administrative county of London, section 28 of the Public Health Act, 1891, being substituted for it. Outside the metropolis the local authorities are the councils of the several sanitary districts, urban and rural, in England and Wales.

* See sections 183 and 251 of the Public Health Act, 1875.

† This section only applies where the Act or this section of it has been adopted by the town council or urban or rural district council.

which such dairy is situate, and also to the Local Government Board. An order made by a local authority in pursuance of this section shall be forthwith withdrawn on the local authority or the medical officer of health on its behalf being satisfied that the milk supply has been changed, or that the cause of the infection has been removed. Any person refusing to permit the medical officer of health on the production of such order as aforesaid to inspect any dairy, or if so accompanied as aforesaid to inspect the animals kept there, or after any such order not to supply milk as aforesaid has been given, supplying any milk within the district in contravention of such order, or selling it for consumption therein, shall be deemed guilty of an offence against this Act. Provided always, that proceedings in respect of such offence shall be taken before the justices of the peace having jurisdiction in the place where the said dairy is situate. Provided also, that no dairyman shall be liable to an action for breach of contract if the breach be due to an order from the local authority under this Act.

II. GENERAL ORDERS APPLICABLE TO THE ADMINISTRATIVE COUNTY OF LONDON.

(1.) *Unsound Meat, Milk, or Products of Milk.*

EXTRACT FROM THE SANITARY OFFICERS (LONDON) ORDER, 1891, ISSUED BY THE LOCAL GOVERNMENT BOARD.

"Duties of Medical Officer of Health."

Art. 18. The following shall be the duties of a medical officer of health as regards the district or part of a district for which he is appointed (in this Article referred to as "his district") :—

- (8.) In any case in which it may appear to him to be necessary or advisable, or in which he shall be so directed by the sanitary authority, he shall himself inspect and examine any animal intended for the food of man which is exposed for sale or deposited in any place for the purpose of sale or of preparation for sale, and any article, whether solid or liquid, intended for the food of man, and sold or exposed for sale, or deposited in any place for the purpose of sale or of preparation for sale. If such animal or article appears to him to be diseased, or unsound, or unwholesome, or unfit for the food of man, he shall seize and carry away the same himself or by an assistant in order to have the same dealt with by a justice according to the provisions of section 47 of the Public Health (London) Act, 1891.

"Duties of Sanitary Inspector."

Art. 19. The following shall be the duties of a sanitary inspector as regards the district or part of a district for which he is appointed (in this Article referred to as "his district") :—

- (6.) He shall from time to time, and forthwith upon complaint, visit and inspect the shops and places in which is exposed for sale, or in which is deposited for the purpose of sale or of preparation for sale, any animal, or any article, whether solid or liquid, intended for the food of man, and examine any such animal or article which may be therein. If any such animal or article appears to him to be diseased, or unsound, or unwholesome, or unfit for the food of man, he shall seize and carry away the same himself or by an assistant in order to have the same dealt with by a justice according to the provisions of section 47 of the Public Health (London) Act, 1891: Provided that in any case of doubt arising under this clause, he shall report the matter to the medical officer of health, with the view of obtaining his advice thereon.

(3.) *Dairies, Cow-Sheds, and Milk-Shops.*

The following Order was made by the Privy Council on the 15th June 1885 :—

THE DAIRIES, COW-SHEDS, AND MILK-SHOPS ORDER OF 1885.

At the Council Chamber, Whitehall, the 15th day of June, 1885, by Her Majesty's Most Honourable Privy Council.

Present :

LORD PRESIDENT.
MR. TREVELYAN.

The Lords and others of Her Majesty's Most Honourable Privy Council, by virtue and in exercise of the powers in them vested under The Contagious Diseases (Animals) Act, 1878, and of every other power enabling them in this behalf, do order, and it is hereby ordered, as follows :

Short Title.

1. This Order may be cited as The Dairies, Cow-Sheds, and Milk-Shops Order of 1885.

Extent.

2. This Order extends to England and Wales and Scotland only.

Commencement.

3. This Order shall commence and take effect from and immediately after the thirtieth day of June, one thousand eight hundred and eighty-five.

Interpretation.

4. In this Order—
The Act of 1878 means The Contagious Diseases (Animals) Act, 1878.
Other terms have the same meaning as in the Act of 1878.

Revocation of former Order.

5. The Dairies, Cow-Sheds, and Milk-Shops Order of July, 1879, is hereby revoked: Provided that nothing in this Order shall be deemed to revive any Order of Council thereby revoked or to invalidate or make unlawful anything done before the commencement of this Order, or interfere with the institution or prosecution of any proceeding in respect of any offence committed against, or any penalty incurred under, the said Order hereby revoked.

Registration of Dairymen and others.

- 6.—(1.) It shall not be lawful for any person to carry on in the district of any local authority the trade of cow-keeper, dairyman, or purveyor of milk unless he is registered as such therein in accordance with this Article.

(2.) Every local authority shall keep a register of persons from time to time carrying on in their district the trade of cow-keepers, dairymen, or purveyors of milk, and shall from time to time revise and correct the register.

(3.) The local authority shall register every such person, but the fact of such registration shall not be deemed to authorise such person to occupy as a dairy or cow-shed any particular building or in any way preclude any proceedings being taken against such person for non-compliance with or infringement of any of the provisions of this Order or any regulation made thereunder.

(4.) The local authority shall from time to time give public notice by advertisement in a newspaper circulating in their district, and, if they think fit, by placards, hand-bills, or otherwise, of registration being required, and of the mode of registration.

(5.) A person who carries on the trade of cow-keeper or dairyman for the purpose only of making and selling butter or cheese or both, and who does not carry on the trade of purveyor of milk, shall not, for the purposes of registration, be deemed to be a person carrying on the trade of cow-keeper or dairyman, and need not be registered.

(6.) A person who sells milk of his own cows in small quantities to his workmen or neighbours, for their accommodation, shall not, for the purposes of registration, be deemed, by reason only of such selling, to be a person carrying on the trade of cow-keeper, dairyman, or purveyor of milk, and need not, by reason thereof, be registered.

Construction and Water-Supply of New Dairies and Cow-Sheds.

- 7.—(1.) It shall not be lawful for any person following the trade of cow-keeper or dairyman to begin to occupy as a dairy or cow-shed any building not so occupied at

the commencement of this Order, unless and until he first makes provision, to the reasonable satisfaction of the local authority, for the lighting and the ventilation, including air-space, and the cleansing, drainage, and water-supply, of the same, while occupied as a dairy or cow-shed.

(2.) It shall not be lawful for any such person to begin so to occupy any such building without first giving one month's notice in writing to the local authority of his intention so to do.

Sanitary State of all Dairies and Cow-Sheds.

8. It shall not be lawful for any person following the trade of cow-keeper or dairyman to occupy as a dairy or cow-shed any building, whether so occupied at the commencement of this Order or not, if and as long as the lighting and the ventilation, including air-space, and the cleansing, drainage, and water-supply, thereof are not such as are necessary or proper—

- (a.) for the health and good condition of the cattle therein; and
- (b.) for the cleanliness of milk vessels used therein for containing milk for sale; and
- (c.) for the protection of the milk therein against infection or contamination.

Contamination of Milk.

9. It shall not be lawful for any person following the trade of cow-keeper or dairyman or purveyor of milk, or being the occupier of a milk-store or milk-shop—

- (a.) to allow any person suffering from a dangerous infectious disorder, or having recently been in contact with a person so suffering, to milk cows or to handle vessels used for containing milk for sale, or in any way to take part or assist in the conduct of the trade or business of the cow-keeper or dairyman, purveyor of milk, or occupier of a milk-store or milk-shop, so far as regards the production, distribution, or storage of milk; or
- (b.) if himself so suffering or having recently been in contact as aforesaid, to milk cows, or handle vessels used for containing milk for sale, or in any way to take part in the conduct of his trade or business, as far as regards the production, distribution, or storage of milk—

until in each case all danger therefrom of the communication of infection to the milk or of its contamination has ceased.

10. It shall not be lawful for any person following the trade of cow-keeper or dairyman or purveyor of milk, or being the occupier of a milk-store or milk-shop, after the receipt of notice of not less than one month from the local authority calling attention to the provisions of this Article, to permit any water-closet, earth-closet, privy, cess-pool, or urinal to be within, communicate directly with, or ventilate into, any dairy or any room used as a milk-store or milk-shop.

11. It shall not be lawful for any person following the trade of cow-keeper or dairyman or purveyor of milk, or being the occupier of a milk-store or milk-shop to use a milk-store or milk-shop in his occupation, or permit the same to be used, as a sleeping apartment, or for any purpose incompatible with the proper preservation of the cleanliness of the milk-store or milk-shop, and of the milk-vessels and milk therein, or in any manner likely to cause contamination of the milk therein.

12. It shall not be lawful for any person following the trade of cow-keeper or dairyman or purveyor of milk to keep any swine in any cow-shed or other building used by him for keeping cows, or in any milk-store or other place used by him for keeping milk for sale.

Regulations of Local Authority.

13. A local authority may from time to time make regulations for the following purposes, or any of them:

- (a.) For the inspection of cattle in dairies.
- (b.) For prescribing and regulating the lighting, ventilation, cleansing, drainage, and water-supply of dairies and cow-sheds in the occupation of persons following the trade of cow-keepers or dairymen.
- (c.) For securing the cleanliness of milk-stores, milk-shops, and of milk-vessels used for containing milk for sale by such persons.
- (d.) For prescribing precautions to be taken by purveyors of milk and persons selling milk by retail against infection or contamination.

Provisions as to Regulations of Local Authority.

14. The following provisions shall apply to regulations made by a local authority under this Order:—

- (1.) Every regulation shall be published by advertisement in a newspaper circulating in the district of the local authority.
- (2.) The local authority shall send to the Privy Council* a copy of every regulation made by them not less than one month before the date named in such regulation for the same to come into force.
- (3.) If at any time the Privy Council* are satisfied on inquiry, with respect to any regulation, that the same is of too restrictive a character, or otherwise objectionable, and direct the revocation thereof, the same shall not come into operation, or shall thereupon cease to operate, as the case may be.

Existence of Disease among Cattle.

15. If at any time disease exists among the cattle in a dairy or cow-shed, or other building or place, the milk of a diseased cow therein—

- (a.) shall not be mixed with other milk; and
- (b.) shall not be sold or used for human food; and
- (c.) shall not be sold or used for food of swine, or other animals, unless and until it has been boiled.

Acts of Local Authorities.

16.—(1.) All orders and regulations made by a local authority under the Dairies, Cow-sheds, and Milk-shops Order of July, 1879, or any Order revoked thereby, and in force at the making of this Order shall, as far as the same are not varied by or inconsistent with this Order, remain in force until altered or revoked by the local authority.

(2.) Forms of Registers and other forms which have been before the making of this Order prepared for use by a local authority under the Dairies, Cow-sheds, and Milk-shops Order of July, 1879, or any Order revoked thereby, may be used, as far as they are suitable, for the purposes of this Order.

Scotland.

17. Nothing in this Order shall be deemed to interfere with the operation of the Cattle Sheds in Burghs (Scotland) Act, 1866.

C. L. PEEL.

The following Order was made by the Local Government Board on the 1st November 1886:—

To the Mayor and Commonalty and Citizens of the City of London, acting by the Mayor, Aldermen, and Commons of that City in Common Council assembled;—

To the Metropolitan Board of Works;—

To the several Urban and Rural Sanitary Authorities for the time being in England and Wales;—

And to all others whom it may concern.

Whereas by section 34 of the Contagious Diseases (Animals) Act, 1878 (herein-after referred to as "the principal Act"), it was enacted that Her Majesty's Most Honourable Privy Council (herein-after referred to as "the Privy Council") might from time to time make such general or special Orders as they should think fit, subject and according to the provisions of the Act, for the purposes specified in that section;

And whereas on the 15th day of June 1885, the Privy Council, in pursuance of the powers vested in them by the principal Act, made a general order known as "the Dairies, Cow-sheds, and Milk-shops Order of 1885" (herein-after referred to as "the Order of 1885"); and such Order extends to the whole of England and Wales;

And whereas by Article 14 of the Order of 1885 it is provided that a copy of every regulation therein referred to shall be sent to the Privy Council, and that if at any time the Privy Council are satisfied on inquiry with respect to any regulation that the same is of too restrictive a character, or otherwise objectionable, and direct the revocation thereof, the same shall not come into operation, or shall thereupon cease to operate, as the case may be;

And whereas by section 9 of the Contagious Diseases (Animals) Act, 1886 (herein-after referred to as "the Act of 1886"), it is enacted as follows:—

"(1.) The powers vested in the Privy Council of making general or special Orders under section thirty-four of the principal Act, for the purposes in that

* Now the Local Government Board.

section mentioned, are hereby transferred to and shall henceforth be exercisable by the Local Government Board; every such Order shall have effect as if enacted in this section, and shall be published in such manner as the Local Government Board may direct, and the said Board may from time to time alter or revoke any such Order."

"(2.) For the purposes of the said section and this section, and of any Order in force thereunder, the expression local authority, unless the context otherwise requires, in the metropolis has the same meanings as in the principal Act, and elsewhere has the same meanings as in the Public Health Act, 1875."

"(5.) The like penalties for offences against orders or regulations made for the purposes of section 34 of the principal Act as amended by this section may be imposed by the Local Government Board or local authority making the same, and such offences may be prosecuted and penalties recovered in a summary manner, and subject to the like provisions, as if such orders or regulations were byelaws of a local authority under the Public Health Act, 1875, and as if the local authority mentioned in that Act included a local authority in the metropolis as defined in this section."

"6 (a). The Dairies, Cow-sheds, and Milk-shops Order of 1885, and any regulations thereunder, or having effect in pursuance thereof, made by any local authority under the principal Act, other than the local authority of a county, shall be deemed to have been made respectively by the Local Government Board and by a local authority under this section."

And whereas it is expedient that the Order of 1885 should be altered as herein-after mentioned, and that penalties should be imposed for offences against such Order:

Now therefore, We, the Local Government Board, in pursuance of the powers vested in Us by the Act of 1886, hereby Order as follows:—

Article 1.—This Order may be cited as "the Dairies, Cow-sheds, and Milk-shops Amending Order of 1886."

Article 2.—Article 14 of the Order of 1885 shall be altered by the substitution therein of the words "Local Government Board" for the words "Privy Council" occurring therein.

Article 3.—If any person is guilty of an offence against the Order of 1885, he shall for every such offence be liable to a penalty of five pounds, and in the case of a continuing offence to a further penalty of forty shillings for each day after written notice of the offence from the local authority.

Provided, nevertheless, that the justices or court before whom any complaint may be made, or any proceedings may be taken in respect of any such offence, may, if they think fit, adjudge the payment as a penalty of any sum less than the full amount of the penalty imposed by this Order.

Article 4.—In this Order the expression "local authority" means—

In the City of London and the liberties thereof, the mayor and commonalty and citizens of the City of London acting by the mayor, aldermen, and commons of that city in common council assembled:

In the metropolis, except the City of London and the liberties thereof, the Metropolitan Board of Works:

Elsewhere than in the metropolis, the urban or rural sanitary authority.

Given under the seal of office of the Local Government Board, this first day of November, in the year one thousand eight hundred and eighty-six.

(L.S.) CHAS. T. RITCHIE,
President.

HUGH OWEN,
Secretary.

Date of publication in the London Gazette,
2nd November 1886.

II. GENERAL ORDERS AND MODEL BYELAWS AFFLICTABLE OUTSIDE THE ADMINISTRATIVE COUNTY OF LONDON.

(1.) *Unsound Meat, Milk, and Products of Milk.*

Extracts from the Order of the Local Government Board dated the 23rd March 1891, prescribing Regulations as to Medical Officers of Health and Inspectors of Nuisances in Urban Districts.

Art. 18. The following shall be the duties of the medical officer of health:—

(8.) In any case in which it may appear to him to be necessary or advisable, or in which he shall be so directed by the sanitary authority, he shall himself inspect and examine any animal, carcase, meat, poultry, game, flesh, fish, fruit, vegetables, corn, bread, flour, or milk, and any other article to which the provisions of the Public Health Act, 1875, in this behalf apply, exposed for sale, or deposited for the purpose of sale or of preparation for sale, and intended for the food of man, which is deemed to be diseased, or unsound, or unwholesome, or unfit for the food of man; and if he finds that such animal or article is diseased, or unsound, or unwholesome, or unfit for the food of man, he shall give such directions as may be necessary for causing the same to be dealt with by a justice according to the provisions of the statutes applicable to the case.

Art. 19. The following shall be the duties of an inspector of nuisances:—

(7.) He shall from time to time, and forthwith upon complaint, visit and inspect the shops and places kept or used for the preparation or sale of butcher's meat, poultry, fish, fruit, vegetables, corn, bread, flour, milk, or any other article to which the provisions of the Public Health Act, 1875, in this behalf apply, and examine any animal, carcase, meat, poultry, game, flesh, fish, fruit, vegetables, corn, bread, flour, milk, or other article as aforesaid, which may be therein; and in case any such article appear to him to be intended for the food of man, and to be unfit for such food, he shall cause the same to be seized, and take such other proceedings as may be necessary in order to have the same dealt with by a justice: Provided that in any case of doubt arising under this clause, he shall report the matter to the medical officer of health, with the view of obtaining his advice thereon.

There are similar provisions in the Order of the Local Government Board, dated the 23rd March, 1891, prescribing regulations as to medical officers of health and inspectors of nuisances in rural districts.

It should be stated that so far as relates to the duties of medical officers of health, these Orders apply to all medical officers of health in urban and rural districts, but that, as regards inspectors of nuisances, they only apply when half the salary is intended to be paid by a county council in pursuance of section 24 of the Local Government Act, 1888.

(2.) *Slaughter-houses.*

The following are the model bye-laws with respect to slaughter-houses, issued by the Local Government Board for the use of Sanitary Authorities.

MODEL BYELAWS WITH RESPECT TO SLAUGHTER-HOUSES.

For the licensing, registering, and inspection of slaughter-houses, for preventing cruelty therein, for keeping the same in a cleanly and proper state, for removing filth at least once in every twenty-four hours, and requiring such slaughter-houses to be provided with a sufficient supply of water.

1. Every person who shall apply to the Sanitary Authority for a licence for the erection of any premises to be used and occupied as a slaughter-house shall furnish in the form hereunto appended a true statement of the particulars therein required to be specified.

FORM of APPLICATION for a LICENCE to erect PREMISES
for Use and Occupation as a SLAUGHTER-HOUSE.

To the Sanitary Authority of the District of

I, _____, of _____, do hereby apply to you for a licence, in pursuance of the statutory provisions in that behalf, for the erection of certain premises to be used and occupied as a slaughter-house; and I do hereby declare that to the best of my knowledge and belief the Schedule hereunto annexed contains a true statement of the several particulars therein set forth with respect to the said premises.

SCHEDULE.

1. Boundaries, area, and description of the proposed site of the premises to be erected for use and occupation as a slaughter-house.

2. Description of the premises to be erected on such site:

(a.) Nature, position, form, superficial area and cubical contents of the several buildings therein comprised.

(b.) Extent of paved area in such buildings, and materials to be employed in the paving of such area.

(c.) Mode of construction of the internal surface of the walls of such buildings, and materials to be employed in such construction.

(d.) Means of water supply,—position, form, materials, mode of construction and capacity of the several cisterns, tanks, or other receptacles for water to be constructed for permanent use in or upon the premises.

(e.) Means of drainage,—position, size, materials, and mode of construction of the several drains.

(f.) Means of lighting and ventilation.

(g.) Means of access for cattle from the nearest street or public thoroughfare.

(h.) Number, position, and dimensions of the several stalls, pens, or lairs to be provided on the premises.

(i.) Number of animals for which accommodation will be provided in such stalls, pens, or lairs, distinguishing—

1. Oxen.
2. Calves.
3. Sheep or Lambs.
4. Swine.

Witness my hand this _____ day of _____ 18 ____.

(Signature of Applicant.)

(Address of Applicant.)

2. Every person who shall apply to the sanitary authority for a licence for the use and occupation of any premises as a slaughter-house shall furnish in the form hereunto appended a true statement of the particulars therein required to be specified.

FORM of APPLICATION for a LICENCE for the Use and Occupation of PREMISES as a SLAUGHTER-HOUSE.

To the Sanitary Authority for the District of

I, _____, of _____, do hereby apply to you for a licence, in pursuance of the statutory provisions in that behalf, for the use and occupation as a slaughter-house of the premises herein-after described; and I do hereby declare that, to the best of my knowledge and belief, the Schedule hereunto annexed contains a true statement of the several particulars therein set forth with respect to the said premises.

SCHEDULE.

1. Situation and boundaries of the premises to be used and occupied as a slaughter-house.

2. Christian name, surname, and address of the owner of the premises.

3. Nature and conditions of applicant's tenure of the premises:

(a.) For what term; and whether by lease or otherwise.

(b.) Whether applicant is sole owner, lessee, or tenant; or whether applicant is jointly interested with any other person or persons, and if so, with whom.

4. Description of the premises:

(a.) Nature, position, form, superficial area, and cubical contents of the several buildings therein comprised.

(b.) Extent of paved area in such buildings, and materials employed in the paving of such area.

(c.) Mode of construction of the internal surface of the walls of such buildings and materials employed in such construction.

(d.) Means of water supply,—position, form, materials, mode of construction and capacity of the several cisterns, tanks, or receptacles for water, constructed for permanent use in or upon the premises.

(e.) Means of drainage,—position, size, materials, and mode of construction of the several drains.

(f.) Means of lighting and ventilation.

(g.) Means of access for cattle from the nearest street or public thoroughfare.

(h.) Number, position, and dimensions of the several stalls, pens, or lairs provided on the premises.

(i.) Number of animals for which accommodation will be provided in such stalls, pens, or lairs, distinguishing—

1. Oxen.
2. Calves.
3. Sheep or lambs.
4. Swine.

Witness my hand this _____ day of _____ 18 ____.

(Signature of Applicant.)

(Address of Applicant.)

Now, we, the said sanitary authority, in pursuance of the powers conferred upon us by the statutory provisions in that behalf, do hereby license the said _____, of _____, to use and occupy as a slaughter-house the premises whereof the situation and description are set forth in the Schedule hereunto annexed.

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to being slaughtered, to be provided during such confinement with a sufficient quantity of wholesome water.

8. Every occupier of a slaughter-house and every servant of such occupier and every other person employed upon the premises in the slaughtering of cattle shall, before proceeding to slaughter any bull, ox, cow, heifer, or steer, cause the head of such animal to be securely fastened so as to enable such animal to be felled with as little pain or suffering as practicable, and shall in the process of slaughtering any animal use such instruments and appliances and adopt such method of slaughtering and otherwise take such precautions as may be requisite to secure the infliction of as little pain or suffering as practicable.

9. Every occupier of a slaughter-house shall cause the means of ventilation provided in or in connexion with such slaughter-house to be kept at all times in proper order and efficient action; and so that the ventilation shall be by direct communication with the external air.

10. Every occupier of a slaughter-house shall cause the drainage provided in or in connexion with such slaughter-house to be kept at all times in proper order and efficient action.

11. Every occupier of a slaughter-house shall cause every part of the internal surface of the walls and every part of the floor or pavement of such slaughter-house to be kept at all times in good order and repair, so as to prevent the absorption therein of any blood or liquid refuse or filth which may be spilled or splashed thereon, or any offensive or noxious matter which may be deposited thereon or brought in contact therewith.

He shall cause every part of the internal surface above the floor or pavement of such slaughter-house to be thoroughly washed with hot lime-wash at least four times in every year; that is to say, at least once during the periods between the first and tenth of March, the first and tenth of June, the first and tenth of September, and the first and tenth of December respectively.

He shall cause every part of the floor or pavement of such slaughter-house, and every part of the internal surface of every wall on which any blood or liquid refuse or filth may have been spilled or splashed, or with which any offensive or noxious matter may have been brought in contact during the process of slaughtering or dressing in such slaughter-house, to be thoroughly washed and cleansed within three hours after the completion of such slaughtering or dressing.

12. An occupier of a slaughter-house shall not at any time keep any dog, or cause or suffer any dog to be kept in such slaughter-house.

He shall not at any time keep, or cause or suffer to be kept in such slaughter-house, any animal of which the flesh may be used for the food of man, unless such animal be so kept in preparation for the slaughtering thereof upon the premises.

He shall not at any time keep any cattle, or cause or suffer any cattle to be kept in such slaughter-house for a longer period than may be necessary for the purpose of preparing such cattle, whether by fasting or otherwise, for the process of slaughtering.

If at any time he keep, or suffer to be kept in such slaughter-house any cattle for the purpose of preparation, whether by fasting or otherwise, for the process of slaughtering, he shall not cause or suffer

such cattle to be confined elsewhere than in the pounds, stalls, pens, or lairs provided on the premises.

13. Every occupier of a slaughter-house shall cause the hide or skin, fat, and offal of every animal slaughtered on the premises to be removed therefrom within twenty-four hours after the completion of the slaughtering of such animal.

14. Every occupier of a slaughter-house shall cause the means of water supply provided in or in connexion with such slaughter-house to be kept, at all times, in proper order and efficient action, and shall provide for use on the premises a sufficient supply of water for the purpose of thoroughly washing and cleansing the floor or pavement, every part of the internal surface of every wall of such slaughter-house, and every vessel or receptacle which may be used for the collection and removal from such slaughter-house of any blood, manure, garbage, filth, or other refuse products of the slaughtering of any cattle or the dressing of any carcase on the premises.

15. Every occupier of a slaughter-house shall provide a sufficient number of vessels or receptacles, properly constructed of galvanised iron or other non-absorbent material, and furnished with closely fitting covers, for the purpose of receiving and conveying from such slaughter-house all blood, manure, garbage, filth, or other refuse products of the slaughtering of any cattle or the dressing of any carcase on the premises.

He shall forthwith, upon the completion of the slaughtering of any cattle or the dressing of any carcase in such slaughter-house cause such blood, manure, garbage, filth, or other refuse products to be collected and deposited in such vessels or receptacles, and shall cause all the contents of such vessels or receptacles to be removed from the premises at least once in every twenty-four hours.

He shall cause every such vessel or receptacle to be thoroughly cleansed immediately after such vessel or receptacle shall have been used for such collection and removal, and shall cause every such vessel or receptacle when not in actual use to be kept thoroughly clean.

16. Every person who shall offend against any of the foregoing byelaws for the registering and inspection of slaughter-houses, for preventing cruelty therein, for keeping the same in a cleanly and proper state, for removing filth at least once in every twenty-four hours, and for requiring such slaughter-houses to be provided with a sufficient supply of water, shall be liable for every such offence to a penalty of five pounds, and in the case of a continuing nuisance to a penalty of ten shillings for every day during which such nuisance shall be continued after the conviction for the first offence:

Provided nevertheless, that the justices or court before whom any complaint may be made or any proceedings may be taken in respect of any such offence may, if they think fit, adjudge the payment as a penalty of any sum less than the full amount of the penalty imposed by this byelaw.

(3.) DAIRIES, COWSHEDS, AND MILKSHOPS.

The Dairies, Cowsheds, and Milkshops Order of 1885, and the Dairies, Cowsheds, and Milkshops Amending Order of 1886, which are set out above on pages 11 and 14, apply to so much of England and Wales as is outside the administrative county of London as well as to that county.

APPENDIX K.

Papers handed in by Mr. Patten MacDougall.

EXTRACTS from various SCOTTISH GENERAL and LOCAL ACTS OF PARLIAMENT relating to UNSOUND FOOD, REGULATION of SLAUGHTER-HOUSES, and REGULATION of DAIRIES and MILK SUPPLY.

I.—UN SOUND FOOD.

A.—PUBLIC HEALTH (SCOTLAND) ACT, 1897, section 43.—
Inspection and Destruction of Unsound Meat. &c.

Unsound Food.

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43.—(1.) Any medical officer or sanitary inspector or any veterinary surgeon approved for the purposes of this section by the local authority may at all reasonable times enter any premises within the district of the local authority, or search any cart or vehicle, or any barrow, basket, sack, bag, or parcel, in order to inspect and examine and may inspect and examine

(a) any animal, alive or dead, intended for the food of man which is exposed for sale, or deposited in any place or is in course of transmission for the purpose of sale, or of preparation for sale; and
(b) any article, whether solid or liquid, intended for the food of man, and sold or exposed for sale, or deposited in any place or in course of transmission for the purpose of sale or of preparation for sale, the proof that the same was not exposed or deposited or in course of transmission for any such purpose, or was not intended for the food of man, resting with the person charged; and if any such animal or article appears to such medical officer or sanitary inspector or veterinary surgeon to be diseased, or unsound, or unfit for the food of man, he may seize and carry away the same himself or by an assistant, in order to have the same dealt with summarily by a sheriff, magistrate, or justice.

Provided that in the case of any proceeding under this section with regard to a living animal the medical officer or sanitary inspector, unless he is himself a qualified veterinary surgeon, shall be accompanied by a veterinary surgeon approved as aforesaid.

The police force of each police area shall have power to search carts or vehicles, or barrows, baskets, sacks, bags, or parcels, and to assist generally in executing and enforcing this section.

(2.) If it appears to a sheriff, magistrate, or justice, that any animal or article which has been seized or is liable to be seized under this section is diseased, or unsound, or unfit for the food of man, he shall condemn the same, and order it to be destroyed or so disposed of as to prevent it from being exposed for sale or used for the food of man; and the person to whom the same belongs or did belong at the time of sale or exposure for sale, or deposit or transmission for the purpose of sale, or of preparation for sale, or in whose possession or on whose premises the same was found, shall be liable to a penalty not exceeding fifty pounds for every animal or article, or if the article consists of fruit, vegetables, corn, bread, or flour, for every parcel thereof so condemned, unless he proves that he and the person acting on his behalf (if any) did not know, and could not with reasonable care have known, that it was in such a condition, or where the proceedings are before a sheriff, at the discretion of the court, if it finds that he has knowingly and wilfully committed the offence, he shall be liable without the infliction of a penalty, to imprisonment for a term of not more than three months with or without hard labour, and also to pay all expenses caused by the seizure, detention, or disposal thereof.

Provided that if such person proves that the animal or part thereof condemned as aforesaid was within a reasonable time prior to the seizure thereof examined upon the premises where the animal was slaughtered and passed by a veterinary surgeon approved as aforesaid called in for the purpose, and who shall have

granted a certificate of passing as nearly as may be as in the next sub-section provided, or by a veterinary surgeon in terms of that sub-section, he shall be exempt from penalty or imprisonment under this section for such offence.

(3.) Each local authority, or two or more local authorities in combination, may, if they think fit, appoint a place or places within its district or their districts, and fix a time or times at which a veterinary surgeon approved as aforesaid shall attend for the purpose of examining any animal alive or dead which may there be submitted to him, and passing or condemning the same, and such veterinary surgeon shall, on receipt of a fee to be fixed by the local authority or authorities and paid by the owner, examine and pass or condemn in whole or in part any animal or carcase so submitted to him; and if he shall pass the same he shall grant a certificate of passing which shall set forth the name of the owner, the date and hour of examination, and such particulars regarding the animal or carcase as the local authority or authorities may prescribe for the purpose of aiding in the subsequent identification of the same; and if he shall condemn the animal or carcase, or part thereof, the animal or carcase or part so condemned shall be retained and be forthwith destroyed by the local authority or authorities or so disposed of as to prevent it from being exposed for sale or used for the food of man, and the owner shall be entitled to the net price realised from the residual product of the carcase or part so condemned, if any, after deducting the expenses of condemnation and destruction. Provided that no carcase shall be submitted for examination, either under this or the immediately preceding sub-section, unless as a whole carcase, including the thoracic and abdominal viscera, in such manner that the examiner shall be readily able to satisfy himself that the organs are those of the carcase under inspection.

(4.) Where it is shown that any animal or article liable to be seized under this section and found in the possession of any person was purchased by him or consigned to him from another person for the food of man, and when so purchased or consigned was in such a condition as to be liable to be seized and condemned under this section, the person who so sold or consigned the same shall be liable to be brought to trial in the district in which such animal or article was seized, and on conviction shall be liable to the penalty and imprisonment above mentioned, unless he proves that, at the time he sold or consigned the said animal or article, he and the person acting on his behalf, if any, did not know, and could not with reasonable care have known, that it was in such a condition.

(5.) A copy of any certificate granted by a veterinary surgeon, under sub-sections two or three of this section, shall forthwith be sent by him to the chief constable of the jurisdiction in which the examination of the animal or carcase took place, and the certificate itself shall be sent by the person selling the animal or carcase forthwith after the sale, and not more than seven days from the date of the certificate, to the chief constable of the jurisdiction in which the sale of the animal or carcase took place, and if any veterinary surgeon or person shall contravene this enactment he shall be liable to a penalty not exceeding twenty pounds.

(6.) Where a person convicted of an offence under this section has been within twelve months previously convicted of an offence under this section, the sheriff, magistrate, or justice may, if he thinks fit, and finds

that the offender knowingly and wilfully committed both such offences, order that a notice of the facts be affixed, in such form and manner and for such period not exceeding twenty-one days as the sheriff, magistrate, or justice may order, to any premises occupied by that person, and that the person do pay the costs of such affixing, and if any person obstructs the affixing of such notice or removes, defaces, or conceals the notice while affixed during the said period, he shall for each offence be liable to a penalty not exceeding five pounds.

(7.) If the occupier of a licensed slaughter-house is convicted of an offence under this section the sheriff, magistrate, or justice convicting him may cancel the license for such slaughter-house.

(8.) If any person obstructs a medical officer, sanitary inspector, or veterinary surgeon as aforesaid in the performance of his duty under this section he shall, where the proceedings are before a sheriff, and where the sheriff is satisfied that the obstruction was with intent to prevent the discovery of an offence under this section, or that the accused has within twelve months previously been convicted of such obstruction, be liable to imprisonment for any term not exceeding one month in lieu of any penalty authorised by this Act for such obstruction.

(9.) A sheriff, magistrate, or justice, may act in adjudicating on an offender under this section, whether he has or has not acted in ordering the animal or article to be destroyed or disposed of.

B.—BURGH POLICE (SCOTLAND) ACT, 1892, sections 428 and 429.—Power to seize diseased cattle, and power to proceed against original seller of diseased cattle, &c.

428. In the case of cattle infected with or suspected of any disease within the meaning of the Contagious Diseases (Animals) Acts, 1878 to 1890, being exposed or offered for sale, or being brought or attempted to be brought through any street, or into any market or fair, any inspector, collector, or constable may seize any such cattle, and cause the same to be inspected by a veterinary inspector, and may report such seizures to any magistrate, and such magistrate may, after hearing evidence, either order such cattle to be restored, or direct the same, and also any pens, hurdles, troughs, litter, hay, straw, and other articles which he may deem likely to have been infected thereby, to be forthwith destroyed, or otherwise disposed of; and any person bringing or attempting to bring any cattle through any street, or into any market or fair, knowing the same to be labouring under any such disease, shall for every such offence be liable to a penalty not exceeding twenty pounds.

429. Where any person is convicted by any magistrate of the offence of selling or exposing for sale, or of having in his possession for sale, any unsound or diseased animal or diseased meat, or any animal or meat unfit for the food of man, and intended for such food, it shall also be lawful for the burgh prosecutor to proceed against the original seller of such animal or meat as if he were an offender art and part with the convicted person, and as if he had committed such offence within the burgh, provided that such animal or meat were unsound or diseased, or unfit for the food of man, at the time of the sale thereof by such original seller to the convicted person; and the purchase by the convicted person, or by anyone on his behalf, from such original seller, wheresoever made or carried out, shall be taken and held to be a sale by such original seller of the animal or meat in question within the burgh, in premises kept and used for the sale of animals or meat; and the penalty and punishment provided by this Act against the person convicted shall also be applicable to and be leviable and recoverable from such original seller, and all the powers, authorities, jurisdiction, and forms of procedure given and provided by this Act against the convicted person shall be applicable to the prosecution, trial, and punishment of such original seller.

C.—GLASGOW POLICE (AMENDMENT) ACT, 1890, section 23—Power to proceed against original seller of diseased cattle, &c.

23. Where any person is charged before any magistrate with the offence of selling, or exposing, or conveying for sale, or of having in his possession for sale or preparation for sale any unsound or diseased meat, or any carcase, meat, poultry, game, flesh, fish, fruit, vegetables, corn, bread, flour, milk, butter, eggs, or other articles unfit for human consumption, and intended or which might be used for such consumption, the procurator fiscal may, if he thinks fit, also proceed against the person from whom the person so charged purchased such carcase, meat, or things (in this section called the original seller) as if he were an offender art and part with the person so charged, and as if he had committed such offence within the city, provided that such carcase, meat, or things were unsound or diseased, or unfit for human consumption at the time of the sale thereof by the original seller to the person so charged; and the purchase by the person so charged, or by anyone on his behalf, from the original seller, wheresoever made or carried out, shall be taken and deemed to be a sale by the original seller of the carcase, meat, or things in question within the city, in premises kept and used for the sale of such carcase, meat, or things: and the penalty and punishment provided by this Act shall also be applicable to and be leviable and recoverable from the original seller, and all the powers, authorities, jurisdiction, and forms of procedure given and provided by the Police Acts with reference to such offence shall be applicable to the prosecution, trial, and punishment of the original seller, the proof that such carcase, meat, or things when so sold by the original seller were sound and fit for human consumption, resting with the original seller.

II.—REGULATION OF SLAUGHTER-HOUSES.

A.—PUBLIC HEALTH (SCOTLAND) ACT, 1897, sections 33 and 34.—Licensing of slaughter-houses, and empowering local authority to provide a slaughter-house.

33.—(1.) A person carrying on the business of a slaughterer of cattle or horses, or knacker, shall not use any premises as a slaughter-house or knacker's yard without a license from the local authority, and if he does he shall for each offence be liable to a penalty not exceeding five pounds, and the fact that cattle or horses have been taken into unlicensed premises shall be *prima facie* evidence that an offence under this section has been committed.

Licensing slaughter-houses.

(2.) A license under this section shall expire on such day in every year as the local authority fix, and when a license is first granted shall expire on the day so fixed which secondly occurs after the grant of the license, and a fee not exceeding five shillings may be charged for the license or any renewal thereof.

(3.) Not less than twenty-one days before a new license for any premises is granted under this section, notice of the intention to apply for it shall be advertised as provided in sub-section two of the immediately preceding section by the local authority of the district in which the premises are situate, and any person interested may show cause against the grant or renewal of the license.

(4.) An objection shall not be entertained to the renewal of a license under this section, unless seven days' previous notice of the objection has been served on the applicant, save that, on an objection being made of which notice has not been given, the local authority may, if they think it just so to do, direct notice thereof to be served on the applicant, and adjourn the question of the renewal to a future day, and require the attendance of the applicant on that day, and then hear the case, and consider the objection, as if the said notice had been duly given.

(5.) For the purposes of this section a license shall be deemed to be renewed where a further license is granted in immediate succession to a prior license for the same premises.

(6.) The local authority shall have right to enter any slaughter-house or knacker's yard at any hour by day, or at any hour when business is in progress or is usual carried on therein, for the purpose of examining whether there is any contravention therein of this Act or of any byelaw made thereunder.

(7.) Where any person carrying on the business of a slaughterer of cattle or horses or knacker at the passing of this Act is refused by the local authority a license for the premises where such business is carried on, or where any person has been refused a renewal of any license, such person may appeal to the Board against such refusal, and the decision of the Board shall be final, but in the case of a district other than a burgh the appeal to the Board shall only arise after the county council has given its determination on the matter, and a local authority may appeal to the Board against the determination of the county council.

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34. The local authority of any district other than a burgh may provide, establish, improve, or extend and maintain within or without their district, and two or more such local authorities may combine to so provide, establish, improve, or extend and maintain fit shambles or slaughter-houses for the purpose of slaughtering cattle, and for that purpose may borrow such sums of money as they shall find necessary on the security of the public health general assessment, and of the rates to be taken and levied for the use of such shambles or slaughter-houses and ground on which the same are erected, or on any one or more thereof, and the provisions of section one hundred and forty-one of this Act shall, with the necessary modifications, apply to such borrowing.

B.—BURGH POLICE (SCOTLAND) ACT, 1892, sections 278-284 and 285-287.—Being a code of regulations regarding slaughter-houses applicable to burghs.

Slaughter-houses.

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278. The Commissioners may provide, establish, improve, or extend, within or without the burgh, fit shambles or slaughter-houses for the purpose of slaughtering cattle, and for that purpose may borrow such sums of money as they shall find necessary, on the security of the burgh general assessment, and of the rates to be taken and levied for the use of such shambles and slaughter-houses, and of the shambles or slaughter-houses and ground on which the same are erected, or on any one or more thereof, and they may also license such slaughter-houses as they may from time to time think proper for slaughtering cattle within the burgh.

And where in any burgh the Commissioners, or their predecessors in office, shall have provided and established such shambles or slaughter-houses, and shall have paid for that purpose moneys out of the police or other funds under their charge, the Commissioners may repay such moneys out of the burgh general assessment, or out of any moneys borrowed on the security thereof, in so far as the moneys so paid exceed in amount the moneys borrowed for the purposes of such shambles or slaughter-houses, under the powers of any special Act or provisional order, and may for the purpose of such repayment borrow money on the security of the burgh general assessment; and they may also apply any funds under their charge towards the maintenance and management of such shambles or slaughter-houses, and the payment of any feu duties or other annual burdens affecting the same, in the event of the rates levied for the use thereof not being sufficient for those purposes.

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279. No place shall be used or occupied as a slaughter-house within the burgh unless and until a license for the erection thereof, or for the use or occupation thereof as a slaughter-house, has been obtained from the Commissioners; and every person who, without such license, uses as a slaughter-house any place within the burgh, shall for each offence be liable to a penalty not exceeding five pounds, and a like penalty for every day after the conviction for such offence upon which such offence is continued.

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280. The medical officer of health of the burgh shall report to the Commissioners on the sanitary condition of all slaughter-houses belonging to or licensed by the Commissioners at least twice every year, and he, as well as the sanitary inspector, and any other person who may be specially appointed by the Commissioners for the purpose, shall have right of access to such slaughter-houses at all reasonable times for the purpose of inspecting the same.

281. The Commissioners shall from time to time make byelaws to be confirmed in the manner herein provided, for the licensing, registering, regulation, and inspection of slaughter-houses, and preventing cruelty in slaughter-houses, and for keeping the same in a cleanly and proper state, and for removing filth at least once in every twenty-four hours, and for having them properly floored, drained, and provided with a sufficient supply of water, and they may impose pecuniary penalties on persons breaking such byelaws; provided that no such penalty exceed for any one offence the sum of five pounds, and in the case of a continuous violation of such byelaws, the sum of ten shillings for every day during which such nuisance shall be continued after the conviction for the first offence.

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282. The magistrate before whom any person is convicted of killing or dressing any cattle contrary to the provisions of this Act, or of the said byelaws in addition to the penalty imposed may suspend for any period not exceeding two months the license granted to such person; and such magistrate, upon the conviction of any person for a second or other subsequent like offence, may, in addition to the penalty imposed, declare the license granted to be revoked; and whenever the license of any such person is revoked as aforesaid the Commissioners may refuse to grant any license whatever to him.

License of
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283. Every person who, during the period for which any such license is suspended, or after the same is revoked as aforesaid, slaughters cattle in the slaughter-house to which such license relates, or otherwise uses slaughter-house, or allows the same to be used as a slaughter-house, shall be liable to a penalty not exceeding five pounds for such offence, and a further penalty of five pounds for every day on which any such offence is committed after the conviction for the first offence.

Penalty for
slaughtering
cattle
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284. If the Commissioners have provided under any former Act or resolve to provide and establish, and do provide and establish, shambles or slaughter-houses, as herein provided, no person shall thereafter slaughter any cattle or beasts, or scald or dress the carcasses of any slaughtered cattle, or cause the same to be done, within the boundaries of the burgh, elsewhere than within the said slaughter-houses, under a penalty of five pounds for each offence; provided always that this enactment shall not apply to any owner or occupier within the burgh who may keep any cattle or beasts within the burgh, and who may kill the same for his own or family consumption; and it shall be lawful for the Commissioners to charge, for the use of the said slaughter-houses, such reasonable rate or sum as may be agreed on between them and the persons using the same; and in case of difference as to the rate to be taken for the use of such slaughter-houses, the same shall, upon the application of either party, and after seven days' previous notice to the other party of such intended application, be fixed by the sheriff in a summary manner, and the decision of the sheriff shall be final.

If Commis-
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And to prevent evasion of the use of such slaughter-houses, all persons who shall, after such slaughter-houses are provided, bring within the boundaries of the burgh, for sale or consumption therein, the carcass or part of a carcass of any cattle or beast slaughtered within the distance of two miles beyond such boundaries elsewhere than in slaughter-houses provided or duly licensed in pursuance of any Act of Parliament shall, on bringing such carcass or part of a carcass within the said boundaries, be liable in payment to the Commissioners of the amount of the rates or sums then being levied for cattle or beasts slaughtered in such slaughter-houses provided by them: Provided that where before the passing of this Act or within one year thereafter, any burgh shall have erected slaughter-houses, no other slaughter-house shall be erected within the distance of two miles from the existing boundaries of such burgh, unless either it is erected with the consent of the Commissioners of such burgh or is situated within the area of another burgh.

286. Nothing in or done under this Act shall interfere with the operation or effect of the Contagious Diseases (Animals) Acts, 1878 to 1890, or of any order, license, or act of the Board of Agriculture made, granted, or done, or to be made, granted, or done thereunder, or of any order, regulation, license, or act of a local authority made, granted, or done, or to be made, granted, or done, under any such order of the Board of Agriculture, or prohibit or interfere with the

Saving for
Acts, &c.,
relating to
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slaughter of any animals in accordance with the provisions of the said Act or of any such order, license, or regulation.

287. The provisions of the Cattle Sheds in Burghs (Scotland) Act, 1866, or any Acts amending the same, may be carried into effect and enforced in the burgh by the magistrates, and offences against the same may be tried by the magistrate as police offences, and the penalties may be recovered and applied in the same way as penalties for police offences under this Act.

III.—REGULATION OF DAIRIES AND MILK SUPPLIES.

A.—PUBLIC HEALTH (SCOTLAND) ACT, 1897, sections 60 and 61.—Inspection of dairies, and power to prohibit supply of milk, and dairymen to supply information and to produce list of customers and invoices.

60.—(1.) If the medical officer of any district has evidence that any person in the district is suffering from an infectious disease attributable to milk supplied within the district from any dairy situate within the district, or that the milk from any such dairy is likely to cause any such disease to any person residing in the district, such medical officer shall visit such dairy, and the medical officer shall examine the dairy and every person engaged in the service thereof or resident upon the premises or who may be resident in any premises where any person employed in such dairy may reside, and if accompanied by a veterinary surgeon approved as aforesaid shall examine the animals therein, and the medical officer shall forthwith report the results of his examination accompanied by the report of the veterinary surgeon, if any, to the local authority or any committee of the local authority appointed under section fourteen to deal with such matters.

(2.) If the medical officer of any district has evidence that any person in the district is suffering from any infectious disease attributable to milk from any dairy without the district, or that the milk from any such dairy is likely to cause any such disease to any person residing in the district, such medical officer shall forthwith intimate the same to the local authority of the district in which such dairy is situate, and such other local authority shall be bound, forthwith, by its medical officer to examine the dairy and the persons aforesaid, and by a veterinary surgeon approved as aforesaid, to examine the animals therein, previous notice of the time of such examination having been given to the local authority of the first-mentioned district, in order that the medical officer or any veterinary surgeon approved as aforesaid may, if they so desire, be present at the examinations referred to, and the medical officer of the second-mentioned local authority shall forthwith report the results of his examination, accompanied by the report of the veterinary surgeon, if any, to that local authority or any committee of that local authority appointed under section fourteen of this Act to deal with such matters.

(3.) The local authority of the district in which the dairy is situated, or any committee appointed for the purpose, shall meet forthwith and consider the reports together with any other evidence that may be submitted by parties concerned, and shall either make an order requiring the dairyman not to supply any milk from the dairy until the order has been withdrawn by the local authority, or resolve that no such order is necessary.

(4.) Where proceedings are taken or any order is made under this section by the local authority of a district other than a burgh, it shall not be competent to appeal against the said proceedings or against said order of the county council.

(5.) The local authority may, if the dairy is within the district, require the dairyman not to supply milk either within or without the district, and shall give notice of the fact to the local authority of any district within which they believe milk to be supplied from such dairy.

(6.) Any such order shall be forthwith withdrawn on the local authority, or their medical officer on their behalf, being satisfied that the milk from the dairy is no longer likely to cause infectious disease.

(7.) It shall be open to any local authority or dairyman aggrieved by any such resolution or order, or withdrawal of order, to appeal in a summary manner to a sheriff having jurisdiction in the district in which the dairy is situated, and the sheriff may either make an order requiring the dairyman to cease from supplying milk, or may vary or rescind any order which has been made by the local authority, and he may at any time withdraw any order made under this section. Pending the disposal of any such appeal the order shall remain in force.

(8.) If any person refuses to permit the medical officer or veterinary surgeon of either local authority to make examination as above provided, or, after any order has been made under this section, supplies milk in contravention of the order, he shall be liable to a penalty not exceeding ten pounds, and, if the offence continues, to a further penalty not exceeding five pounds for every day during which the offence continues.

(9.) Provided that—

(a) proceedings in respect of the offence shall be taken before a sheriff having jurisdiction in the place where the dairy is situate; and

(b) a dairyman shall not be liable to an action for breach of contract if the breach be due to an order under this section.

(10.) Nothing in or done under this section shall interfere with the operation or effect of the Contagious Diseases (Animals) Acts, 1878 to 1886, or of any order, license, or act of the Privy Council or the Board thereunder, or of any regulation, license, or act of a local authority, made, granted, or done under any such order of the Privy Council or the Board, or exempt any dairy, building, or thing, or any person from the provisions of any general Act relating to dairies, milk, or animals.

61. Whenever it shall be certified to the local authority, by the medical officer or other legally qualified medical practitioner, that the outbreak or spread of infectious disease within the district is, in the opinion of such medical officer or medical practitioner, attributable to milk supplied by any dairyman, whether wholesale or retail, or to milk supplied by one or other of several such dairymen, whether wholesale or retail,—

(1.) The local authority may require such dairyman, whether within or without the district, to furnish to them within a time to be fixed by them, being not less than twenty-four hours, a full and complete list of the names and addresses of all his customers within the district so far as known to him, and such dairyman shall furnish such list accordingly, and the local authority shall pay to him for every such list at the rate of sixpence for every twenty-five names contained therein; and every person who shall wilfully or knowingly offend against this enactment shall for each such offence be liable to a penalty not exceeding five pounds, and to a daily penalty not exceeding forty shillings:

(2.) The local authority may require such dairyman to furnish to them, within a time to be fixed by them, a full and complete list of the names and addresses of the farmers, dairymen, or other parties from whom, during a period to be specified, the milk, or any part of the milk which they sell or distribute, was obtained, and, if required, to produce and exhibit to the medical officer, or to any person deputed by him, all invoices, pass-books, accounts, or contracts, connected with the consignment or purchase of milk during such period, and such dairymen or others shall furnish such lists and produce and exhibit such invoices, pass-books, accounts, or contracts, accordingly; and every person who shall wilfully or knowingly offend against this enactment shall for every such offence be liable to a penalty not exceeding five pounds, and to a daily penalty not exceeding forty shillings;

(3.) In any case where the person liable to any penalty under this section is not resident within the district, such penalty may be sued for at the

Offences under 29 & 30 Vict. c. 16.

Inspection of dairies, and power to prohibit supply of milk.

Dairymen to supply information and to produce list of customers and invoices.

instance of the procurator-fiscal before the sheriff of the county in which such person is either domiciled or carries on business.

B.—GLASGOW POLICE (AMENDMENT) ACT, 1890, sections 24-27.—Dealing with the prevention of the sale of milk from diseased cows.

24. The medical officer or sanitary inspector, or any person acting under their orders, provided with and, if required, exhibiting the authority in writing of such medical officer or sanitary inspector, may from time to time, within reasonable hours, enter any byre or cowshed within the city or wherever situated if the milk produced therein is being sent for sale within the city, and may inspect and examine any cow kept therein for the supply of milk, in order to determine whether such cow suffers from any disease which might render the use of the said milk dangerous or injurious to health.

25. Every owner of any cow kept within the city for the supply of milk, or wherever kept if the milk is being sent for sale within the city, and every person in charge of the same, shall render such reasonable assistance to the medical officer, sanitary inspector, or other person provided with, and if required exhibiting the authority in writing of such medical officer or sanitary inspector for the purpose of inspection and examination, as may be required by them, and any person refusing such assistance or obstructing the inspection, shall be liable in a penalty not exceeding five pounds, and such penalty may be sued for and recovered before the sheriff of the county in which such person is domiciled.

26. Every dairyman or keeper of a byre or cowshed, whose milk is sold within the city, who, after intimation has been made to him by the police commissioners that any cow in his possession kept for the supply of milk for human consumption suffers from tuberculosis or any disease which might render the use of such milk for human consumption dangerous or injurious to health, shall retain such cow in his possession, shall, unless the contrary be proved, be presumed to have sold the milk produced by such cow for human consumption, and shall be liable in a penalty not exceeding five pounds, and such penalty may be sued for and recovered before the sheriff of the county in which such person is domiciled, at the instance of the procurator-fiscal.

27. Every person who knowingly sells, or suffers to be sold or used for human consumption within the city the milk of any cow which is suffering from tuberculosis, or any disease which might render the use of such milk dangerous or injurious to health, shall be liable to a penalty not exceeding ten pounds for each offence, and in any case where the person liable to a penalty under this section is not resident within the city such penalty may be sued for and recovered before the sheriff at the instance of the procurator-fiscal.

SUMMARY OF PARTICULARS received from SANITARY INSPECTORS in SCOTLAND regarding SEIZURES OF DISEASED ANIMALS OR CARCASSES under—

- (1.) Dairies Orders or Regulations;
- (2.) Section 26 of Public Health Act; or
- (3.) Local Acts.

The Local Government Board for Scotland having thought it advisable, in view of the evidence to be given by their legal member, to issue circular letters addressed to the sanitary inspectors of the burgh and district public health local authorities throughout Scotland, inquiring (1) as to the number of prosecutions under the Dairies Orders or Regulations so far as they referred to diseased cattle, and (2) as to the number of seizures of diseased meat made under section 26 of the Public Health Act, 1867, in slaughter-houses or elsewhere, and (3) as to the number of seizures in which it had been ascertained that the animals had been affected with tuberculosis. The replies, all applicable to the year 1895, are summarised in the tabular statement appended.

Seizures.

Before considering the information in detail obtained from the eight principal towns in Scotland, it may be useful to glance at the following table for purposes of comparison.

Name.	Seizures of Diseased Meat in 1895.	Prosecutions.	Convictions.	Notes as to Tuberculous Cases.
Glasgow	16 seizures (by local authority exclusive of seizures by the police).	6	6	3 tuberculous cases.
Edinburgh	509 " "	7	2	144 do.
Dundee	528 " "	—	—	63 do.
Aberdeen	149 " "	10	10	No details.
Leith	214 " "	—	—	Do.
Paisley	98 " "	1	1	47 tuberculous cases.
Greenock	43 " "	—	—	31 do.
Perth	31 " "	—	—	4 ascertained cases. Of the 17 carcasses condemned by Superintendent no record as to tuberculosis.
Total	1,582 seizures.	24	19	—

Glasgow.

As above noted, there were only 10 carcasses seized during the year 1895, the conditions of which were reported to be as follows:—

Tuberculosis	-	-	-	3
Inflammation and decomposition	-	-	-	5
Chronic rheumatism	-	-	-	1
Dropsical	-	-	-	1
Total	-	-	-	10

These seizures were made not under the Public Health Act, but by the officers of the Sanitary Department, at the railway stations, and in transit, under section 19 of the Glasgow Police (Amendment) Act, 1890, with its enlarged powers of seizure and prosecution. The remaining and by far the larger portion of the work of meat inspection in Glasgow is performed by the police, to whom it is entrusted by the Markets and Slaughter-Houses Commissioners, and the local authority under the Contagious Diseases (Animals) Acts.

The Glasgow returns are, therefore, not comparable with the returns from the other seven principal towns.

Edinburgh.

In addition to the figures given in the above table, Sir Henry Littlejohn, Medical Officer of Health for Edinburgh, reported that of the 509 seizures the proportion of tuberculous carcasses was as follows:—

Cows	-	-	-	116
Bullocks	-	-	-	13
Bulls	-	-	-	1
Swine	-	-	-	14
Tuberculosis	-	-	-	144

Dundee.

In Dundee, it will be observed that there were 528 seizures and yet no prosecutions. "All dead meat," says the sanitary inspector, Mr. Kinnear, "brought into the city is taken to the clearing-house for inspection. If found wholesome it is passed by the Town Council's expert, if found unwholesome it is seized and destroyed, and the council meantime consider confiscation sufficient punishment." The 163 tuberculous cases consisted of 129 cattle, 1 calf, and 33 pigs.

Aberdeen.

With regard to the tuberculous cases, Mr. Cameron, the sanitary inspector, states that it has not hitherto been the practice to keep a record showing the nature of the disease from which the animals suffered, but he believes that from one-fourth to one-third of the total number of carcasses seized would probably be tuberculous.

Leith.

Mr. Duncan, the Leith sanitary inspector, states that the meat seized during 1895 amounted in all to nearly 16 tons, which he values at 915*l.* 17*s.* 6*d.*

The sanitary inspector was unable to give details as to tuberculous cases.

Paisley.

The report by Mr. Kelso, the sanitary inspector for the burgh of Paisley, has already been referred to in the evidence. (Q. 3339.)

There were 98 seizures in all in Paisley. "Of the 83 carcasses of beef condemned, 47 were affected with tuberculosis. None of the carcasses of mutton or pork were tuberculous. 45 of the 47 affected with tuberculosis were the carcasses of cows, and only two of bullocks. Leaving the latter out of consideration, 27 had been purchased by fleshers in the open market in the ordinary way of their trade, while 12 belonged to farmers and cattle dealers, and six to cow-feeders. Most of these 18 had gone wrong in the hands of the parties and were brought into our slaughter-house dead. I may add that nearly all were cases of general tuberculosis."

Greenock.

As noted in the table, there were 43 seizures, all made within the slaughter-house. Nineteen of the carcasses, reports Mr. Devine, the sanitary inspector, had been brought in by dairy keepers or farmers for inspection by the veterinary inspector under the market rules. No legal proceedings were taken against the owners of meat as there was no evidence to show that it was offered for sale or intended for human consumption. 31 of the cases were tuberculous. The remaining 12 were condemned owing to decomposition, parturition, pneumonia, metritis, &c.

Perth.

The system in force in Perth is explained in two letters from the sanitary inspector, Mr. Cumming, from which it appears that the medical officer of health and a specially qualified veterinary surgeon examine all diseased carcasses. The only risk of diseased meat getting into the market arises where the superintendent of the slaughter-house may not think the disease important enough to call in the medical officer and veterinary surgeon, and so allows the animal to pass the inspection. The medical officer condemned 14 carcasses, and the superintendent 17 carcasses. There were no legal proceedings. The owners, after the carcasses were examined by the medical officer and veterinary surgeon, gave their consent for their destruction, "no doubt to prevent exposure." Of the 14 carcasses condemned by the medical officer, only one was condemned as suffering from general tuberculosis, but in addition there were the carcasses of three animals suffering from incipient tuberculosis which were passed as fit for human food. Of the carcasses condemned by the superintendent, the sanitary inspector stated that no record had been kept of the cause of condemnation.

In order to obtain uniform information in the future, the board have amended the annual statement of proceedings, which is filled up by sanitary inspectors for transmission to the Local Government Board, and which will shortly be issued for 1896.

The sanitary inspector will now be requested to give the number of:—

Inspections under section 26.

Seizures of unwholesome food:—

(a.) Animals or carcasses affected with tuberculosis.

(b.) Animals or carcasses not so affected.

(c.) Other unwholesome food.

Cases in which owners of unwholesome food were prosecuted.

Convictions in connexion with above cases.

Additional Note.

The sanitary inspector of Paisley gives the following suggestive table, showing the number of oxen and bulls, cows, and heifers killed in the Paisley public slaughter-house during 1891, and compares these figures with the number condemned:—

	Oxen and Bulls.	Cows.	Heifers.	Total.
Number slaughtered	3,677	819	394	4,890
Number condemned (all causes).	1	56	5	62
Number condemned (tuberculosis).	1	33	3	37

This table shows the small proportion of male animals condemned as compared with females.

With the view of testing this statement the following additional table is compiled from such of the sanitary inspectors' returns as indicate the particular animals and sex of animals condemned during 1895.

Burgh.	Disease.	Oxen and Bulls.	Cows.	Total.
Airdrie -	Tuberculosis -	—	5	5
Bo'ness -	" -	2	4	6
Castle Douglas -	" -	1	1	2
	in one of the cases.			
Dalkeith -	Tuberculosis -	—	1	1
Dumbarton -	" -	2	3	5
Edinburgh -	" -	14	116	130
Ellon -	Cow tuberculous.	1	1	2
	Bullock not tuberculous.			
Falkirk -	Tuberculosis mostly prevalent among dairy cows.			
Forfar -	Tuberculosis -	1	2	3
Hawick -	" -	1	—	1
Kirkcaldy -	" -	2	3	5
Kirkintilloch -	Not stated.	—	3	3
Kirkwall -	" -	—	4	4
Lerwick -	Tuberculosis -	—	2	2
Musselburgh -	" -	9	6	15
" -	Inflammation -	—	1	1
Paisley -	Tuberculosis -	2	45	47
Port Glasgow -	" -	—	6	6
" -	Other diseases -	2	7	9
Total -	—	37	210	247

APPENDIX L.

REGULATIONS of FOREIGN COUNTRIES as to MEAT and MILK INSPECTION, with especial reference to TUBERCULOSIS.

GERMANY.

EXTRACTS from the IMPERIAL LAW of the 14th May 1879, relating to the TRADE in FOOD STUFFS, &c. (*Nahrungsmittelgesetz*).

Para. 5.—Regulations may be made throughout the Empire by Imperial Order, with the approval of the Allied States, for the preservation of health, forbidding (amongst other things) the sale, or offering for sale, of animals for the purpose of slaughter which are suffering from certain diseases, as well as the sale, or offering for sale, of the flesh of animals similarly affected, under a penalty of 50 to 150 marks or imprisonment.

Para. 10.—Imprisonment for six months and a fine of 1,500 marks (or one only of these punishments) shall be inflicted on a person—

- (1.) Who imitates or adulterates, for the purpose of deception, articles of food.
- (2.) A person who, knowingly, sells, or offers for sale, articles of food which are bad (*verdorben*), or imitated (*nachgemacht*), or adulterated (*verfälscht*), without mentioning the fact that they are so, or sells them with a description of them which is intended to deceive.

Para. 12.—Imprisonment, with, possibly, loss of civil rights, is inflicted on anyone who intentionally prepares objects which are intended for food in such a way that they are calculated to injure health, or who sells, or offers for sale, such articles, or in any way makes them accessible as food.

If serious injury to bodily health results from the sale of such articles, imprisonment for five years may be inflicted.

Para. 13.—If, in the case of para. 12, the use of the objects was calculated to injure health, and if the fact was known to the seller, penal servitude for 10 years may be inflicted; and, if death resulted, penal servitude for life, or for not less than 10 years.

Remarks on the above Law from Professor Ostertag's "*Handbuch der Fleischschau*," p. 74.

The most glaring defect in the law is that nowhere is any mention made of the principle of the Freibank. This fact has made itself abundantly felt in the Law Courts.

Most difficulty has been found in interpreting the meaning of "bad" (*verdorben*); but for practical meat inspection a right definition is most important, for its application is much more frequent in the case of raw flesh than are the terms imitated or adulterated.

The great majority of legal decisions on the point have regarded those food stuffs as *bad* which differ from the normal, and are more or less unsuitable for definite use, and further, such that are not in themselves unsuitable for food, yet, because they possess certain special qualities, either cannot be sold, or at least not at the usual price paid for the same when in a normal condition.

This interpretation alone corresponds with the point of view of scientific meat inspection.

This law makes a fundamental difference between food that is *bad* (*verdorben*) and that which is injurious to health (*gesundheitsschädlich*). In the latter case, the making of such meat accessible, or even the attempt to do so, is a punishable offence.

Infringement of this cannot be expiated by payment of a fine.

It is to be noted that the living animal is included in this law if the seller knows that the animal is intended for human food. This meaning makes it applicable in the case of animals infected with disease, such as tuberculosis.

As regards the meaning of the word *verdorben*, the best interpretation of it is "bad," within the meaning of the law on food stuffs; all flesh must be regarded as *bad* which, without being injurious to health, (a) shows marked change in its substance; or (b) comes from animals that are affected with some disease.

The meaning of the words "injurious to health" must be limited to such flesh as has been demonstrated to have injured the health of the consumer, or in regard to which there is strong scientific grounds for believing that it could have. In practice, however, it must receive a further extension, so as to include flesh in which there is grave suspicion that it may cause injury to health.

Under the last would come tuberculosis in some of its forms.

In accordance with this law, flesh can be divided into five classes in practical meat inspection:—

- (1.) Flesh that is above suspicion. This corresponds to what is called "*bankwürdiges*," flesh in the regulations for meat inspection in South Germany.
- (2.) Flesh which can only be offered for sale under a declaration of its condition as "bad" within the meaning of the law on food stuffs. This corresponds to the "*nicht bankwürdiges*," flesh of the South German regulations.
- (3.) Flesh that is strictly injurious to health, as to which even the making it accessible for human food is an indictable offence.
- (4.) Flesh that is injurious to health under certain conditions, but which, when cooked, sterilised, or pickled, &c., may have its injurious qualities removed. This may be sold, after such measures have been taken, as "bad" within the meaning of the law on food-stuffs.
- (5.) Lastly, flesh must be distinguished as *bad*, which, without being injurious to health, has lost all its qualities for human food; for example, flesh that is dropsical, and flesh and organs that are markedly infected with parasites. This is to be regarded as unsuitable, and is *bad* within the meaning of section 367 of the penal code, in which the sale, or offering for sale, of such meat, is forbidden.

It should be pointed out that the word "*verdorben*" must be translated by experts, in accordance with the meaning given to it by the law only, and must never be used for putrified meat. This latter is "injurious to health."

PRUSSIA.

LAW relating to the ERECTION of PUBLIC SLAUGHTER-HOUSES, March 1868, including the alterations effected by the Law of 9th March 1881.

Para. 1.—In districts where a public slaughter-house has been erected, regulations can be introduced for compelling all animals to be slaughtered, and all trade processes that are intimately connected with the slaughtering to be exclusively carried out in it.

Para. 2.—After the erection of a public slaughter-house by the authority, regulations may be drawn up to ensure that—

- (1.) All cattle coming into the slaughter-house shall be examined both before and after slaughter by an expert so as to determine their state of health.
- (2.) That no fresh carcasses of animals that have not been killed in a public slaughter-house shall be offered for sale in the district until it has been subjected to an expert examination at a definite charge.
- (3.) That no fresh meat coming from outside shall be used in hotels or restaurants until it has been subjected to a similar examination.
- (4.) That fresh meat which has not been prepared in a public slaughter-house must be offered for sale apart from that which has been so prepared, both in the open market and by private contract.
- (5.) That such persons as are engaged in the district, in the trade of a slaughterer or meat salesman, shall not offer for sale the flesh of animals that have not been killed in a public slaughter-house.

The regulations for the examination and the tariff shall be determined by the authority and published. Measures can be taken to ensure that the animals which

have not been slaughtered in a public slaughter-house shall be inspected, in the case of large beasts in halves or quarters, and in the case of small beasts in whole carcasses. The tariff must not exceed the costs of the examinations.

Para. 3.—Paragraphs 1 and 2 must be approved by the district government. The closing of private slaughter-houses shall come into effect six months after the publication of the law, provided a longer time is not mentioned. No new private slaughter-houses may be erected afterwards.

Para. 4.—The district must pledge itself to erect and maintain a public slaughter-house suitable to the needs of the locality.

Para. 5.—The tariff for the examination of cattle and meat must remain in force for at least a year. The scale of the tariff is to be arranged in such a way that (1) The charges for examination must just cover the expenses in connexion with the examination; (2) The charges for the use of the slaughter-house must not exceed the sum necessary for maintaining it, and for interest on and gradual amortization of the capital.

Para. 6.—The use of the slaughter-house must be allowed (when the above conditions are fulfilled) to every one.

Para. 7.—Compensation is to be given to the owner and those having the right to use the existing private slaughter-houses in proportion to the real loss sustained by them as regards the withdrawal from their original purpose of the buildings and fittings.

No compensation is given for loss which may be sustained from mere disturbance of the business.

Paras. 8, 9, 10, and 11.—Refer to settlement of compensation claims.

Para. 12.—States that the present regulations shall be enforced when the erection of the public slaughter-house is placed in the hand of a contractor. The contract must be approved by the district government.

Para. 14.—Anyone slaughtering cattle after the introduction of the present decree elsewhere than in a public slaughter-house, or infringing any of the regulations, shall be fined for each offence 150 marks or suffer imprisonment.

Remarks on the Law.

In section 2, although fresh imported meat must be compulsorily examined, the same is not required of prepared articles of food, such as sausages, smoked, pickled, or dried meat.

Many districts require that in addition to what is mentioned in section 6 of section 2, all the chief organs shall accompany the carcass.

The local regulations, however, which usually go much further than the law referred to above, chiefly determine the action of the veterinary inspector at the public slaughter-house.

As an example of such local police regulations may be cited that for the examination of slaughtered animals in the Prussian province of Hesse Nassau, dated July 1892.

Police Order on the Examination of Cattle in Hesse Nassau.

All animals must be examined before and after slaughter by a veterinary surgeon or by an inspector. The latter, however, can only pass judgment in certain definite conditions, and must call in a veterinary surgeon whenever there is the least doubt.

No animal (para. 4) may be slaughtered or cut up without the approval of the inspector, and only such parts of the carcass may be used for food as are passed by him.

In the case of fresh meat introduced from outside (para. 6), a certificate must accompany it, showing that it has been inspected by an expert. If there is no meat inspection in the place from which the carcass comes, the certificate must state that there is no contagious disease among cattle in the neighbourhood.

For infringements of the order penalties from 3 to 60 marks are inflicted.

Directions for carrying out the Police Order.

Inspection districts, with one or more official experts, are arranged. The inspectors must be veterinary surgeons whenever possible, and, when not, the inspector appointed must be provided with a certificate from the district veterinary surgeon.

The inspectors are bound to carry out the examination within six hours of the slaughter.

Carcasses of animals that have been found healthy must be stamped in several places.

Registers must be kept by the inspector (para. 12), of which the following is a specimen:—

REGISTER of the EXAMINATION of CATTLE.

1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
Number.	Day and Hour of Notification.	Name and Residence of the Owner of the Animal.	Description of the Animal as regards Breed, Age, Sex, and Colour (in Horses and Cattle).	Day, Hour, and Place of appointed Slaughter.	Day and hour of the Inspection.		Result of the Inspection.		Particular Points in case of Condemnation, and further Remarks.
					Before Slaughter.	After Slaughter.	Before Slaughter.	After Slaughter.	

Para. 13 deals with the charges made for the examination—

For cattle, 50 pf. (6d.)

For pigs, 30 pf. (3½d.)

For sheep or calf, 20 pf. (2½d.)

injuries, &c., and the prominent symptoms of the common serious ailments in cattle, pigs, sheep, and calves.

Inspection of Meat after Slaughter.

Para. 5.—After the removal of the skin the surface of the carcass should present a whitish or slightly yellow or red appearance. There should never be hæmorrhages or yellow masses in the connective tissue.

2. The thoracic and abdominal cavities and pericardium should only contain small quantities of a slightly yellow fluid.

Detailed Account of Meat Inspection.

1. The examination must take place by daylight, only exceptionally by artificial light.

In the examination of the living animal the various conditions which may cause the flesh to be regarded with suspicion are enumerated, such as, the presence of rigors, sweating, emaciation, diarrhoea, wounds,

3. The external surface of the stomach and intestines, and the internal surface of the cavities should be smooth and shining, and ought nowhere to be adherent or show any thickening. These organs, further, should not be dark red in colour, either wholly or in part.

4. The lymph glands should be soft and not show any nodules, cavities, fluid, or cheesy matter in their substance.

5. The liver of a bluish brown or reddish brown colour, should present a smooth, shining, even surface, with sharp edges.

6. The spleen of a bluish or reddish grey colour should be flabby, which makes its surface less smooth and shiny. Its tissue should not, on being cut, ooze out, nor should it contain nodules or cavities.

7. The kidneys of a reddish grey colour should be more or less surrounded by fat, free from blood, and should not contain nodules or cavities.

8. The bladder should contain no blood.

9. The uterus should not contain any foul matter.

10. The lungs should be elastic, of pale red colour, and their surface, like that of the cavities, should be smooth and shining. On passing the hand over its surface, no millet seed-like bodies or larger nodules should be detected.

11. The glands at the division of the bronchi should be soft, and should not contain nodules or cavities.

12. The heart and pericardium should not be adherent nor covered with small or large dark red spots. The heart, further, should show a certain firmness, and should not collapse after opening the ventricles.

The flesh and organs must be excluded from consumption if, in the case of pigs and cattle, cysts of the size of a millet seed to a pea are found in the tongue or heart, both of which must be carefully examined. All the other organs mentioned must be carefully examined for them.

Para. 7.—In the case of animals slaughtered of necessity, the use of the meat is only to be regarded as free from danger—

(1.) If the slaughter is necessitated by wounds or fractured bones.

(2.) If it was rendered necessary owing to difficult labour, but in which the passages do not show any injury or swelling, or bluish red discoloration, and if the newborn animal and the uterus do not show any trace of putrefaction.

(3.) If the flesh, although the conditions of paragraph 4 are no longer to be determined, presents a normal colour and consistency.

Para. 8.—If, in one or more organs, cysts larger than those described in paragraph 6 are found (but showing no caseation or nodules after the cysts have been removed), the meat can be freely sold.

Tuberculous Meat.

Decree of the Ministers of the Interior, of Agriculture, and of Trade, March 26th, 1892. The regulations of September 15th, 1887, as to the judgment on and value of the flesh of tuberculous animals have repeatedly of late given rise to erroneous action. We order, therefore, the repeal of this decree, as well as of those of July 1882, June 1885, and February 1890, and decree that the condition of the flesh of tuberculous cattle is, as a rule, to be regarded as injurious to health if the muscular tissue contains tubercles, or if the tuberculous animal, without the presence of tubercles in the muscular tissue, is wasted.

On the contrary, the flesh of a tuberculous animal is to be passed (as not injurious to health) if the animal is well nourished, and—

(1.) The tubercles are confined exclusively to one organ; or

(2.) If two or more organs are affected, these organs lie in the same body cavity, and are connected directly with one another, either by lymph channels, or by such blood vessels as do not belong to the systemic circulation, but to the pulmonary or portal circulation.

And since, as a matter of fact, a tuberculous affection of the muscular tissue is extremely rare, and many prolonged experiments at the Berlin Veterinary College and several Prussian universities by feeding with the muscular tissue of tuberculous animals have, in the main, given a negative result, and have not even proved the transmissibility of tubercle by the eating of muscular tissue with tuberculous deposits in it, the flesh of well-nourished animals, even when affected to the degree mentioned under paragraphs (1) and (2), need not be regarded as of diminished quality, and need not be placed under any special police restrictions.

From a national and economical point of view it is desirable that such flesh, which has a considerably higher nutritive value than that of old worn-out and emaciated cattle, should come freely on the market. Indeed, so much the more is this the case since a universal condemnation of such flesh is not possible, owing to the defective meat inspection existing in many districts, and the entire absence of it in a great part of the country.

Such meat is, therefore, in the future to be allowed free sale; in doubtful cases the opinion of a qualified veterinary surgeon is to be obtained.

If the flesh of a tuberculous animal is to be regarded as bad (*verdorben*) and falls under the regulations of para. 367, line 7, of the penal code, or contravenes the clauses of the law on food-stuffs of May 1879, it must be dealt with by a judge.

When it is recognised that this paragraph includes about 65 per cent. of all tuberculous cattle, the importance of the regulation will be at once seen. The introduction of the words "as a rule" leaves, however, much to the discretion of the veterinary surgeon; as, for instance, in para. (1), the degree of wasting will have to be considered before proceeding to the extreme measure of total seizure. And, again, when several organs are affected but no wasting exists, he can pass the carcass, and allow it to be sold without any restriction. The result of this has been that large quantities of meat now come upon the market that formerly were condemned.

BAVARIA.

POLICE REGULATIONS AS TO THE INSPECTION OF CATTLE AND PIGS SHOWING SIGNS OF TUBERCULOSIS, June 1892.

Para. 1.—If the tuberculous process is found, when the cattle and pigs are slaughtered, to be localised, and in the first stage of development, and if the slaughtered animal is in a good state of nutrition, the flesh of such animals, as soon as the diseased organs are removed and destroyed, is to be allowed to be sold without restriction for human food.

Para. 2.—The flesh of cattle and pigs which suffer from generalised and advanced tubercle, and are at the same time wasted, as well as such flesh as is found with tuberculous deposits in its substance, is to be regarded as injurious to health, and to be excluded from use as human food, and it must not be sold or exposed for sale for this purpose.

If the meat inspector is not himself a veterinary surgeon, an after-inspection by a qualified veterinary surgeon can be demanded.

In doubtful cases (tuberculosis of the organs of one or more body cavities, or transitional conditions between local and general tuberculosis) the decision is to rest with a qualified veterinary surgeon. If he finds that the case does not fall under either of the paragraphs 1 or 2, he can, according to the extent, stage, and intensity of the disease, and according to the state of nutrition of the animal, allow it to be sold for human food under definite conditions and restrictions.

Munich, 25th June 1892.

POLICE REGULATIONS OF THE 15th JULY 1887 AS TO THE TRADE IN MILK.

Para. 2.—The sale of the milk of cows which have calved within a week, "colostral" milk, as well as that from diseased animals, is forbidden.

Cows are considered diseased in the sense of the above paragraph if they are affected with foot-and-mouth disease, anthrax, tuberculosis, black quarter, hydrophobia or when suspected of hydrophobia, jaundice, diseases of the udder, inflammation of the uterus, and animals that have been treated with poisonous drugs.

Para. 3.—Apart from the legal enactments forbidding the sale of bad, injurious, or adulterated milk (paragraph 10 of the Imperial Law relating to Food Stuffs, 1879), the sale or offering for sale of impure, slimy, red, or blue milk, or milk that has an unpleasant taste, is forbidden, as well as milk containing foreign bodies or substances, no matter for what object they are added.

Para. 4.—Skimmed milk, that is, milk from which the cream has been more or less removed, cannot be offered for sale in the open market or shops unless it bears in clear characters the words "skimmed milk."

Para. 5.—Refers to the vessels in which the milk is sold and the cleanliness of the dairy shops.

Para. 6.—If there is a suspicion that the milk is adulterated, the police have the right to proceed to an inspection of the milk in the cowshed from which the milk comes, and carry out what is called the stall test.

A MINISTERIAL RESOLUTION of the 12th February 1895 giving details of the MEASURES to be taken against BOVINE TUBERCULOSIS and as to the use of TUBERCULIN.

Owing to the losses sustained by cattle owners by the spread of tuberculosis, and the outcry thereby raised that something should be done, the Government is prepared to have the tuberculin manufactured by the Veterinary College, and to supply it at cost price (about 4d. a dose) to qualified veterinary surgeons.

The further measures to be taken are the careful separation of the animals that are healthy from those that are diseased, the gradual removal of the latter, and disinfection of the cowsheds used by them.

A report of the results of the inoculations has to be forwarded by the district veterinary surgeon every year, together with tables of such inoculations as have been made by the other veterinary surgeons in his district.

Attached to this resolution, addressed to the district Governments and official veterinary surgeons, are two memoranda, one by Professor Kitt of the Veterinary College of Munich as to the use of the tuberculin test in cattle, and another by Professor Feser as to the value to be placed on the results obtained.

After describing the nature of tuberculin, the former states that it can be obtained in two forms:—

(1.) Concentrated tuberculin, which keeps for several months when stored in a cool and dark place, but which must be diluted with $\frac{1}{2}$ per cent. solution of carbolic acid in such a way that 1 cc. of tuberculin is mixed with 9 cc. of the solution.

(2.) Diluted tuberculin, ready for injection, which keeps for about 14 days.

A dose of this diluted tuberculin for a full-grown cow is 5 cc., for small cows 3 cc., and for calves 1 cc.

The utmost cleanliness must be used as regards the syringe, and it is recommended to inoculate into the skin by the side of the neck.

The directions for the taking of the normal temperature of the animal prior to inoculation are given. Usually the reaction shows itself within from 8 to 15 hours, and the rise of temperature amounts to from 1 to 3.4° C.

In animals that are not tuberculous there is no reaction, or only one varying from 0.1° to 0.6° C. The chief diagnostic sign of the reaction lies in its progressive continuous character, and those only can be regarded as typical, in which the temperature rises 1° or more above that of the normal temperature.

A repetition of the test must not be undertaken, except after the lapse of a certain time, 14 to 20 days.

Prof. Feser classifies the results as follows:—

- (1.) Animals that have not reacted, and do not show any other sign of the disease. They should be isolated from the suspected animals.
- (2.) Animals which have given a doubtful reaction, or which show, in spite of their yielding a negative result to the test, signs of tuberculosis, are to be regarded as suspected of tuberculosis, and it is recommended that they be further watched and subjected to a second inoculation after some time.
- (3.) Animals that have shown a decided reaction. This last can be further sub-divided into (a) those presenting no other symptoms of disease, except the reaction; and (b) those exhibiting, in addition, clinical signs.

The latter, however, are undoubtedly the most dangerous portion of the stock; they are the chief source of danger in the further spread of the disease in the cowsheds.

It is highly desirable, therefore, for the owner to separate them at once from all the other animals, and to get rid of them as soon as possible for purposes of slaughter.

To reject the animals falling under (a) which are in a good state of nutrition is impracticable, especially on large farms, and unnecessary. Efforts must therefore be made to keep them, and to rear their calves; the latter should be separated on the second day from birth and be fed only on well-boiled milk.

To carry out the isolation of the healthy from the diseased when special sheds cannot be utilised, arrangement must be made by means of wood or brick partitions to divide the building into separate parts.

The herd is to be periodically, once a year, re-tested.

Along with these regulations improvements as to the conditions under which the cattle live are to be made, and it is important to cattle-breeders to know that the disease can be kept away from a healthy herd by avoiding the opportunities for infection.

In order to be quite sure as to the freedom from disease of the animal, the buyer should require from the seller that the animal be tested a short time before the purchase. The use of tuberculin in this connexion can only be of advantage to both buyer and seller, and ought to be introduced more and more.

TABULAR STATEMENT of the VETERINARY SURGEON at _____ as regards the INOCULATION with the TUBERCULIN in 189 _____.

Number.	Place of Inoculation.	Total Number in the Herds.												Nature of the Farm.		Condition.						
		Kind of Animal.					Sex.		Age.			Race.										
		Bulls.	Oxen.	Cows.	Heifers.	Calves.	Male.	Female.	Under 1 Year.	From 1 to 3 Years.	From 3 to 6 Years.	Over 6 Years.	Lowland Cattle.	Mountain Cattle.	Imported Cattle.	Cross Breeds.	Stock-raising.	Sal.	Flying Stock.	State of Health.	State of Nutrition.	Chiefly used for
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	21.	22.	23.
(Continued.)																						

Before Inoculation Signs of Tubercle were present in					Inoculations were made on					Result of First Inoculation.			Result of Second Inoculation.			Slaughtered after Inoculation.	Results of Post-mortem.	Remarks as to Why Inoculation was made The Hygienic Condition of the Farm ; Preventive Measures adopted ; General Result of the Experiment, &c	
Bulls.	Oxen.	Cows.	Heifers.	Calves.	Bulls.	Oxen.	Cows.	Heifers.	Calves.	Negative.	Doubtful.	Positive.	Negative.	Doubtful.	Positive.				
24.	25.	26.	27.	28.	29.	30.	31.	32.	33.	34.	35.	36.	37.	38.	39.	40.	41.	42.	

SAXONY.

REGULATION of 17th December 1892 as to the SALE of the FLESH and FAT of DISEASED ANIMALS.

Para. 1. In every case the flesh and fat of animals suffering from the following diseases must be considered injurious to health:—

- (a.) Anthrax.
- (b.) Black quarter.
- (c.) Hydrophobia.
- (d.) Glanders.
- (e.) Pyæmia and septicæmia in connection with—
 - (a) Widespread inflammation of the external parts, formation of pus, or swelling of the corresponding lymph glands, as, for example, in swine fever and advancing septic or purulent inflammation of the substance of the udder;
 - (b) Septic or other forms of infectious inflammation of the internal organs spreading to the neighbouring lymph glands, or neighbouring serous membranes, as, for example, inflammation of the lungs breaking down into pus or gangrene, violent dysenteric inflammation of the bowels, perforations of the stomach, intestine, or bladder, puerperal fever, inflammation of the uterus, &c.
- (f.) In the case of swine fever, if there is extensive bluish red discolouration of the skin or hæmorrhagic infiltration of the tissues, fat, or internal organs.
- (g.) Jaundice to a high degree, if the muscles and fat are clearly yellow. In the case of poisoning if there is danger that the poisonous matter has been passed into the blood and muscular tissue in such quantities that the health of man is endangered.
- (h.) In continuous high fever and widespread abscess formation, if the so-called typhoid symptoms (great depression, falling of the head, bluish red discolouration of the mucous membranes, or swelling of the external parts) are present, and if at the post-mortem examination there is extravasation of blood, softening of organs, such as the heart, liver, and kidney, and hæmorrhages into the body cavities.

Para. 2. The flesh is to be considered as injurious to health in the raw or uncooked condition when affected with the following diseases, but the fat can be allowed for sale in the melted state:—

- (a.) In severe injuries, if the animals have not been slaughtered within 12 hours, and the post-mortem examination shows signs of widespread hæmorrhages, bruising of the tissues, &c.
- (b.) In the case of cystererci cellulose, if they occur in such numbers as to be visible on the cut surface, or if the meat has a dropsical or watery consistency.
- (c.) In the case of trichinosis, if it occurs to such an amount as to cause the meat to differ markedly from that which is sound.
- (d.) In the case of calcareous deposits and hæmorrhages, if they are present in the meat in such numbers as to cause the meat to have a different appearance from that which is sound.
- (e.) In the case of tuberculosis—
 - (a) When present in a high degree and extensive, with pronounced wasting, and when the condition of the flesh differs markedly from that which is healthy;
 - (b) If it is generalised, that is, if the extension of the tuberculous process in the body has taken place only through the bloodstream (with the exception of the portal system), and the animal is at the same time markedly wasted, or the flesh and the bone or lymphatic glands belonging to them are studded with tubercles;
 - (c) If it appears in the form of an acute generalised (embolic) miliary tuberculosis, accompanied by fever.

The fat of animals which have suffered from the disease to the degree mentioned under (a) and (b) can, after it has been melted, be sold without restriction other than that of stating the source.

The fat of animals that have suffered to the extent mentioned in (c) can be sold only under the following conditions:—

- (1.) That the melting of the fat has been made at a slaughter-house under veterinary inspection;
- (2.) That the fat is not run out of the vessel before a temperature of at least 100 C. (determined by a thermometer) has been recorded; and

- (3.) That the sale of the same takes place on the "Freibank" with an express statement as to its source.

Para. 3. Flesh infected with cystererci, so far as its sale is not forbidden under para. 2, cannot be sold or offered for sale except when completely cooked or thoroughly pickled. The cooking and pickling must be done under police supervision, and only under such conditions that, before the completion of the pickling, no part is removed from the pickle jar. The pickling must continue for at least four weeks, and pieces over two kilograms in weight must not be used.

The fat of such animals as are mentioned under paragraph 3 can be sold in a melted state without restriction.

Para. 4. The meat of animals can only be sold when thoroughly cooked:—

- (a.) When studded with trichinæ (so far as it does not fall under the regulations of para. 2.)
- (b.) When it is derived from animals which suffer from extensive or generalised tuberculosis, provided that the animals are not markedly wasted, and in the flesh and bones, or corresponding lymph glands, of which no tuberculosis deposits are found, and when the tuberculous organs can be easily removed. It must be sold under the condition that—

- (a.) The cooking has been done in a Rohrbeck or other equally efficacious steam sterilising apparatus, the pieces not being of greater size than 5 Kg., and in such a manner that the inside of the meat shall be raised for half an hour to a temperature of at least 100 deg. C.

The erection and working of such an apparatus must be carried out under continuous official supervision, and in slaughter-houses, must be under the control of veterinary surgeons. Elsewhere they must be under the control of the veterinary surgeon especially appointed for this purpose by the local police.

- (c.) The sale of such meat must take place at a "Freibank" with a clear statement to the effect that it is derived from a diseased animal.

In all doubtful cases the local police officers have to call in a veterinary surgeon to decide, and must abide by his decision.

Para. 6. Infringement of the present decree shall be punished by a fine of 150 marks, or imprisonment in so far as these are not affected by penalties laid down in other decrees.

Dresden, 17th December, 1892.

REGULATION of the MILK TRAFFIC.

In a letter dated 18th September 1896 the Commissioner for Veterinary Affairs attached to the Ministry of the Interior states:—

There are no general regulations dealing with the control of milk supplies, and such regulations as are drawn up in the different towns relate only to the protection of the public from adulterated milk. A few companies supplying milk for children guarantee that the milk is derived from cattle that are free from tuberculosis as proved by the tuberculin test.

There is no general regulation enforcing meat inspection in the kingdom, but in almost all the larger towns it is enforced so that about 40 per cent. of the cattle that are slaughtered come under inspection.

On the part of the State, tuberculin inoculations are only prescribed in the case of animals to be used for stock-raising purposes, belonging to the cattle-breeding societies supported by the State, and are carried out by means of public funds.

Animals that re-act must not be used for stock-raising purposes. The use of tuberculin in other cases is a private matter, but the State enables the tuberculin to be obtained at a cheap rate from the laboratory of the Veterinary College.

MINISTERIAL ORDER on the INSPECTION of MEAT.

Para. 1. In every district the requisite number of meat inspectors must be made, at least one and his deputy.

Para. 3. The persons engaged as butchers or conducting any business for the sale of meat are not

admissible as meat inspectors, nor can policemen act in such a capacity.

As a proof of their fitness the meat inspectors and their deputies must be examined by the district veterinary officers—

- (1.) This examination must cover the legal enactments, orders, and instructions bearing on the subject.
- (2.) The nature and name of the different parts of the carcass.
- (3.) The signs of health in the living and slaughtered animals, and the appearances of unsound and bad meat.
- (4.) The chief diseases of animals, especially anthrax, hydrophobia, glanders, foot-and-mouth disease, pleuro-pneumonia, tuberculosis, cysticerci cellulosa.
- (5.) The following animals must be examined before slaughter, if their flesh is to be offered for sale:—
1st. Cattle.
2nd. Horses.
3rd. Sheep.
4th. Goats.
5th. Pigs.
- (6.) According to the condition found after slaughter the flesh must be described as good (*ladenrein*), as useable (*geniessbar*), or unuseable.
- (7.) The use of the flesh of pigs infected with trichinosis or cysticerci, is permitted for trade purposes when the necessary precautions are taken.
- (8.) If a diseased animal (with the exception of sheep, goats, and calves) is killed by reason of necessity (*notschlachtung*), it can only be passed as fit for human consumption by a qualified veterinary surgeon. If the meat inspector is not a qualified veterinary surgeon, one appointed by the authority, or the district veterinary surgeon, must be summoned, provided the owner is not satisfied that the animal, without this further examination, should be immediately condemned: (the accidents not rendering this procedure necessary are enumerated).

Para. 10. Gives the tariff for the examination by the meat inspectors, cattle 25 pf., pigs, calves, sheep 12 pf., for the inspection of a horse 1 mk., for the inspection of an animal slaughtered of necessity, or for the slaughter of a diseased animal, 1 mk.

In districts where there are a great number of animals to be slaughtered, instead of the above charges the inspector may be engaged at a yearly salary.

Letter on the inspection, in particular of the flesh of tuberculous animals, addressed to the district medical officers of health, district surgeons, and district veterinary officers.

Complaints are repeatedly made that the flesh of tuberculous animals is not everywhere treated in the same way. As it is considered desirable that meat inspection should be carried out in all parts of the country in the same way, the Ministry of the Interior feels justified in adding the following instruction for meat inspection to those of the 10th April 1880:—

In order to bring about uniform and scientific treatment of Article 318 of the penal code (the sale of meat which is not quite sound, and which must be sold under a declaration of its condition), the Ministry of the Interior recommends the adoption of the following regulation—

Para. 1. All flesh of animals which on inspection is declared as fit for food but not good, as well as all parts thereof, must only be sold with the statement of its condition to consumers. Outside the public slaughterhouse, the sale of such meat can only take place in particular places or in "Freibanks."

Para. 2. Every district must, as soon as it becomes necessary, arrange a suitable place for the sale of such doubtful meat, and permit the use of the same to every butcher at a fixed charge. Such "Freibanks" may be erected by Agricultural Societies, Cattle Insurance Societies, and Butchers' Unions.

Para. 3. The sale of meat that is not good is in all cases subject to the control of the police. Notice of the sale of such meat at the "Freibank" must, therefore, be given to the police.

Para. 4. Gives permission for meat to be taken to another place to be sold on a "Freibank," provided

the owner names the Freibank where he is going to sell it, and is provided with a certificate from a veterinary surgeon.

Para. 6. Above the place of sale of meat that is not good a placard must be fixed with "Freibank" written in clear letters. In the interior, in a prominent place, must be written "It is advisable to eat all the meat sold here well cooked;" besides this, the price, and the disease on account of which the carcass has been declared not good, must be stated.

Para. 8. The price of meat exposed for sale on the "Freibank" is left to the owner of the meat, unless he prefers to leave it to the local authority.

Para. 9. Meat sold at a "Freibank" must not be sold to butchers or meat salesmen, nor may they buy it through other persons. The same regulation is applicable to hotel and restaurant proprietors. In those establishments where permission is given for the consumption of such meat, there must be clearly written up "in this place meat from unsound animals is used." They must only be sold when well cooked.

Para. 10. Infringements of the above regulation, in so far as they do not come under Articles 318 of the Penal Code, are punished by fines up to 30 marks.

In a circular letter to the district veterinary surgeons, dated 13th March 1895, on the use of tuberculin, the Minister of the Interior states that arrangements have been made throughout the Grand Duchy for tuberculin to be obtained by veterinary surgeons and farmers from the district veterinary surgeons at cost price. Formerly the substance could only be purchased at the high price of 1 c.c. for 6 marks.

A statement that the test will only be used in suspicious cases must accompany the demand for it. The district veterinary surgeons are invited to call the attention of agricultural societies, cattle-breeding and dairy associations, land owners, &c. to this resolution.

FRANCE.

An Order of 28th July 1888 added symptomatic anthrax and bovine tuberculosis to the number of diseases to be regarded as contagious, and to which the regulations of the law of the 21st July 1881 on the sanitary police of animals are applicable.

ORDER of the MINISTER of AGRICULTURE, dated Paris, 28th September 1896, prescribing the PROCEDURE to be adopted in the case of CARCASSES AFFECTED with TUBERCULOSIS.

The flesh of tuberculous animals is to be excluded, in whole or in part, from human consumption, according to the nature and extent of the lesions found, in accordance with the subjoined description.

They are to be seized and totally condemned:—

1. When the tuberculous lesions, whatever their importance, are attended with wasting.
2. When there are tubercles in the muscles or in the glands in the muscular tissue.
3. When generalised tuberculosis is present with milary deposits on all the organs and notably on the spleen.
4. When important tuberculous lesions exist at the same time both on the organs of the chest and of those of the abdominal cavity.

They must be seized and partially excluded from human consumption:—

1. When the tuberculosis is localised either in the thoracic or abdominal cavity.
2. When the tuberculous lesions, even though they exist at the same time both in the thoracic and abdominal cavities, are not extensive.

The seizure in this case only extends to portions of meat (costal or abdominal walls) which are directly in contact with the diseased portion of the pleura or peritoneum.

In every case the tuberculous organs must be destroyed, whatever the extent of the lesion.

In all cases meat that is fairly fat can be handed over to the owner after being sterilised, for at least an hour, either in boiling water or in a steam steriliser, but the

sterilizing must be carried out in an abattoir, under the control of a veterinary surgeon.

The Prefects of the Departments are charged with the execution of the present order.

EXTRACTS FROM THE LAW OF 1st July 1881 ON THE
SANITARY POLICE OF ANIMALS.

Contagious Diseases of Animals, and measures applicable to them.

1. Cattle plague, contagious pleuro-pneumonia, sheep pox (clavelée), and itch (gale), foot-and-mouth-disease, glanders, farcy, hydrophobia and anthrax (and by the Order of July 1888, symptomatic anthrax and tuberculosis).

3. Every owner or person who has charge of an animal that is affected or suspected of being affected with any of the above-named contagious diseases must immediately declare the fact to the Mayor of the Commune.

The veterinary surgeons who may be summoned to attend them are also required to make this notification. The animal that is affected must be immediately isolated from other animals susceptible to the disease.

They must not be removed until the veterinary surgeon appointed by the administration has examined them.

12. No one is allowed to practice, in so far as relates to the contagious diseases of animals, who is not qualified as a veterinary surgeon.

13. The sale, or offering for sale, of animals affected with, or suspected of, contagious disease is forbidden (except under specified conditions).

Para. 2.—Compensation.

20. Before the animal is slaughtered (for cattle plague or pleuro-pneumonia) a valuation of the animal is made by the veterinary inspector and by an expert nominated by the owner. The amount of the compensation is fixed by the Minister.

Para. 3.—Importation and Exportation of Animals.

24. Animals must be subjected to a sanitary examination at the expense of the importers when they enter France either by land or sea.

26. The Government can prohibit the entrance into France, or order a period of quarantine in the case of animals capable of communicating contagious diseases, and can prescribe for the slaughter on the frontier, without compensation, of diseased animals, or of those that have been exposed to contagion.

Para. 4.—Penalties.

30. Contraventions of articles 3, 5, 6, 9, 10, 11, and 12 shall be punished with imprisonment for from six days to two months, or a fine of 16 to 300 francs.

Imprisonment of from two to six months and a fine of 100 to 1,000 francs may be inflicted in the case of—

1. Anyone allowing the affected animals to communicate with others.
2. Anyone selling or offering for sale animals known to be affected with or suspected of contagious disease.
3. Anyone who, without permission from the authorities, has knowingly bought the carcasses of animals which have died from contagious disease of whatever nature.
4. Anyone who has imported into France animals which were known to have been affected with contagious disease, or had been exposed to infection.

Punishment of from six months to three years, and infliction of a fine of from 100 to 2,000 francs, is inflicted on anyone who shall have sold, or offered for sale, the flesh of animals which were known to have died of contagious disease of whatever nature.

Para. 5.—General Arrangements.

39. Communes where fairs or markets of horses, cattle, or other animals are held are required to appoint a veterinary surgeon at their own expense, for the sanitary inspection of the animals brought there,

the expenses for which are to be recouped by the establishment of a tariff on the animals brought.

The order of 22nd June 1882 draws up in paragraph 1 the general and special measures to be taken with regard to the contagious diseases specified in the preceding law.

90. The abattoirs and private slaughter-houses are placed under the control of a veterinary surgeon specially appointed for this purpose.

91. In all knackers' yards a register must be kept of all the animals that arrive, giving the name of the owner, the place the animal came from, and the reason for its slaughter. This register is to be shown to the veterinary surgeon at his visits.

92. Knackers' yards must be placed permanently under the control of the veterinary surgeon.

96. In each department the prefect must nominate as many veterinary inspectors as he may judge necessary for insuring the execution of the law and regulations bearing on the sanitary police measures.

DECREE OF THE 15th March 1896, relative to the
MEASURES to be taken against the SPREAD OF
TUBERCULOSIS IN CATTLE by Animals imported from
Abroad.

1. Cattle coming from abroad, and intended for importation into France, are to be submitted to the tuberculin test, and placed under observation on the frontier, at the expense of the importers, for 48 hours at least.

The animals reacting are to be sent back, after having been marked, unless the importer consents to their immediate slaughter. In this case the slaughter is to take place at once, under the supervision of the veterinary inspector attached to the Custom House.

2. Such cattle as are intended for the meat market are not to be tested. These animals are only admitted to the markets in places where public slaughter-houses exist. They are to receive a pass, mentioning their destination. This pass is to be sent back within a fortnight to the veterinary inspector who has given it, with a certificate of the slaughter, signed by the veterinary surgeon in charge of the abattoir where the animals have been killed.

Animals that have not been slaughtered in the locality mentioned at the time of their entry into the country cannot be sent elsewhere without a pass given by the mayor of the said locality, and only to other places provided with a public slaughter-house. A certificate of the slaughter of these animals must be given as in the preceding paragraph.

3. The Minister of Agriculture is charged with carrying the decree into execution.

Modifications are introduced in the charges to be made on the various animals imported, in order to cover the expenses connected with the tuberculin test and the placing of a mark upon the animals which are intended for the meat market.

The decree is only applicable to animals that are intended really for importation, and does not affect those merely in transit.

In a decree of 9th April 1896, the importation of animals from abroad, excepting such as are intended for the meat market, is limited to certain specified ports.

BELGIUM.

REGULATION OF THE 10th August 1897 (replacing that of 30th October 1895), on the MEASURES to be taken to combat BOVINE TUBERCULOSIS.

The regulation is introduced in conformity with a clause in the law on the sanitary measures affecting domestic animals, which approves of special measures being taken in regard to particular diseases.

The Government believes that to group tuberculosis with such diseases as cattle plague, &c. would be attended with serious inconvenience, and that it is therefore preferable to institute special police regulations with regard to it.

Measures of Prophylaxis. Compensation.

1. In the application of the present regulation—

(a.) Every animal which presents during its life, or which *post mortem* shows the presence of lesions pointing unmistakably to the disease, or which, when tested with tuberculin presents the characteristic reaction, must be regarded as affected with tuberculosis.

(b.) Every animal which presents clinical signs leading one to suspect tuberculosis, must be regarded as under suspicion.

2. The sale, or offering for sale, of animals affected or suspected of being affected with tuberculosis is forbidden.

Such animals should be isolated, but the proprietor need not get rid of them, except in the special circumstances mentioned in the present decree.

Measures to be taken in regard to Animals imported from Foreign Countries.

3. Every animal intended for importation must be visited on its entry (at the expense of the importers), and marked with a sign giving the date of its importation.

4. When an animal, presented for importation on the frontier line by land or by sea, is recognised as affected with, or suspected of, tuberculosis, the veterinary inspector in charge of the sanitary control must require, through the agency of the chief of Customs, the importer or transporter to remove the animal immediately to the country from whence it came, after having marked it.

When the importer or transporter refuses to do this, or when its re-entry into the country from whence it came is refused, the veterinary inspector must isolate the animal until it is slaughtered, without compensation, at the hands of the owner, or, on his default, of the local authority. The slaughter should take place as soon as possible, and at latest three days after the decision taken by the veterinary surgeon.

5. Where tuberculosis exists in a foreign country, the Minister may forbid the entrance of animals coming therefrom.

In case he should not adopt this step, he may take such measures as may seem to him necessary to submit the animals to the tuberculin test at the point where they enter the country. This test is made at the expense of the interested party.

In the case of those animals found affected with tuberculosis, as the result of this test, proceedings shall be taken as set forth in the article preceding.

Measures in the Interior of the Country.

7. The use of tuberculin, except in the cases authorized by the present decree, is forbidden.

The tests that are made, whether experimental or otherwise, upon animals of any species can only be done with the special authorisation of the Minister, and the results of the tests must be communicated to the veterinary inspector of the Government within the time specified in the authorisation.

The Minister, upon the report of the veterinary inspector, determines what shall be done with the animals recognised as affected with tuberculosis as the result of these tests.

8. The importation of tuberculin into the country cannot take place unless the sample is accompanied by a special authorisation of the Minister.

Its transmission into the interior of the country can only be made upon the order of the Minister.

9. When an animal has been declared totally unfit for food by reason of tuberculosis, the flesh and organs must be left at the disposal of the veterinary inspector, in summer for three days, and in winter for the three days following the visit of the veterinary expert.

The flesh must be hung in the same place where the slaughter has been effected or in some other convenient place.

When the flesh is declared fit for food, the veterinary expert must see that the diseased organs, as well as the ear that has been marked, are kept at the disposal of the veterinary inspector, and the parties interested, for four days.

In all cases the diseased organs must be kept in a strong saline solution.

10. The veterinary surgeons shall notify to the veterinary inspector all cattle which they recognise as clinically affected with, or suspected of, tuberculosis. These animals must be isolated at once and kept apart as far as is possible.

This information is communicated the same day on an official card.

The veterinary surgeons notify, similarly, cases where tuberculosis is recognised *post mortem*.

When the disease involves total condemnation of the carcase the information is made by telegram; in other cases by an official card.

11. The veterinary inspector is required to visit within a week every animal that has been notified as clinically affected by the veterinary surgeons.

Where the diagnosis is confirmed the veterinary surgeon or the inspector shall require of the mayor the slaughter of the animal within a week.

Animals that are clinically suspected of the disease can, after the diagnosis has been confirmed by the inspector, and with the consent of the owner, be subjected to the tuberculin test at the hands of the inspector or veterinary surgeon whom he designates. If the veterinary surgeon carries out the test the result of it must be immediately sent to the inspector. In cases where there has been a characteristic reaction, and the inspector agrees, proceedings are taken as in the preceding paragraph.

12. The veterinary inspectors shall require also of the mayor the slaughter of cattle which they recognise to be clinically affected with tuberculosis as well as of those which, having shown signs leading to a suspicion of this disease, have reacted to the tuberculin test. The slaughter must take place within a week.

They are authorised to give gratuitously the tuberculin necessary for carrying out the test on animals clinically suspected of the disease.

13. In cases where tuberculosis is found in animals slaughtered for the meat market, the owner is required to notify within five days to the veterinary expert the exact place from which the diseased animal came, and, if necessary, the name and residence of the person who has the right to claim compensation.

The veterinary inspector shall require, if he think fit, a veterinary surgeon to inspect, at Government expense, all the cattle in the herd, in order to find out if any are clinically affected with tuberculosis. If any such are found they are dealt with under Articles 10 and 11.

This paragraph does not apply to animals that are being fattened.

14. Any cattle owner is allowed to have his herd tested with tuberculin, subject to the terms of the present decree, and on the condition of his not selling, except for the meat market, animals that have reacted.

The test in this case is made at the expense of the owner, but when the test is made as the result of the discovery of the disease in the living animal, or *post mortem*, it is done at the expense of the Government, either by a veterinary surgeon or the veterinary inspector, or his assistant.

Animals that are being fattened are not submitted to the test.

15. When the owner wishes to have his herd tested he must address his request to the veterinary surgeon whom he wishes to carry it out. The latter must then inform the veterinary inspector, who, in his turn, after inquiry, sends the information to the Minister with his opinion on the case.

The veterinary inspector in notifying the veterinary surgeon of the permission to carry out the test, shall request him to draw up a list of the animals to be tested, and to send him the results of the test.

16. The owner is required to isolate immediately all animals which react to the test.

The isolation must be made as far as possible in a separate shed. Where this is impossible the owner must divide his shed into two by means of a partition, which must be fixed up within 10 days after the animals have been tested; it must be constructed in such a way that the animals cannot be infected.

17. Reacting animals can only be sold for the meat market, and on condition that the slaughter takes place within a week of their being handed over.

The owner of the animals is required to inform the veterinary inspector before the slaughter or exposure for sale.

In case of infraction of the first paragraph of this article the veterinary inspector may require of the mayor the immediate slaughter of the animals without compensation.

18. The owner must carry out the disinfection of the stall occupied by an animal affected with tuberculosis to the satisfaction of the veterinary inspector.

19. The owner conforming to the above conditions can continue to make use of reacting animals, provided that—

- (a.) He allows a periodical testing of his herd at the expense of the Government when the veterinary inspector thinks it necessary.
- (b.) He takes care that the food spoiled by diseased animals is not used by the sound animals.
- (c.) He removes calves from mothers that have reacted soon after their birth.
- (d.) He does not introduce into the shed where the sound animals are kept fresh animals unless they have been inspected by a veterinary surgeon and recognised free from all signs of the disease, or have been recognised as healthy after the tuberculin test has been carried out at the expense of the owner.

These measures will remain in force until the disappearance of the last case of tuberculosis.

20. If the animals purchased under the conditions set out under (d) of the preceding article are recognised as affected with tuberculosis they are to be dealt with as in Articles 16 and 19, unless the owner prefers to have them slaughtered under the conditions of compensation in Article 26.

21. So long as animals that have reacted to tuberculin do not present any clinical signs of tuberculosis they are not subjected to any limit of time within which they must be slaughtered.

22. The charges for slaughter and destruction of the carcass, transport, quarantine, isolation, disinfection, and all other charges caused by the execution of the present decree, shall fall upon the owners of the animals.

Para. 4. Compensation.

23. Compensation is made at the expense of the State in the following cases:—

No compensation is given where the present regulations are not adhered to, nor when the veterinary inspector is of opinion that the cowshed where the tuberculous animals come from is in a notoriously insanitary condition.

No compensation is given in the case of animals dying of tuberculosis, or that have been killed in the last stages of the disease. Nor is it given in the case of animals which the owner has refused to have marked in accordance with the Royal Decree, July 15th, 1896, or where the mark has disappeared for some unexplained reason.

24. Compensation is given up to 50 per cent. of the value of the flesh and organs (the skin excepted) of animals recognised as affected with tuberculosis at the time of their slaughter for the meat market when the carcass is totally condemned.

25. In the case of animals slaughtered by order of authority as clinically affected or clinically suspected and having reacted to tuberculin:—

- (a.) For cattle ordinarily employed for breeding, and heifers intended for this purpose—
Seventy per cent. of the value of the animal, estimated as perfectly healthy, if the flesh is totally condemned as unfit for food. The limit of compensation, however, is fixed at 420 fr.
Twenty-five per cent. of the same value if the carcass is declared fit for food. The limit here is 150 fr.
- (b.) For other cattle—
Fifty per cent. of the value of the flesh and organs (the skin excepted) when the carcass is totally condemned.
Twenty-five per cent. when it is declared fit for food.

26. In the case of animals slaughtered at the request of the owner, i.e., animals which have reacted to tuberculin:—

(a.) For cattle used for breeding, and heifers intended for this purpose—

Seventy per cent. of the value of the flesh and organs (the skin excepted) when the animals are recognised as totally unfit for food.

Fifteen per cent. if declared fit for food.

The compensation under (a) is not given in the case of animals which have not been slaughtered within three years of the time they have shown that they react to tuberculin; (b) for other animals compensation is fixed according to Article 34.

27. In order to claim compensation under Articles 24, 25 (b), and 26, the owner of the animal must produce—

- (1.) A certificate from the veterinary expert, mentioning whether the meat has been declared fit or unfit for food, and mentioning the exact weight of the four quarters, the value per kilo of the meat, or of the slaughtered animal;
- (2.) A statement from the local authority certifying that the flesh has been sterilised in conformity with the regulations of the Ministerial Decree (30th September 1895), or has been destroyed either by heat or by chemical means in some duly authorised place;
- (3.) Proof that the animal has been in the country for at least six months.

This limit may be increased by Ministerial decision.

28. To claim compensation under Article 25, the owner of the animal must produce, in addition to the certificates just mentioned, the order for slaughter given by the mayor.

In so far as the animals mentioned under (a) of Article 25 are concerned, instead of the certificate there must be a *procès-verbal* of the value of the animal, estimated as healthy at the time of slaughter, given by the veterinary surgeon who has been responsible for the slaughter, or by a veterinary surgeon appointed by the inspector to make the valuation.

29. The veterinary inspector can rectify inexact valuations made in execution of Articles 24, 25, and 26.

30. The Minister is authorised to designate experts placed on oath to carry out, to the exclusion of all others, but under the control of the veterinary inspector, the valuations in question.

He can also take such measures as he thinks fit to determine the basis on which the price of the carcasses of animals for which compensation has been paid by the State shall be established.

The Minister orders further the course of procedure in the case of disputes which may arise in reference to the valuation of the carcass between the experts whom he has appointed and the owner of the carcasses.

31. The claims for compensation, the forms for which are placed gratuitously at the service of those interested, should be addressed to the veterinary inspector of the district in which the valuation has been made within, at latest, 40 days after the slaughter.

32. In the case of the interested party disputing the nature of the disease, or the justice of a measure taken in execution of the present decree, he may appoint, at his own expense, a second qualified veterinary surgeon to make a separate examination.

In case of disagreement recourse must be had to the provincial veterinary inspector, or his deputy, whose word is final.

33. The Minister shall fix the payments due to veterinary surgeons in remuneration of their services rendered in connection with the present decree.

34. In the provinces where there is an insurance office for the purpose of compensating owners for the loss of their animals, the amount of the compensation referred to in paragraph 24 may be paid into the account of the insurance office, provided that the regulations of the present decree and those of the insurance office have been duly observed.

35. The Royal Decree of the 30th October 1895 is repealed.

36. Infringements of the present decree are punished in accordance with Articles 4, 6, and 7 of the law of the 13th December 1882.

37. The Minister of Agriculture and Public Works is charged with the execution of the present decree, which will enter into operation 17th September 1897.

The main point wherein the present Regulation differs from that which has been in force since 1st January 1896, is that active proceedings are to be taken in future against animals showing clinical signs of the disease alone.

In the previous Regulation when tuberculosis was found *post mortem* in any animal, none of the animals which had occupied the same shed with it could be sold for any other purpose than for the meat market, except such as failed to react to tuberculin. In this way the test was made almost compulsory.

Certain modifications have been made also in the clauses on compensation to which reference is made in the Commissioners' Report on a visit paid to certain places in Belgium, Germany and Denmark (Appendix A.)

EXTRACT FROM ROYAL DECREE OF NOVEMBER 18th, 1894, ON THE SALE OF MILK.

It is absolutely forbidden to sell, exhibit, keep, or convey for sale, as human food, under any appellation whatever:—

- (1.) Milk to which water or any foreign substances whatever, such as preservative agents, have been added.
 - (2.) Colostral milk; milk affected by micro-organisms or infectious substances (*i.e.*, sour, viscous, putrid, bitter, blue, red, &c. milk), whether in consequence of an unhealthy condition or the faulty feeding of the cattle, or the want of cleanliness of the cow-house, dairy, and vessels for conveying the milk, or for any other reason, such as handling by careless persons.
 - (3.) Milk produced by cows with whose fodder poisonous plants may have been mixed, by cows which have been drugged with poisonous substances, or by cows attacked by contagious or infectious diseases, such as tuberculosis ("pommelière"), rabies, apthous fever ("cocotte"), carbuncular fever, symptomatic anthrax, pyæmia, septicæmia, diphtheria, acute mammitis, and chronic mammitis with suppuration, jaundice, &c.
- The milkman's name and address shall be inscribed in perfectly legible characters on all vehicles or vessels used for the conveyance of milk intended for sale.

LAW AND REGULATIONS dealing with the TRADE IN MEAT.

1.

Law of 4th August 1890, relative to the adulteration of food stuffs (extracts).

1. The Government is authorised to regulate and supervise the trade in food stuffs and substances used for the food of man and animals, but only from the point of view of public health, or with the object of preventing imposture and adulteration.

It can further, but only in the interests of public health:—

- (a.) Supervise the preparation of food stuffs intended for sale.
- (b.) Prevent the use of materials, utensils, or articles that are injurious or dangerous.

Butcher's meat, especially, must not be exposed for sale or sold unless it has been recognised as fit for food after an expert examination.

If fresh meat is in question, this expert examination must take account of the condition of the internal organs.

To this end a charge can be made on the interested party, which shall not exceed the cost of the inspection;

and the amount of which shall be determined either by the Government or by the district (communal) council after receiving the approval of the King.

6. Any infringements of the regulations in Article 1 are punished by a fine of from 1 to 25 francs, and imprisonment of from 1 to 7 days, or of one only of these punishments.

7. Refusal to admit, or obstruction of the officers charged with the carrying out of these regulations, is punished with a fine of from 50 to 200 francs, apart from such punishments as may be inflicted under Articles 269 to 274 of the Penal Code.

2.

Royal Decree of the 10th of December 1890, re-organising the veterinary service (extracts).

The supervision of the sanitary regulations affecting domestic animals and the supervision of the inspection of meat, are placed in the hands of official veterinary surgeons, who shall bear the title of veterinary inspector. There should be one inspector to each province.

One inspector should be attached to the central office of agriculture, and should bear the title of inspector-general.

9. The veterinary inspectors shall supervise the execution of the regulations as to the trade in meat; notably as regards the expert examination prior to its sale. They shall inspect especially private and public slaughter-houses.

3.

The Regulations of the 9th February 1891 as to the Meat Trade.

Section 1. Slaughter of animals for the meat market:

Animals (including the pig) the flesh, organs, fat, and blood of which are intended for human consumption, shall be examined after slaughter by an expert inspector, deputed either by the Communal Council, with the approval of the Minister, or, in default of the local authority, by the King.

The certificate of the expert inspectors can be suspended either temporarily or permanently by the Communal Council.

2. In localities where one or more veterinary surgeons live, or in localities immediately bordering on them, the duties of the expert inspector are to be placed by preference in their hands.

If the duties of an expert inspector are not placed in the hands of veterinary surgeons, then those who are appointed, must fulfil the conditions laid down by the Minister.

3. When the expert inspector, who is not a veterinary surgeon, meets with an abnormal condition, he must summon, without delay, the intervention of the veterinary surgeon charged with deciding in such cases, and must inform at the same time the burgomaster, who shall take the necessary measures.

In a certain number of abnormal cases, however, determined by regulations, the unqualified inspector can act on his own responsibility.

4. Independently of the expert's examination made after slaughter, the local authorities can, if they think it desirable, have the animals which are destined for slaughter in their district examined before they are killed. The conditions for this examination are left to the local authorities, who must bear the expense.

5. After the slaughter, before the carcass is cut up, and while the skin is still adherent, either wholly or in part, the expert shall visit the place, within 12 hours in summer, and 24 hours in winter, for the purpose of inspecting the carcass and internal organs, which must be kept for this purpose.

Prior to the arrival of the expert, the abdominal viscera shall be taken out *en masse* and preserved in such a way as to keep them in their normal relations. The thoracic organs shall remain *in situ*.

The expert shall note on his register a description of the animal as well as its state of health.

When the animal is diseased the expert shall deliver a certificate to the interested person, mentioning the nature of the disease, its degree, such information as can be obtained as to the medicines that have been given, the method by which it has to be slaughtered,

and the approximate amount of loss where a part of the meat must be withdrawn from consumption.

This certificate must be given if asked for to the local authority.

6. If the meat and organs, as the result of the expert examination made after slaughter, are found fit for food, the expert shall apply a stamp bearing the name of the commune upon at least each quarter, or in the case of lambs, upon each half of the carcass.

7. If, as the result of the inspection, the carcass is wholly or in part unfit for food, the burgomaster shall be at once informed by the expert and decide, after hearing him, whether it can be delivered in whole or in part for consumption, or should be destroyed in conformity with the sanitary regulation in regard to domestic animals.

8. A ministerial letter of instruction shall determine the cases in which the flesh, organs, &c., should always be declared unfit for food.

9. If the owner does not accept the decision of the expert, he can have another examination made by any veterinary inspector whom he may choose.

In case of disagreement, recourse must be had to a third veterinary surgeon, whose verdict is final, appointed by the burgomaster, or on his default, by the Government.

Sect. 2. The sale of fresh meat, organs, fat, and fresh blood:

12. The sale of the flesh, organs, fat or fresh blood, coming from animals slaughtered can only take place under the following conditions:—The products must be in a good state of preservation.

13. Fresh meat imported from abroad is prohibited except in the form of whole carcasses, half carcasses, or fore-quarters, and with the lungs attached.*

In order to come on the market the meat, as well as the organs and fresh fat imported into the country must—

(1.) Be accompanied by a certificate as to its quality delivered in Belgium by an inspector qualified as a veterinary surgeon;

(2.) Have a special stamp placed on it by the expert in conformity with Article 6, bearing the word "foreign." When it is a question of organs and fat, the stamp must be placed on the material or bag containing them.

14. The expert examination of fresh meat imported from abroad shall be made by the expert inspector, either on the frontier or at the place of destination, or in any other place chosen by the importer. The expense shall be borne by the importer, calculated in accordance with the tariff in force.

Para. 4. The manufacture or preparation of food-stuffs from meat, fat, or blood.

17. The manufacture or the preparation of food stuffs, such as sausages, salted meats, preserved meats, extracts of meat, margarine, various products of pig's flesh, such as tripe, intended for sale can only take place in establishments regularly constructed for this purpose, with the name of pork butcher, tripe boiler, restaurants, &c. upon them, but never in a knacker's yard.

18. For the preparation of the food stuffs mentioned, no other flesh, organs, fat, &c. can be used than that coming from animals slaughtered or introduced into Belgium in conformity with these regulations.

Para. 7.—24. Infringements of the present regulations shall be punished according to the terms of Art. 6 and 7 of the law of the 4th August 1890, quite apart from such as may be inflicted by the penal code.

25. The present decree shall come into force on the 1st July 1891.

5.

Ministerial Decree of the 25th February 1891, giving the conditions under which individuals not possessing a veterinary surgeon's qualification can act as meat inspectors.

1. Such persons as are not qualified veterinary surgeons and desire to act as meat inspectors must have passed an examination, both theoretical and practical, in the following subjects:—

(a.) Knowledge of the laws and regulations dealing with meat inspection, especially the law of 4th August 1890 and the Royal Decree of 9th February 1891.

(b.) Description of animals used for human food.

(c.) The names and situation of the different organs and regions of the body.

* This condition would appear to be repealed by the law of the 30th January 1892, as regards fresh mutton.

(d.) Signs of health and disease in animals used for food, both when alive and after slaughter.

(e.) The characters of fresh meat, organs, fat, and blood, as well as of the different preparations made from them as to the conditions rendering them fit or unfit for human consumption.

(f.) Knowledge of the abnormal circumstances laid down in the regulations in regard to which he can act on his own responsibility, and the abnormal circumstances in which he should summon without delay the veterinary surgeon.

2. This examination shall take place in the principal town of the province before a commission composed of the veterinary inspector attached to the Minister of Agriculture, the provincial veterinary inspector, and a veterinary surgeon appointed by the Minister.

4. The duties of an expert inspector are incompatible with the profession of a butcher.

6.

Ministerial Decree of 28th April 1891, relating to the abnormal cases and unhealthy conditions of the meat and organs.

1. Abnormal cases in which the unqualified expert inspector can act without calling in the aid of a veterinary surgeon:—

1. Contusions and wounds.
2. Abscesses.
3. Cysts.
4. Calculi, worms, foreign bodies in the organs.
5. Chronic changes in the visceral organ.
6. Adhesions or matting together of organs naturally distinct.

The affected parts shall be declared unfit for human food.

2. In all other abnormal conditions the unqualified expert must summon the intervention of a veterinary surgeon, as for example:—

- (1.) When, before the slaughter, he recognises that the animal is diseased.
- (2.) When the slaughter has been rendered necessary by reason of disease.
- (3.) When there is reason to believe that the meat in question is horse flesh.

In an appendix are given, for his guidance, the signs and symptoms of the principal diseases which he is likely to meet with.

In another appendix (modified as regards tuberculosis, &c. by an Order of 23rd July 1894) the conditions rendering the flesh and organs unfit for food. They are:—

Flesh that has been insufficiently bled, unless it has been raised to a temperature of 100° C. for two hours.

Flesh of animals that have been poisoned.

Flesh that has become putrid, or exhales a rancid or repellant odour, or is ecchymosed as the result of accident.

Flesh derived from animals attacked by the following diseases:—

(a.) Anthrax.*

(b.)—(1.) Tuberculosis† in the following cases:—

(a.) Tuberculosis, thoracic and abdominal, that is to say, having its seat at the same time in one or more organs of the chest (lungs, pleura, pericardium, lymphatic glands), and in one or more organs of the abdomen (peritoneum, parietal or visceral glands, intestines, liver, spleen, kidneys, ovaries, pancreas, uterus).

Nevertheless the flesh of animals that are fairly fat can be considered healthy when only a few tuberculous deposits are found in the cavities.

(b.) Tuberculosis, be it thoracic or abdominal, with presence of tubercles in any other part of the body outside these cavities: Glands (retropharyngeal, prescapular, mammary, &c.), udder, bones, joints, meninges, testicles, muscles. But the meat of animals that are fat or fairly fat can be used as food when there are only a few tuberculous deposits in one of the cavities and outside them.

* Article 31 of the regulation on general administration of the 20th September 1883, mentions that the meat coming from animals slaughtered for cattle plague, glanders, sheep pox, anthrax, or hydrophobia, cannot be used for human consumption; this applies also to animals suspected of hydrophobia.

† These causes show the advance in opinion that has been made in regard to tuberculosis, because in the general decree of 1891, the saving clauses as to the flesh of fat or fairly fat animals were entirely left out.

- (c.) Generalised tubercle of the pleura or peritoneum.
- (d.) Partial tubercle of the lungs or pericardium involving the pleura extensively.
- (e.) Partial tuberculosis of any other organ of the abdomen involving the peritoneum extensively.
- (2.) Tuberculosis occurring, in no matter what part of the body, or no matter what the number of tubercles, when the animal is markedly wasted.
- (3.) Except in the cases of total seizure laid down under 1 and 2 the parts involved alone must be declared unfit for food.
- (c.) Glanders and farcy.
- (d.) Hydrophobia, or animals suspected of it.
- (e.) Trichinosis.
- (f.) Cysticerci cellulose of the pig, calf, or ox. In the case of cysticerci the fat can be utilised after having been subjected to a temperature of 100°.
- (g.) Sheep pex.
- (h.) Cattle plague.
- (i.) Pyæmia.
- (j.) Septicæmia.
- (k.) Uræmia.
- (l.) Jaundice.
- (m.) Generalised arthritis in young animals.
- (n.) Swine fever in all its three forms.
- (o.) Contagious pleuro-pneumonia of cattle.
- (p.) Gangrenous inflammation of one or more visceral organs.
- (q.) Generalised melanosis.
- (r.) Anasarca (dropsy).
- (s.) Typhoid fever of the horse.
- (t.) Tetanus (lock-jaw).
- (u.) Diffused phlegmon.
- (v.) Infectious enteritis of calves.
- (w.) Pneumo-enteritis or septic pleuro-pneumonia of calves.

The meat, however, can be used as food when the disease is in a slight form, and when there are not changes in the muscles or widespread lesions of the viscera.

DENMARK.

LAW on the SUBVENTION given by the STATE to combat BOVINE TUBERCULOSIS, 14th April 1893.

A sum of 50,000 kr. (2,812l.), included in the annual budget, shall be placed at the disposal of the Minister of the Interior for the purpose of assisting owners of cattle who are anxious to make use of tuberculin, or other scientific means of diagnosis, to combat bovine tuberculosis. The sum voted is to be employed by the owner in making the tuberculin test on young animals, in accordance with the regulations laid down by the Minister, and it will only be given to owners who guarantee that they are able to keep the animals that are recognised as healthy, after examination, isolated from those that are diseased.

Further, the Minister of the Interior, provided the same guarantee is given, shall have the right of using a portion of the said sum to assist associations for cattle breeding who wish to test certain animals.

Requests on the part of the owners of the cattle breeding associations who are desirous of utilising the tuberculin test in accordance with this law, must be made through the agricultural unions, and they will then be forwarded to the Minister of the Interior.

This law will continue in force until the year 1897-8.

Para. 11 of the Law on the CONTAGIOUS DISEASES of DOMESTIC ANIMALS, 14th April 1894, has reference to tuberculosis in cattle.

In the case of tuberculosis in cattle (by which term is included also tuberculosis of the udder) and pigs, the owner, or the person who is in charge of the animals must not:—

- (a.) Conduct animals, infected with manifest tuberculosis, to fairs, cattle shows, fresh or common pasture lands, strange stables, or into other places for the assembling of cattle, no matter for what purpose, nor sell the animal so diseased, except for the meat market (pour la boucherie).

- (b.) Neither shall he sell nor use the meat of animals infected with manifest tubercle unless the slaughtered animal and its organs have been examined by a veterinary surgeon and certified by him as fit for human consumption.
- (c.) Neither shall he sell the milk of cattle affected with tubercle of the udder, or use it for the food of man or manufacture of butter or cheese, nor use it, except when boiled, for feeding other animals.

SWITZERLAND.

The Swiss Federal Council holds that tuberculosis, although a contagious disease, stands on a different footing from those classed in the law dealing with contagious diseases, such as cattle plague, foot and mouth disease, &c., and must therefore be dealt with by a special measure as is permitted by the law of February 1872.

The following order, dated, 24th July, 1896 has been issued:—

The Agricultural Department will supply tuberculin gratuitously to such cantons as demand it, and will pay one-half of the expenses connected with the inoculations.

The tuberculin, however, can only be delivered to qualified veterinary surgeons, who alone are authorised to carry out the test.

The test must be performed on every ox or cow more than six months old living in the cowsheds of the owner who asks for the inoculation of his animals.

Every month the veterinary surgeon shall report on such inoculations as have been made by him to the local authority, which must forward the return to the minister of agriculture.

Animals which re-act must be marked on the right ear, a small triangular portion being punched out.

Animals which have not re-acted, and which do not show other symptoms of tuberculosis, must be provided with a certificate supplied by the veterinary surgeon. This certificate can only be given in the case of animals which are made to wear some distinctive mark which cannot be tampered with, such as a metal tag or particular marks on the body.

At present no further measure than that of marking them has been proposed in the case of suspected animals owing to the fact that the test does not give any criterion as to the extent of the lesions.

The owner is, however, recommended to isolate them, and to render the milk harmless by boiling.

NORWAY.

In the law of 14th July 1894, which deals with the measures applicable in the case of contagious diseases amongst animals, two classes of diseases are distinguished, severe and mild. Tuberculosis is regarded as belonging to the latter class and the measures prescribed are as follows:—

The owner or person in charge of the animals must make a declaration to a qualified veterinary surgeon or to a police officer whenever he is aware of the existence of the disease in his herd. He should prevent the animals that are supposed to be infected with the disease attending the cattle markets or shows, or strange pasture lands, or strange stables. They can, however, be taken to the ordinary market and placed in a separate section to be sold for the meat market should the Minister not provide otherwise.

The commissioner of police or magistrate who has received the notification must send it on to the veterinary inspector. If the veterinary inspector finds that the disease is serious, he must send a report to Prefect.

If the Prefect considers it necessary for the prevention of the spread of the disease he can cause an examination to be made on the spot by a veterinary surgeon, and gives, on the recommendation of the latter, instructions as regards the measures of isolation and disinfection which should be taken.

The Minister can fix the regulations as regards the use and sale of the meat and milk of diseased animals.

EXTRACTS from the LAWS of 27th June 1892, and July 27, 1895, on PUBLIC SLAUGHTER-HOUSES and the INSPECTION OF MEAT.

1. The municipality, in communes where there is an approved public slaughter house, can decree that all animals, the flesh of which is intended for human consumption, shall be slaughtered in it.

2. In every town of more than 4,000 inhabitants all flesh slaughtered or imported into the commune and intended for human consumption shall be examined by the inspector, who should be, whenever possible, a veterinary surgeon.

This control may be enjoined on towns of less than 4,000 inhabitants on the decision of the municipality, and with the consent of the King.

3. Flesh which the inspector may judge fit for human food must be stamped. If it is not fit it must be immediately seized, and must not be given back to the owner until it has been rendered harmless.

4. Where, in accordance with Article 1, all animals are to be slaughtered in a public slaughter house, the municipality must make compensation for the depreciation in value of the buildings and arrangements legally established for the slaughter of animals. The compensation is fixed by an expert appointed at the expense of the commune.

The demands for compensation must be made before the expiration of three months from the installation of the public slaughter-house.

5. For the use of the public slaughter-house and public market the municipality can make definite charges on those using it, but these sums must not exceed the rent necessary for the maintenance of the building, and the expenses connected with this service.

If the owner desires the examination to be made in a private slaughter-house or elsewhere than in the control station, he shall be allowed to do so on paying a charge fixed by the municipality.

From the *Beretning om Veterinærvæsenet* for the year 1894 (published in 1896), it appears that in accordance with the above law, up till January 1st, 1894, an inspection of meat had been organised in about 20 towns. By Royal Decree of 9th August 1894, the central administration of the control of meat was transferred to the Minister of the Interior, with the assistance of the Director-General of the Veterinary Surgeons.

The execution of the control was formerly regulated by means of municipal rules, which varied in different towns. In order to secure uniformity of practice a regulation to be applicable to the whole kingdom was prepared, but its introduction was postponed as a movement was set on foot by agriculturalists with a view to altering the law on the control of meat.

In consequence of this movement another law was passed, that of July 27th, 1895, which took away from the commune the right of imposing charges for the execution of this meat control, except such as would pay the expense of the service, and permission was further granted for the meat inspection to be made in places outside the station.

ROYAL DECREE of the 5th November 1895, on the MEASURES to be taken in EXECUTION of the PRECEDING LAWS.

1. In every commune where the above laws are in force all fresh meat exposed for sale for human consumption must be examined by the municipal inspector and stamped.

2. Animals slaughtered in a commune, where the meat control is in accordance with the above law, intended for exportation abroad or into another commune need not be examined or stamped.

7. Every person presenting flesh for examination must give, when requested, the name of the owner whence the animal came, and what was its condition before slaughter.

11. Animals that have been inspected, and in which there is no doubt that the organs belong to the animal in question, must be stamped with a blue stamp, oval in shape.

In the case of imported carcasses recognised as healthy, but without the organs, a blue stamp of triangular shape is used.

12. In the case of flesh that is found bad (of unpleasant smell, or derived from emaciated or

diseased animals), but not so bad that its dangerous condition may not be removed by careful preparation, a black round stamp with H. Kl. inside is used. If such meat is presented without all the organs, a square black stamp is used with H. Kl. inside.

15. If the meat can be rendered fit for food when completely cooked, it can be given back to the owner after this has been done under the supervision of the inspector.

INVESTIGATIONS AS TO THE EXTENT OF BOVINE TUBERCULOSIS IN NORWAY.

Dr. O. Malm, Director of the Veterinary Department, in a letter dated October 15th, 1896, states that before issuing more detailed regulations in view of controlling the disease (tuberculosis), it was deemed necessary to find out to what extent the disease prevailed amongst cattle in Norway.

He proceeded, therefore, to make tuberculin inoculations with tuberculin manufactured at the Veterinary Pathological College, Christiania, of which he is the head, the Norwegian Parliament voting in 1895 the sum of 12,000 kroner (besides paying travelling and subsistence allowance) for the purpose of performing the tuberculin examination on herds in different parts of the country.

By means of this sum, up to the 1st July 1895 about 17,000 cattle had been examined, but the results have not been sufficiently edited at present to give detailed results.

It would appear, however, that tuberculosis, on the whole, is not very rife in the country. It may be found here and there to the extent of 60 to 100 per cent. of the herd. The examinations for which Parliament has granted 15,000 kroner this year (1896), in addition to travelling expenses and subsistence allowances, are still going on, and are being favourably received by the farmers. The quantity of tuberculin required is delivered gratis from the veterinary laboratory; the veterinary surgeon's fees for the examination are paid by the State, the owner of the cattle only having to render assistance during the performance of the operation.

In the course of this autumn orders will probably be issued that all cattle imported from Sweden to the markets in Frederikshald and Christiania shall be examined by means of tuberculin, provided they are not to be slaughtered immediately for the meat market.

Animals found on examination to be free from tuberculosis are to be marked with a stamped metal button in the ear, and may subsequently be sold; those found tuberculous are to be marked by a "T," branded on the skin, and they are only to be sold for immediate slaughter; while those to be killed without being tested with tuberculin are branded with an "S."

No legal regulations have, as yet, been issued in Norway with a view to protecting the public from the danger of tuberculous contagion through milk, nor is there in any town a company delivering milk which is guaranteed free from tuberculosis or other infectious disease. Several important dairy companies have, however, demanded from the farmers supplying them with milk that they should have their animals tested with tuberculin, and deliver milk only from such animals as are certified by a veterinary surgeon to be free from the disease.

Petition for Tuberculin.—Examination at the Public Expense.

I, the undersigned, hereby request to have my cattle stock, consisting of oxen, grown up cattle, and young animals and calves. Total, animals examined by tuberculin at the public expense.

I intend to have the examination performed by the veterinary surgeon, who has declared himself willing to undertake it on the conditions prescribed by the public authorities concerned.

After the examination has been performed, I promise:—

1. As soon as possible to remove the tuberculous animals and those suspected of being tuberculous from the healthy part of the stock, either by placing them in another building free from contagion, or by erecting a partition-wall between

the two compartments and duly disinfecting the part of the cow-house destined for the healthy animals, or, according to circumstances, to keep the diseased and the healthy stock apart from each other in some other way that will afford sufficient protection from contagion.

2. To prevent, as far as possible, the spread of contagion from the diseased to the healthy part of the stock by using separate water and food vessels, and tend both parts of the stock separately.
3. To order the cow-house infected with tuberculosis to be disinfected in accordance with such detailed regulations as may be given by the veterinary authorities.
4. To slaughter, as soon as possible, such animals as may be found, on examination by the veterinary surgeon, to be suffering from tuberculosis in the udder or advanced tuberculosis, or in a state of emaciation, and not to sell or use for any household, milk from such animal unless it has been boiled.
5. To avoid selling any affected or suspected animal, except for the purpose of slaughter, nor sell any tuberculous animal slaughtered at home, unless it has—if there is an opportunity of doing so—been found fit for human food by a veterinary surgeon, or, on examination, at the meat inspection station.
6. To arrange that new-born calves destined for rearing be immediately placed in a room free from contagion, and to subject them to a tuberculin test before they are placed among the healthy animals, and not to feed them on milk from tuberculous animals unless it has been boiled. New-born calves may, however, for the first two days be given raw milk when the udder is healthy, and when the mother is not markedly affected with tuberculosis.
7. To avoid placing newly bought animals amongst the healthy part of the stock, unless they are found, by a preceding tuberculin test, to be free from tuberculosis.
8. To arrange that affected and suspected animals be provided with a permanent mark inasmuch as this is prescribed by the veterinary authorities.

Name of the farm, .
 District, .
 Country, .
 Date, .
 Distinct signature, .

The petition is confirmed and recommended:

Signature of the examining veterinary surgeon.

To
 Home Department.

Note.—This petition is to be forwarded through the proper "Amtmand" (superior magistrate) to the Home Department.

UNITED STATES.

LAW AND REGULATIONS bearing on MEAT AND MILK INSPECTION, with SPECIAL REFERENCE to TUBERCULOSIS.

In 1884 an Act was passed by Congress requiring the Commissioner of Agriculture to organise in his department a Bureau of Animal Industry, the chief of which should be a veterinary surgeon (the present head is Dr. D. E. Salmon), whose duty it should be to report on the causes of contagious diseases amongst animals, and the means for the prevention and cure of the same.

AN ACT to provide for the INSPECTION of LIVE CATTLE, HOGS, and the CARCASSES and PRODUCTS thereof which are the subjects of inter-state COMMERCE, and for other purposes, March 3rd, 1891, Amended March 2nd, 1895.

"Be it enacted by the Senate and House of Representatives of the United States of America in Congress

assembled, that the Secretary of Agriculture shall cause to be made a careful inspection of all cattle intended for export to foreign countries from the United States, at such times and places and in such manner as he may think proper, with a view to ascertain whether such cattle are free from disease; and for this purpose he may appoint inspectors, who shall be authorised to give an official certificate clearly stating the condition in which such animals are found, and no clearance shall be given to any vessel having on board cattle for exportation to a foreign country unless the owner or shipper of such cattle has a certificate from the inspector herein authorised to be appointed, stating that said cattle are sound and free from disease.

"SEC. 2. That the Secretary of Agriculture shall also cause to be made a careful inspection of all live cattle, the meat of which, fresh, salted, canned, corned, packed, cured, or otherwise prepared, is intended for exportation to any foreign country, at such times and places, and in such manner as he may think proper, with a view to ascertain whether said cattle are free from disease, and their meat sound and wholesome, and may appoint inspectors who shall be authorised to give an official certificate clearly stating the condition in which such cattle and meat are found, and no clearance shall be given to any vessel having on board any fresh, salted, canned, corned, or packed beef being the meat of cattle killed after the passage of this Act for exportation to and sale in a foreign country from any port in the United States until the owner or shipper shall obtain from an inspector appointed under the provisions of this Act a certificate that said cattle were free from disease and that their meat is sound and wholesome.

"SEC. 3. The Secretary of Agriculture shall cause to be inspected, prior to their slaughter, all cattle, sheep, and hogs which are subjects of interstate commerce and which are about to be slaughtered at slaughter-houses, canning, salting, packing, or rendering establishments in any State or territory, the carcasses or products of which are to be transported and sold for human consumption in any other State or territory or the district of Columbia, and in addition to the aforesaid inspection, there may be made in all cases where the Secretary of Agriculture may deem necessary or expedient, under the rules and regulations to be made by him prescribed, a post-mortem examination of the carcasses of all cattle, sheep, and hogs, about to be prepared for human consumption at any slaughter-house, canning, salting, packing, or rendering establishment in any State or territory or the district of Columbia, which are the subjects of interstate commerce.

"SEC. 4. That said examination shall be made in the manner provided by rules and regulations to be prescribed by the Secretary of Agriculture, and after said examination the carcasses and products of all cattle, sheep, and swine found to be free of disease and wholesome, sound, and fit for human food shall be marked, stamped, or labelled for identification as may be provided by said rules and regulations of the Secretary of Agriculture. Any person who shall forge, counterfeit, simulate, imitate, falsely represent, or use without authority, or knowingly and wrongfully alter, deface, or destroy any of the marks, stamps, or other devices provided for in the regulations of the Secretary of Agriculture, of any such carcasses or their products, or who shall forge, counterfeit, simulate, imitate, falsely represent, or use without authority, or knowingly and wrongfully alter, deface, or destroy any certificate or stamp provided in said regulations, shall be deemed guilty of a misdemeanor, and on conviction thereof shall be punished by a fine not exceeding \$1,000, or imprisonment not exceeding one year, or by both said punishments, in the discretion of the court.

"SEC. 5. That it shall be unlawful for any person to transport from one State or territory or the district of Columbia into any other State or territory or the district of Columbia, or for any person to deliver to another for transportation from one State or territory or the district of Columbia into another State or territory or the district of Columbia the carcasses of any cattle, sheep, or swine, or the food products thereof, which have been examined in accordance with the provisions of sections three or four of this Act, and which on said examination have been declared by the inspector making the same to be unsound or diseased. Any

person violating the provisions of this section shall be deemed guilty of a misdemeanor and punished for each offence as provided in section four of this Act.

"SEC. 6. That the inspectors provided for in sections one and two of this Act shall be authorized to give official certificates of the sound and wholesome condition of the cattle, sheep, and swine, their carcasses and products described in sections three and four of this Act, and one copy of every certificate granted under the provisions of this Act shall be filed in the Department of Agriculture, another copy shall be delivered to the owner or shipper, and when the cattle, sheep, and swine, or their carcasses and products are sent abroad, a third copy shall be delivered to the chief officer of the vessel on which the shipment shall be made.

"SEC. 7. That none of the provisions of this Act shall be so construed as to apply to any cattle, sheep, or swine slaughtered by any farmer upon his farm, which may be transported from one State or territory or the district of Columbia into another State or territory or the district of Columbia: Provided, however, that if the carcasses of such cattle, sheep, or swine go to any packing or canning establishment, and are intended for transportation to any other State or territory or the District of Columbia as herein-before provided, they shall there be subject to the post-mortem examination provided for in sections three and four of this Act.

"REGULATIONS FOR THE INSPECTION OF LIVE STOCK AND THEIR PRODUCTS.

"U.S. Department of Agriculture,
"Office of the Secretary,
"Washington, D.C., June 14, 1895.

"1. Proprietors of slaughter-houses, canning, salting, packing, or rendering establishments, engaged in the slaughter of cattle, sheep, or swine, the carcasses or products of which are to become subjects of interstate or foreign commerce, shall make application to the Secretary of Agriculture for inspection of said animals and their products.

"2. The said application must be in writing addressed to the Secretary of Agriculture, Washington, D.C., and shall state the location and address of the slaughter-house or other establishment, the kind of animals slaughtered, the estimated number of animals slaughtered per week, and the character and quantity of the products to go into interstate or foreign commerce from said establishment; and the said applicant in his application shall agree to conform strictly with all lawful regulations or orders that may be made by the Secretary of Agriculture for carrying on the work of inspection at such establishment.

"3. The Secretary of Agriculture will give said establishment an official number by which all its inspected products shall thereafter be known, and this number shall be used both by the inspectors of the Department of Agriculture and by the owners of said establishment to mark the products of the establishment as herein-after prescribed.

"4. The Secretary of Agriculture will designate an inspector to take charge of the examination and inspection of animals and their products for each establishment which has been officially numbered, and will detail to such inspector such assistants or other employes as may be necessary to properly carry on the work of inspection at said establishment. The inspector and all employes under his direction shall have full and free access to all parts of the building or buildings used in the slaughter of animals and the conversion of their carcasses into food products.

"5. An ante-mortem examination of all animals arriving at the stockyards for slaughter shall be made when they are weighed, or if not weighed this inspection shall be made in the pens. Any animal found to be diseased or unfit for human food shall be marked by placing in the ear a metal tag bearing 'U.S. Condemned,' and a serial number. Such condemned animals shall be placed in pens set apart for this purpose and removed only by a numbered permit, signed by the inspector, to an abattoir or rendering works designated by the said inspector, where they shall be killed under the supervision of an employee of the Bureau of Animal Industry and rendered in such manner that their products will be made unfit for human food.

"6. The inspector in charge of said establishment shall carefully inspect all animals in the pens of said establishment about to be slaughtered, and no animal shall be allowed to pass to the slaughtering room until it has been so inspected. All animals found on either ante-mortem or post-mortem examination to be affected as follows are to be condemned and the carcasses thereof treated as indicated in section 7.

"(1) Hog cholera.

"(2) Swine plague.

"(3) Charbon or anthrax.

"(4) Rabies.

"(5) Malignant epizootic catarrh.

"(6) Pyæmia and septicæmia.

"(7) Mange or scab in advanced stages.

"(8) Advanced stages of actinomycosis or lumpy-jaw.

"(9) Inflammation of the lungs, the intestines, or the peritoneum.

"(10) Texas fever.

"(11) Extensive or generalized tuberculosis.

"(12) Animals in an advanced state of pregnancy or which have recently given birth to young.

"(13) Any disease or injury causing elevation of temperature or affecting the system of the animal to a degree which would make the flesh unfit for human food.

"Any organ or part of a carcass which is badly bruised or affected by tuberculosis, actinomycosis, cancer, abscess, suppurating sore, or tape-worm cysts must be condemned.

"7. The inspector or his assistant shall carefully inspect at the time of slaughter all animals slaughtered at said establishment and make a post-mortem report of the same to the Department. The head of each animal shall be held until the inspection of the carcass is completed in order that it may be identified in case of condemnation of the carcass. Should the carcass of any animal on said post-mortem examination be found to be diseased and unfit for human food, the said carcass shall be marked with the yellow condemnation tag, and the diseased organ or parts thereof, if removed from said carcass, shall be immediately attached to same. The entire carcass shall be at once removed, under the supervision of the inspector or that of some other reliable employee of the Department of Agriculture, to tanks on the premises, and deposited therein, and rendered in such manner as to prevent its withdrawal as a food product. Should the establishment have no facilities for thus destroying the said carcass, it must be removed from the premises by numbered permit from the inspector to rendering works designated by him, and there destroyed under his supervision in such a manner as to make it unsaleable as edible meat.

"(a) Carcasses may be taken to the cooling rooms after marking with the yellow condemnation tag, in cases where only a portion of the carcass is condemned, and when such portion can not be removed without damage to the carcass, until it is properly chilled. After chilling, the condemned portions must be cut out and removed to the tank as provided for whole carcasses. Condemned parts that can be removed without damage to the carcass must be tanked immediately after condemnation.

"(b) The inspector, or the employee detailed for such purpose, must remove the numbered stub of the condemnation tag at time of placing the carcass or part of carcass in the tanks, and return it to the office of the inspector in charge, with a report as to the number of carcasses or parts of carcasses destroyed, the reason for destruction, and also state that they were tanked in his presence.

"(c) Should the owners of such condemned carcasses not consent to the foregoing disposition of them, then the inspectors are directed to brand the word 'condemned' upon each side and quarter of said carcasses, and keep a record of the kind and weight of the carcasses, and they shall, under supervision of the inspector, be removed from the packing house where meats are prepared and stored for the inter-state and foreign trade; and said firm or corporation shall forward, through the inspector, to the Secretary of Agriculture a sworn statement, monthly, giving in

detail the disposition of the carcasses so condemned, and, if the same have been sold, showing to whom, whether for consumption as food or otherwise, with what knowledge, if any, by the purchasers, of their condemnation by this Department, and whether or not before such sale said carcasses have been cooked or their condition at the time of inspection by this Department altered, and if so in what way.

"The inspectors shall, when authorised by the Secretary of Agriculture, give notice by publication to the express companies and common carriers at the place of condemnation of the fact of condemnation, giving the name of the owner of such carcasses, the time and place of slaughter, the reason for rejection, and a description of the carcasses, and warning them not to transport them out of the State.

"8. All persons are warned against removing the tags so attached to the condemned carcasses, and are notified that they will be prosecuted under the Acts of Congress of March 3, 1891, and March 2, 1895, for any such attempt to tamper with the device for marking condemned carcasses or parts of carcasses as prescribed by the preceding regulation.

"9. Carcasses or parts of carcasses which leave said establishment for inter-state or export trade will be tagged by the inspector, or an employee designated by him, with a numbered tag issued by the Department of Agriculture for this purpose, and a record of the same will be sent to the Department at Washington.

"(a) Carcasses or parts of carcasses which go into the cutting room of an abattoir, and those which are cut up for the local market, or are used for canning purposes must not be tagged. Those which are to be shipped from one abattoir to another for canning purposes must not be tagged; and the inspector in charge of the abattoir to which the shipment is consigned, in sealed cars, must be notified of the said shipment, including the number and initials of the said cars and the routes traversed by them.

"10. Each article of food products made from inspected carcasses must bear a label containing the official number of the establishment from which said product came, and also contain a statement that the same has been inspected under the provisions of the Act of March 3, 1891.

"(a) A copy of said label must be filed at the Department of Agriculture, Washington, D.C., and, after filing, said label will become the mark of identification showing that the products to which it has been attached have been inspected, as provided by these rules and regulations; and any person who shall forge, counterfeit, alter, or deface said label will be prosecuted under the penalty clause of section four of the Act of March 3, 1891, as amended in the Act of March 2, 1895.

"(b) Each package to be shipped from said establishment to any foreign country must have printed or stencilled on the side or on the top by the packer or exporter the following:—

FOR EXPORT.

- (a) Official number of establishment.
- (b) Number of pieces or pounds.
- (c) Trade-mark.

"In case said package is for transportation to some other State or territory, or to the district of Columbia, in place of the words 'For export,' the words 'Inter-state trade' shall be substituted.

"(c) The letters and figures in the above print shall be of the following dimensions: The letters in the words 'For export' or the words 'Inter-state trade' shall not be less than three-fourths of an inch in length, and the other letters and figures not less than one half inch in length. The letters and figures affixed to said package shall be black and legible, and shall be in such proportion as the inspector of the Department of Agriculture may designate.

"11. The inspector of the Department of Agriculture in charge of said establishment, being satisfied that the articles in said packages came from animals inspected by him, and that they are wholesome, sound,

and fit for human food, shall paste upon said packages meat inspection stamps bearing serial numbers.

(Paras. 12-15 relate to the affixing of the stamps.)

"16. Reports of the work of inspection carried on in every establishment shall be daily forwarded to the Department by the inspector in charge, on such blank forms and in such manner as will be specified by the Department.

"SWINE.

"18. The inspection of all swine slaughtered in the United States for both inter-state and export trade will be similar in all respects to that of cattle and sheep. (See Rules 1 to 17.) It must include a careful ante-mortem examination of all hogs, as required by Rules 5 and 6, and a subsequent post-mortem examination, as required by Rule 7. A microscopic examination for trichinae must be required for all swine products exported to countries requiring such examination.

"J. STERLING MORTON,
"Secretary."

"ORDER AND REGULATIONS FOR THE INSPECTION OF
CATTLE AND SHEEP FOR EXPORT.

"U.S. Department of Agriculture,

"Office of the Secretary,

"Washington, D.C., February 7, 1895.

"The following order and regulations are hereby made for the inspection of neat cattle and sheep for export from the United States to Great Britain and Ireland and the continent of Europe, by virtue of the authority conferred upon me by section 10 of the Act of Congress approved August 30, 1890, entitled "An Act providing for an inspection of meats for exportation, prohibiting the importation of adulterated articles of food or drink, and authorising the President to make proclamation in certain cases, and for other purposes."

"1. The Chief of the Bureau of Animal Industry is hereby directed to cause careful veterinary inspection to be made of all neat cattle and sheep to be exported from the United States to Great Britain and Ireland and the continent of Europe.

"2. This inspection will be made at any of the following named stock yards:—Kansas City, Mo.; Chicago, Ill.; Buffalo, N.Y.; Pittsburg, Pa.; and the following ports of export, viz.:—Portland, Me.; Baltimore, Md.; Boston and Charlestown, Mass.; New York, N.Y.; Philadelphia, Pa., and Norfolk and Newport News, Va. All cattle shipped from any of the aforesaid yards must be tagged before being shipped to the ports of export. Cattle arriving at ports of export from other ports of the United States will be tagged at said ports.

"3. After inspection at the aforesaid stock yards all cattle found free from disease and shown not to have been exposed to the contagion of any disease shall be tagged under the direction of the inspector in charge of the yards. After tagging the cattle will be loaded into cleaned and disinfected cars and shipped through from said yards, in said cars, to the port of export.

"4. All animals shall be reinspected at the port of export. All railroad companies will be required to furnish clean and disinfected cars for the transportation of cattle and sheep for export, and the various stock yards located at the ports of export shall keep separate, clean, and disinfected yards for the reception of export animals only.

"5. Shippers shall notify the inspector in charge of the yards of intended shipments of cattle, and shall give to the said inspector the locality from which said animals have been brought, and the name of the feeder of said animals, and such other information as may be practicable for proper identification of the place from which said animals have come.

"6. The inspector, after passing and tagging said cattle, shall notify the inspector in charge of the port of export of the inspection of said animals, giving him the tag numbers and the number and designation of the cars in which said animals are shipped.

" 7. Export animals, whenever possible, shall be unloaded at the port of export from the cars in which they have been transported directly at the wharves from which they are to be shipped. They shall not be unnecessarily passed over any highway, or removed to cars or boats which are used for conveying other animals. Boats transporting said animals to the ocean steamer must be first cleansed and disinfected under the supervision of the inspector of the port, and the ocean steamer must, before receiving said animals, be thoroughly cleansed or disinfected in accordance with the directions of said inspector. When passage upon or across the public highway is unavoidable in the transportation of animals from the cars to the boat, it must be under such careful supervision and restrictions as the inspector may direct.

" 8. Any cattle or sheep that are offered for shipment to Great Britain or Ireland or the continent of Europe, which have not been inspected and transported in accordance with this order and regulations, or which having been inspected are adjudged to be infected, or to have been exposed to infection so as to be dangerous to other animals, shall not be allowed to be placed upon any vessel for exportation.

" The supervision of the movement of cattle from cars and yards to the ocean steamer at the ports of export will be in charge of the inspector of the port. No ocean steamer will be allowed to receive more cattle or sheep than it can comfortably carry. Overcrowding will not be permitted.

" J. STERLING MORTON,
" Secretary."

The following statement bearing on the working of the Act appears in the Report of the Chief of the Bureau of Animal Industry, Dr. D. E. Salmon, for the year 1895:—

" WORK OF THE INSPECTION DIVISION.

" Meat Inspection.

" The inspection of all the animals slaughtered in the United States for human food, the meat of which is to be shipped in the channels of inter-state or foreign commerce, is a task of such magnitude and necessitates a service of such proportions that it requires years to build up and train a sufficient force and extend its operations over our entire territory, as contemplated by the law. The work of this division has, therefore, been progressive, and the meat inspection at the abattoirs, which in 1892 included but 3,800,000 head of animals, and in 1893 but 4,885,000, has in 1895 been applied to the enormous number of 23,275,000. In addition to this abattoir inspection, there has been an inspection in the stock yards of animals going to abattoirs in other cities, or which have been purchased by various buyers not having other inspection, to the number of 12,641,000. The inspection force of the Bureau has, consequently, made an ante-mortem inspection during the year of a total of 35,917,000 meat-producing animals. This has been an increase of more than 50 per cent. over the preceding year. The number of abattoirs and cities at which inspection is conducted has nearly doubled within the year.

" There must be a still further increase of the inspection service, for, although by far the greater part of the meat shipped from state to state or to foreign countries is inspected, there is still a considerable quantity which is not reached. The consumer of our meats in other countries may be easily protected from that which is uninspected by a regulation of his government requiring all imported meats to bear inspection marks, but our own citizens do not yet receive such an absolute protection, as the inspection is not sufficiently extended to warrant a prohibition of the inter-state shipment of all meat that has not been inspected. American consumers may, however, demand of the retailers of meats that only the inspected article be sold to them, and they can satisfy themselves that this is done by examining the tags and stamps which are put upon it for identification.

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" The meat inspection force is now a very efficient one. A large proportion of its members are able and experienced men, and the additions made by appointment from the eligible list upon certification by the Civil Service Commission have been notably superior to the men obtained before this force was brought within the classified service. The discipline has, also, greatly improved since the merit system was adopted.

" With this efficient force at our command, it has been possible to greatly extend the system of ante-mortem inspections in the stock yards and to embrace all of the important centres of the live stock trade. The animals entering these yards are inspected, and those found to be diseased or in a condition unfitting them for the production of wholesome meat are marked with a condemnation tag, showing that they have failed to pass the inspection. Such animals are held for future disposition, and as a large proportion of them have been rejected on account of pregnancy they and their young are allowed to be shipped to the country in order that they may be fed until in a suitable condition for slaughter. Of the condemned animals which are not returned to the country, some die in the pens, others are released after they have been held until their condition has improved, but the greater part is slaughtered, and if the post-mortem examination confirms the diagnosis that the animals are in a diseased or unwholesome condition, the carcasses are disposed of in such a manner that they cannot be utilised for human food.

" Following is a statement of the ante-mortem work at the abattoirs and stock yards:—The figures in the first column approximate the actual number of animals inspected for abattoirs having Government inspection, and includes those inspected in the yards for such local abattoirs and those inspected at the abattoirs in cities where there is no yard inspection. The second column gives the additional number of inspections in the yards on animals not purchased for the official abattoirs in those cities, and does not represent the actual number inspected, for the reason that, as the inspection is made at the scales and the animals may change hands several times, being weighed on each occasion, the same animal may pass the inspector more than once. The number of animals rejected as unfit for food at the time of the ante-mortem inspection is given under the heading 'Animals condemned.'

" While the exact number of individual live animals inspected can not be told, the number finally condemned as unfit for food may be ascertained by adding the number condemned at the abattoirs, both ante-mortem and post-mortem, and the number condemned post-mortem in the stock yards inspection.

" Ante-mortem Inspection.

Animals.	Number of Inspections.			Animals Condemned.		
	For official abattoirs in cities where the inspection was made.	For abattoirs in other cities and miscellaneous buyers.	Total.	At Abattoirs.	In Stock Yards.	Total.
Cattle	4,050,911	3,470,512	7,529,523	233	22,123	22,356
Sheep	4,710,190	1,048,094	6,318,284	692	12,533	13,225
Calves	213,575	101,271	314,846	47	2,799	2,846
Hogs	14,301,963	7,432,863	21,734,826	11,889	39,692	50,981
Total	23,275,739	12,641,740	35,917,479	12,861	76,138	89,399

" Last year the number of animals inspected for abattoirs having official inspection was 18,783,000, and the total number of ante-mortem inspections made was 23,885,721. There has been an increase, therefore, in the number of animals inspected for abattoirs where inspection was maintained of 4,492,739, or nearly 24 per cent., which is due principally to the extension of the inspection of sheep where it had not been possible to do so before. The increase in the total number of inspections is 12,031,758, or over 50 per cent.

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"Following is a table showing the number of animals inspected at time of slaughter and number of carcasses and parts condemned:—

"Post-mortem Inspection.

Animals.	Number of Inspections.			Carcasses condemned.			Parts of Carcasses condemned at Abattoirs.
	At Abattoirs.	On Animals condemned in Stock Yards.	Total.	At Abattoirs.	Stock Yards Inspection.	Total.	
Cattle	3,985,484	9,977	3,995,461	4,886	3,871	8,757	6,798
Sheep	4,629,796	3,546	4,633,342	2,794	1,541	4,335	242
Calves	256,905	931	257,836	276	761	1,037	33
Hogs	14,250,191	28,028	14,278,219	31,178	15,011	46,189	33,930
Total	23,122,376	42,482	23,164,858	39,134	21,184	60,318	41,003

"Last year the number of post-mortem inspections reported was 18,883,275.

"There were 12,289,680 quarters and pieces of beef, 328,589 carcasses of hogs, 151,959 sacks of pork, 3,516,896 carcasses of sheep, and 183,685 carcasses of calves tagged, or otherwise marked as inspected meat. Of these were exported 1,030,334 quarters and 16,818 smaller pieces of beef (equivalent to nearly 260,000 cattle), 349 carcasses of sheep, and 3,281 carcasses of hogs.

"The meat inspection stamp was affixed to 3,697,701 packages of beef and 6,034,165 packages of hog products; 63,313 of the latter contained microscopically examined pork. There were issued 15,211 certificates of inspection for meat products, of which 3,481 were for microscopically examined pork.

"There were sealed 11,855 cars containing inspected meat in bulk for shipment to establishments having Government inspection and to other places.

"The cost of this work was \$341,456.24, or 0.95 cent. for each ante-mortem inspection, and covers the expense of all the subsequent work of post-mortem inspection, tagging, stamping, and issuance of certificates of inspection. In 1895 it was 1.1 cents., in 1894 it was 1½ cents., and in 1893 it was 4½ cents."

As it was found impossible to establish inspection prior to July 1st, 1896, at all points where beef was prepared and packed for the export trade, and legislation was pending modifying the requirements for certificates with all exported beef, an order was issued by the Secretary for Agriculture on February 25, 1896, which postponed the necessity for the certification of exported beef until July 1st. The order added that "the greater part of the exported beef is now inspected and will be certified, and any government desiring to secure inspected beef exclusively may do so by making the proper regulations."

The time to which this order applied was subsequently extended to March 15th, 1897.

The following order shows that since this last date the requirement of a certificate of inspection in the case of all beef exported to Europe has been reimposed.

"ORDER CONCERNING THE EXPORTATION OF BEEF.

"U.S. Department of Agriculture,

"Office of the Secretary

"Washington, D.C., March 9, 1897.

"It is ordered, That from and after March 15, 1897, all beef offered for transportation to European ports, whether fresh, salted, canned, corned, or packed, being the meat of cattle killed after the passage of the Act under which this order is made, shall be accompanied by a certificate issued by an inspector of this Department, showing that the cattle from which it was produced were free from disease and the meat sound and wholesome; and in order that it may be determined whether all beef exported to European ports has been so inspected and found to be wholesome. It is further ordered, that the meat of all other species of animals exported to such ports, which for any reason does not bear the inspection stamps of this Department, shall be packed in barrels, cases, or other packages which are legibly marked in such manner as to clearly indicate the species of animal from which the meat was produced. Meat which is not so marked, and which is not accompanied by a certificate of inspection, will be classed as

uninspected beef, and will not be allowed exportation to European ports.

"Notice is hereby given to exporters of meat, whether said meat is fresh, salted, canned, corned, packed, or otherwise prepared, and to owners and agents of the vessels upon which said meat is exported, that no clearance can be given to any vessel having on board said meat until the provisions of this order are complied with.

"Until otherwise ordered, certificates will not be required with beef exported to other than European countries.

"JAMES WILSON,
"Secretary."

MASSACHUSETTS.

In the Commonwealth of Massachusetts very active measures for stamping out tuberculosis have been taken, under the authority of the Board of Cattle Commissioners, consisting, chiefly, in the extensive use of tuberculin for testing herds in the State, and in seeing that all cattle imported from outside either have already been subjected to the test or, if not, should be quarantined until this has been done.

AN ACT codifying and consolidating the LAWS relating to CONTAGIOUS DISEASES among DOMESTIC ANIMALS. June 4th, 1896.

This Act compels the authorities in cities and towns to appoint inspectors of animals and provisions, a list of whom must be sent every year to the Board of Cattle Commissioners. Their salaries must not exceed \$500 and one-half is to be paid by the treasury of the Commonwealth (sections 1-3).

Said inspectors shall make regular inspections of all meat, cattle, sheep and swine found within the limits of their several cities and towns, and of any domestic animals, barns, stables, and premises when required, and they must furnish regular returns to the Board of Cattle Commissioners (sections 4-5).

When any inspector suspects, or has reason to believe, that an animal is affected with a contagious disease, or whenever he is directed to do so by the Board of Cattle Commissioners or board of health of the city or town, he shall immediately cause the said animal to be quarantined or isolated upon the premises of the owner or of the person in whose charge it is found, or in such other place or enclosure as may be designated by either of such boards, and shall take such other sanitary measures to prevent the spread of such disease as may be necessary.

A written notice or order of such quarantine, signed by him, must be given to the owner of the animal, and written notice of the same must at once be sent to the Board of Cattle Commissioners and Board of Health of the city. (7-9.)

Powers given to inspectors to seize and destroy unsound food and prosecute. (10-16.)

Slaughter-houses to be licensed and be subject to inspection. (17-23.)

The boards of health of cities and towns may take all measures necessary or expedient to suppress or prevent the spread or introduction of any contagious disease among the animals of their respective cities, and the

immediate vicinity thereof, and for that purpose they may regulate or prohibit the passage from, to, or through their respective cities, or from place to place within the same, of any animal or animals, and may prohibit their departure from any building or enclosure, or exclude any such therefrom, and they may arrest or detain, at the cost of the owner, any animals found passing, or found to be within such prohibited enclosure, and may take all other necessary measures to enforce such regulations or prohibitions. (24.)

"SECT. 26. Said boards, in case of the existence of any contagious disease among domestic animals within the limits of their several cities and towns, and whenever directed so to do by the Board of Cattle Commissioners or any of its Members, shall cause the animals which are, or which they have good reason to believe are, infected with any contagious disease, or which are designated in such order, to be quarantined, secured, collected or isolated in some suitable place or places within the limits of such city or town, and shall immediately give written notice thereof to the Board of Cattle Commissioners. When any such animal or animals are quarantined, collected, or isolated upon the premises of the owner or person found in the possession thereof, written notice of such quarantine or isolation shall be given to such owner or person, and be served, returned, and recorded in the same manner and with the same force and effect as is provided in sections 7 and 8 of this Act.

"SECT. 27. When any animals are quarantined, collected or isolated under the provisions of this Act, upon the premises of the owner or of the person in possession thereof at the time such quarantine is imposed, the expense thereof shall be paid by such owner or person in possession thereof; but whenever specific animals are quarantined or isolated more than ten days upon such premises, as suspected of being afflicted with a contagious disease, and the owner is forbidden to sell any of the product thereof for food, or whenever any animals are quarantined, collected, or isolated on any premises other than those of such owner, or person in possession thereof, the expense of such quarantine shall be paid by the Commonwealth.

"SECT. 29. Every person, except the members of the Board of Cattle Commissioners, who has knowledge of, or has good reason to suspect, the existence of any contagious disease among any species of domestic animals within the limits of this Commonwealth, or that any domestic animal is affected with any such contagious disease, whether such knowledge is obtained by personal examination or otherwise, shall immediately give written notice thereof to the Board of Health of the city or town where such diseased animal or animals are kept, and for failure so to do shall be punished by a fine not exceeding \$500, or by imprisonment in jail not exceeding one year.

"SECT. 30. Upon the receipt of such notice from any person other than a duly appointed inspector of animals and provisions for such city or town, such board of health shall forthwith cause such animal to be inspected by an inspector, or by a competent veterinarian appointed by them for that purpose, and if upon such inspection such board or such inspector suspects or has reason to believe that contagion exists, he or they shall proceed according to the provisions of sections seven, eight, nine, and twenty-six of this Act.

"SECT. 31. A city or town whose officers refuse or neglect to carry into effect the provisions of sections twenty-four, twenty-five, twenty-six, and thirty of this Act shall forfeit a sum not exceeding five hundred dollars for each day's neglect.

Powers given for compulsory purchase of land on which to erect necessary quarantine sheds, and penalties inflicted on anyone removing an animal so quarantined. (33 and 34.)

Compulsory notification imposed on any one killing an animal under suspicion that it is affected with or has been exposed to a contagious disease, and after slaughter finds that it is so affected, and a statement as to the disposal thereof to be made to the owner and Board of Cattle Commissioners. (35.)

Tuberculosis is included among the contagious diseases under the provisions of the Act. (37.)

The Board of Cattle Commissioners to consist of five members (36), and to have power to make regulations for the extirpation, &c., of any contagious disease, and to have all the power and authority conferred on boards of health and inspectors of animals under provisions, &c. (38-44.)

SECT. 45.—*Compensation for Cattle condemned for Tuberculosis.*

When the Board of Cattle Commissioners or any of its members, by an examination of a case of contagious disease among domestic animals, becomes satisfied that the public good requires it, such board or commissioner shall cause such animal or animals affected therewith to be securely isolated, or shall cause it or them to be killed without appraisal or payment. Such order of killing shall be in writing, and may be directed to the Board of Health, inspector or other person, and shall contain such direction as to the examination and disposal of the carcass, and the cleansing and disinfecting of the premises where such animal was condemned, as such board or commissioner shall deem expedient. A reasonable sum may be paid out of the treasury of the Commonwealth for the expense of such killing and burial. If it shall subsequently appear, upon post-mortem examination or otherwise, that such animal was free from the disease for which it was condemned, a reasonable sum therefore shall be paid to the owner thereof by the Commonwealth; provided, however, that whenever any cattle condemned as afflicted with the disease of tuberculosis are killed under the provisions of this section the full value thereof at the time of condemnation, not exceeding the sum of sixty dollars for any one animal, shall be paid to the owner thereof out of the treasury of the Commonwealth if such animal has been owned within the state six months continuously prior to its being killed, provided, such person shall not have, prior thereto, in the judgment of the Cattle Commissioners, by wilful act or neglect, contributed to the spread of tuberculosis; but such decision on the part of the commissioners shall not deprive the owner of the right of arbitration as herein-after provided.

SECT. 11 of Chap. 496.—If the owner who is entitled to compensation for an animal destroyed as affected with tuberculosis under section forty-five of said chapter four hundred and ninety-one, and the commissioner condemning the same cannot agree as to the value of the animal so condemned, the question of such value shall be determined by arbitrators, one to be selected by the commissioner, one to be selected by the owner; or if the owner neglects or refuses for twenty-four hours to select an arbitrator, the one already selected shall select a second, and if these two cannot agree, a third to be selected by the two arbitrators first selected. Such arbitrators shall be sworn faithfully to discharge the duties of their office, and shall determine the value of such animal according to the provisions of said section forty-five, and the full value so determined shall be paid to the owner as provided in said section. Either party aggrieved by the doings of the Cattle Commissioners, or any of its members, under the provisions of said section forty-five, or by the award of such arbitrators, may petition the superior court for the county where such animal was killed, or for the county of Suffolk, to have the damages assessed; such petition shall be by or against the Board of Cattle Commissioners, and a copy thereof shall be served upon the defendant, or if the petition is against said Board of Cattle Commissioners, upon one of the commissioners, in the same manner as is provided for the service of other civil process.

SECT. 50. When any animal or animals are killed by order of the Board of Cattle Commissioners or any of its members, the carcass or carcasses thereof may be inspected by such board or commissioner, or by a competent person by them or him appointed, and if found entirely free from disease and in a wholesome condition for food, the same may be sold by them or him or by their or his order, and the proceeds of such sale shall be applied in payment of the value of said animal or animals.

SECT. 14 (of Chap. 496 of 1895). Until June first, eighteen hundred and ninety-six, the use of tuberculin as a diagnostic agent for the detection of the disease known as tuberculosis in domestic animals shall be restricted to cattle brought into the Commonwealth from any point without its limits and to all cattle held in quarantine at Brighton, Watertown, and Somerville; provided, however, that tuberculin may be used as such diagnostic agent on any animal or animals in any other portion of the state upon the consent in writing of the owner or person in possession thereof, and upon any animals condemned as tuberculous upon physical examination by a competent veterinarian.

In accordance with this law, the Board of Cattle Commissioners (as gathered from their Report for 1896, Public Document, No. 51), have been chiefly occupied with the following points:—

- (1.) The general direction and supervision of the large corps of inspectors of animals, and provisions appointed by the cities and towns.
- (2.) The examination of all reported cases of animals suspected of being afflicted with the contagious diseases enumerated under the law, other than tuberculosis.
- (3.) The examination of neat stock for the detection of the presence of tuberculosis, the work of tuberculosis being the main work of the Commission and comprising:—
 - (a.) The examination of all cases quarantined by local inspectors, suspected of being tuberculous, reports of which have reached the board.
 - (b.) The examination of animals coming into the markets of Brighton, Watertown, and Somerville, for sale.
 - (c.) The examination of animals coming from without the State, upon special permit.
 - (d.) The systematic examination of all animals within localities specially designated and quarantined by the Board for that purpose. (This ceased in June 1895, owing to failure of necessary funds.)

The amount of money to be expended under the Act in 1895 was \$100,000, and in 1896, \$250,000.

The Commissioners found that the expense of maintaining quarantined animals, after the lapse of the first ten days, soon exhausted the appropriation made for the work of the Board.

Use of Tuberculin by the Board.

Prior to 1894, the Commissioners depended solely on physical examination for their diagnosis of the disease, but many mistakes were made, and the Board felt further that the compensation paid to the owners of animals so slaughtered, was a needless frittering away of the State's money, because results incommensurate with the sums expended were obtained. The Board, therefore, substituted the tuberculin test in place of the physical examination in all cases of neat cattle suspected of being affected with tuberculosis.

In all cases where tuberculosis was found to exist, the carcasses have been destroyed or disposed of otherwise than for food.

The Board appointed 33 skilled assistants, who had had experience in tuberculin inoculations, to carry out the work.

In order to assist farmers and dairymen in their purchase of cattle, so that they might be able to replace the animals destroyed with others which had successfully passed the test, they commenced a systematic examination with tuberculin of all animals in the State, taking precautions, as fast as all animals in each county had been examined, destroyed, or marked to prevent by quarantine regulations the importation of animals which had not already been so examined.

This work ceased in June 1895 through lack of the necessary funds.

As a part of their systematic attempt, to stamp out tuberculosis in the State, they undertook to test all animals introduced into the principal markets of the State, namely, at Brighton, and Watertown, and Somerville. Before this work was discontinued, after a trial of about five months, 6,019 animals had been tested; but the results of the experiment, owing to the abnormal condition of the animals due to the long journey that many of them had made, to local causes of excitement, &c., were not sufficiently satisfactory to justify the Board in continuing the method unless the animals were kept in quarantine for some days until their normal condition was re-established.

It was felt, however, that it would be a distinct advantage to all parties concerned if any means could be devised whereby animals could be subjected to the tuberculin test before being shipped to market.

With this object in view the following regulations were made:—

"COMMONWEALTH OF MASSACHUSETTS.

*"Board of Cattle Commissioners,
"52, Village St., Boston,
"July 8, 1895.*

"To all Persons whom it may concern,

"We, the Board of Cattle Commissioners for the Commonwealth of Massachusetts, by virtue of the power and authority in us vested by law, and especially under the provisions of chapter 491 of the Acts of the year 1894 and chapter 496 of the Acts of the year 1895, have adopted and do hereby issue the following order, for the purpose of preventing the introduction of tuberculosis and other contagious diseases within the limits of the Commonwealth of Massachusetts, and also for that purpose to establish reasonable quarantine regulations covering the importation of cattle from without its limits.

"General Order No. 9.

"First.—General Order No. 3, dated November 20, 1894, is hereby repealed.

"Second.—All the states and territories of the United States, other than the Commonwealth of Massachusetts, the district of Columbia, Canada, Great Britain, and all other localities without the limits of this Commonwealth, are hereby declared to be infected districts.

"Third.—All neat cattle brought within the limits of this Commonwealth from any of the said localities on and after July 9 1895, are hereby made subject to the quarantine regulations herein set forth. Except as provided in paragraph 9 of this order, no such cattle shall be brought within the limits of this Commonwealth, nor shall they be unloaded from any car or vehicle upon or within which they have been transported, except in case of accident, for any purpose whatsoever, except upon a written permit therefor duly issued by the Board of Cattle Commissioners or one of its members.

"Fourth.—Every person or corporation desiring to drive, bring, or transport, or to cause to be driven, brought, or transported into this Commonwealth, from any of the localities designated in paragraph 2 of this Order, any neat cattle, shall notify the Board of Cattle Commissioners in writing of his or its intention so to do, which notice shall state the name and residence of the true owner and consignee, the city or town, within this Commonwealth, through which it is the intention to enter, or if said animals are to be transported, then of the city or town at which it is the intention that such animals shall be unloaded, the location of the premises within the limits of such city or town where said animals are to be delivered or kept, the name of the true owner or person in possession of the same, the name of the railroad company by which such cattle are to be shipped, and the time when it is the intention that the animals shall arrive within such city or town. Every such application shall be accompanied by a certificate, executed in duplicate, based on a tuberculin test, that, in the opinion of the veterinarian signing the same, each such animal is free from tuberculosis. Each such certificate shall give a description of the animal sufficiently accurate for easy identification, as well as a brief statement of the condition of such animal found upon a physical examination. It shall also state the preparation of tuberculin used, the quantity injected, the temperature ascertained immediately previous to inoculation, and also the temperature at the eleventh hour and every two hours subsequent thereto for a period of at least ten hours, or until the reaction has been completed. The certificate shall be signed by a veterinarian whose competency shall be certified to by the Board of Cattle Commissioners of the State from which said animals are driven or shipped, or of such other board or authority as may have jurisdiction over the matter of the suppression of contagious diseases among domestic animals in such state or country. Forms of such certificates will be furnished by this Board upon application.

"Fifth.—If such certificate is satisfactory to this Board, one of said certificates will be retained by this office and the duplicate certificate will be returned to the owner, together with a permit to such applicant to enter and deliver such animal in the manner, and at the time and place designated in such application.

"In case of every such permit the duplicate certificate of soundness and the permit of entry shall accompany the bill of lading of such animal, or if such animal is driven in on the hoof, then shall be sent with said animal. Upon the arrival of every such animal at the place designated in the permit, such animal shall be and hereby is declared to be quarantined upon the premises of the owner or consignee, and at his expense, and shall there remain until such animal has been examined by some agent of this Board thereto duly authorised or the inspector designated in the permit.

"Upon the arrival of such animal, the owner shall immediately notify this office or such inspector or agent as shall be designated in the permit, and shall deliver to such person so notified, or to some agent of this Board thereto duly authorised, the certificate of soundness and permit accompanying such animal. Such animal will be released by such agent or inspector upon being identified as corresponding with the description contained in such certificate, and, in such case, the person so releasing the animal will detach the duplicate certificate of soundness, and return the same to such consignee or owner, and will return the permit to enter, with his endorsement of release, to this office.

"If such animal should not correspond, in the opinion of such agent or inspector, with such certificate, such animal will be continued in quarantine and treated as provided in paragraph 7 of this Order.

"*Sixth.*—Whenever application is made, as provided in paragraph 4 of this Order, to drive, bring, or transport, or cause to be driven, brought, or transported, neat cattle within the limits of this Commonwealth from any of the localities designated in paragraph 2 of this Order, without such application being accompanied with a certificate satisfactory to this Board, as therein provided, a permit will be issued by this Board, or a member thereof, to enter and deliver such animals in the manner and at the time and place designated in such permit, which permit will state that such animals are not accompanied with a certificate of soundness. Such permit shall accompany the bill of lading of every such animal, or if the animal is driven on the hoof, then shall be sent with such animal; and upon the arrival of the animals at the place designated in the said permit, notice shall be sent, and said permit shall be delivered in the same manner as is provided in paragraph 5 of this Order.

"Every such animal, if brought within the limits of the Commonwealth by any of the regular lines of steam-rail transportation, as soon as it has arrived at the place designated in said permit, and every such animal brought in on the hoof or otherwise, upon its arrival at the city or town of entry within the limits of this Commonwealth designated in said permit, shall be and is hereby declared to be quarantined upon the premises of the owner, consignee, or person in possession thereof, at the expense of such owner, consignee, or person in possession, until such animal shall have been subjected to the tuberculin test, and is condemned or freed, as provided in paragraph 7 of this Order.

"Such test will not be applied until such animals have been under quarantine restrictions and regulations for a period of at least six days.

"*Seventh.*—Every animal which, in the opinion of this Board, or any of its members, after being subjected to a physical examination and to the tuberculin test, is affected with tuberculosis, will be condemned and killed as provided in section 53 of chapter 491 of the Acts of the year 1894. If, in the opinion of this Board or one of its members, after such examinations, such animal is free from tuberculosis, the same will be discharged from quarantine.

"*Eighth.*—Whenever a permit is issued to bring any animal within the limits of this Commonwealth, as herein provided, upon the hoof or in any other manner than upon any of the regular lines of steam-rail transportation, such animal shall not enter this State at any other city or town than the one designated in such permit; and wherever a permit is issued to enter any such animal by any of the regular lines of steam-rail transportation, such animal shall not be unloaded, except in case of accident, within the limits of any other city or town within the limits of this Commonwealth than the one designated in this permit, except after it has been regularly released as herein provided; and any person violating the provisions of this paragraph will be punished as provided in section 47 of chapter 491 of the Acts of the year 1894.

"*Ninth.*—Any person may bring or transport or cause to be brought or transported any neat cattle from any point without the limits of this Commonwealth

designated in paragraph 2 hereof, to be delivered by any regular lines of steam-rail transportation directly to the Union Stock Yards without first obtaining from the Board of Cattle Commissioners or a member thereof a written permit so to do; but such animal shall not be unloaded, after arriving within the limits of this Commonwealth, at any other place, except in case of accident, and in such case as soon thereafter as practicable, shall be immediately shipped to one of the places designated in this paragraph. Animals so transported on being unloaded are hereby declared quarantined. Such quarantine, so long as the same continues, shall be at the expense of the owner, consignee, or person in possession.

"*Tenth.*—Every such animal shall be accompanied with duplicate certificates that such animal is, in the opinion of the veterinarian signing the same, free from tuberculosis. Such certificates shall in all respects, as to the form, contents, and execution, correspond with the certificate required by paragraph 4 of this Order, and shall further contain a statement signed by the person shipping said animal, setting forth the name in full and residence of the true owner of the same and of the consignee thereof. Blank forms of such certificates will be furnished by this Board upon application. Upon the arrival of all such neat stock, the owner, consignee, or person in possession shall immediately deliver to the Board of Cattle Commissioners, or one of its members, or to some agent thereof thereto duly authorised the duplicate certificates above provided for, which shall not be separated by such owner, consignee, or person in possession, and shall point out the animal to which such certificate is claimed to belong. If such animal shall be found to correspond with the description contained in such certificate, and if said certificate is satisfactory to this Board, or such commissioner, said animal will be immediately released from quarantine, and the duplicate certificate will be returned to such owner, consignee, or person in possession.

"*Eleventh.*—All neat cattle brought from any point without the limits of the Commonwealth, designated in paragraph 2 of this Order, delivered at any of the premises designated in paragraph 9 hereof, not accompanied with a certificate of soundness provided for in paragraph 10 hereof, satisfactory to the commission or a member thereof, will be continued in quarantine upon the premises of the owner, consignee, or person in possession thereof within the limits of said premises, and at the expense of such owner, consignee, or person in possession, until such animal has been subjected to the tuberculin test, and has been killed or freed, as provided in paragraph 7 hereof. Such test will be applied upon Monday of each week, but no such animal shall be tested until after the same has remained under quarantine restrictions and regulations for a period of at least six days.

"*Twelfth.*—All neat cattle brought within this Commonwealth consigned directly to the Brighton Abattoir for slaughter shall be confined by themselves for identification and shall not be released except as herein provided in paragraph 7, or for immediate slaughter.

"*Thirteenth.*—No person shall slaughter or offer, or expose for sale (or have in his possession, except under quarantine) within the stock yards at Brighton and Watertown, or within the premises of the New England Dressed Beef and Wool Company at Somerville, any neat cattle brought within the limits of this Commonwealth after the passage of this Order, from any point designated in paragraph 2 hereof, which have not been released from quarantine by the Board of Cattle Commissioners or one of its members, or an agent thereto duly authorised, as provided in paragraphs 5, 7, 10, and 12 hereof.

"*Fourteenth.*—All neat cattle brought within the limits of this Commonwealth from any point without, mentioned in paragraph 2 hereof, except upon written permit of the Board of Cattle Commissioners, or some member thereof, or as provided in paragraph 9 hereof, are hereby declared quarantined.

"*Fifteenth.*—No person shall drive, bring, or transport, or cause to be driven, brought, or transported within the limits of this Commonwealth, from any point mentioned in paragraph 2 hereof, any neat cattle except as herein provided; and all cattle brought into the limits of this Commonwealth contrary to this Order and regulation will be quarantined at the expense of the owner, consignee, or person in possession, wherever they can be found; and such animal shall remain in quarantine as long as the public safety, in the judgment of this Commission, requires; and any person violating this regulation and Order, or entering cattle within

the limits of this Commonwealth contrary to the provisions hereof, will be prosecuted for every such offence.

"*Sixteenth.*—It is further ordered that three copies of this Order shall be sent to each city and town throughout the Commonwealth, and that each city and town shall cause a copy thereof to be posted in two or more conspicuous places within its limits, or shall cause a copy of the same to be published once a week for three successive weeks, in some newspaper published within its limits.

"*Seventeenth.*—This Order shall take effect upon the ninth day of July 1895.

"FREDERICK H. OSGOOD, Chairman,
"CHARLES P. LYMAN, Secretary,
"MAURICE O'CONNELL,
"LEANDER F. HERRICK,
"CHARLES A. DENNEN,
Board of Cattle Commissioners."

"CERTIFICATE OF TUBERCULIN EXAMINATION OF NEAT
CATTLE REQUIRED UNDER GENERAL ORDER NO. 9.

(To accompany application for entry into Massachusetts.)

To Massachusetts Board of Cattle Commissioners,
52, Village Street, Boston.

DUPLICATE.

(To be returned to owner.)

This certificate must not be detached from the permit.

State of _____ 189
City or town of _____
Owner, _____
Description of animal, _____

Physical condition, _____

Preparation of tuberculin, _____

Quantity injected, _____

Date,	Normal temperature at	P.M.
1 A.M.	1 P.M.	
2 A.M.	2 P.M.	
3 A.M.	3 P.M.	
4 A.M.	4 P.M.	
5 A.M.	5 P.M.	
6 A.M.	6 P.M.	
7 A.M.	7 P.M.	
8 A.M.	8 P.M.	
9 A.M.	9 P.M.	
10 A.M.	10 P.M.	
11 A.M.	11 P.M.	
12 M.	12 M.	

In my opinion, the above-described animal is free from tuberculosis.

Veterinary Surgeon.

Identified and released by me at the city and town of _____ 189 .

Upon the arrival of the animals at any of the above designated markets, a member of the Commission or an agent of the Board is present to examine and identify the animals arriving, and to see, from a study of the certificate, if the animal is free from disease. This method has been pursued since that date with substantially no variations, except that to render identification more certain, an order was issued to drovers, calling their attention, first, to the necessity of all animals being properly tagged in the ear, so that they might be readily identified by numbers corresponding with those on the certificates, and secondly, to the fact that the test must have been made by a veterinary surgeon vouched for by the Cattle Commission of the State from which the animals were shipped.

No attempt has been made to forbid the introduction of animals which have not had a previous satisfactory

test, but in such cases a special permit is used. This provides that after the arrival of the animals in Massachusetts, a quarantine of not less than six days shall be maintained, and a tuberculin test by a veterinary surgeon who must be approved by the Board shall be made, at the expense of the owner or consignee.

In connection with the whole matter of the regulation of the importation of cattle, an order was issued to railroad and transport agencies prohibiting the introduction of neat cattle brought from any State or territory of the United States, Canada, or any other country, except for delivery to the Union Stock Yards, unless provided with a written permit, signed by a member of the Board of Cattle Commissioners.

As the regulations put in force by the Board of Cattle Commissioners so vitally affected the agricultural interest of the adjoining States, the Board felt that it would be advisable to meet the authorities of the surrounding States.

Accordingly the Board invited the commissions of the New England States and of the State of New York, to a convention in which it was unanimously voted to adopt these same regulations as governing all of the New England States.

The Board experienced substantially no opposition from the owners of animals in its systematic work of testing with tuberculin, but secured rather the co-operation of all such parties who seemed to be desirous of having their herds tested and all diseased animals removed.

Since the passing of the Act of 1895 the principal sections of which have been given above, the Board of Cattle Commissioners have been deprived of the power of employing the tuberculin test to cattle "owned in the State," unless they are condemned by veterinary surgeons after physical examination, or unless a voluntary request has been made to the Board for its employment on the part of the owner.

Since the introduction of the tuberculin test the whole number of animals examined by the Board with this agent up to January 1896 was 26,958.

Number condemned as tuberculous, 4,389.

Percentage of diseased animals in all classes of work, 16.

Compensation.

The law of the State of Massachusetts on the matter of compensation directly applying to tuberculosis is extremely recent, because until 1892 tuberculosis was not treated by the Board of Cattle Commissioners as a contagious disease.

Under all the laws prior to this, although in theory tuberculosis was included because it was a contagious disease, as a matter of fact it was not so treated by the Board. In 1893 a law was passed, of which sect. 2 runs — "When any member of the Board of Cattle Commissioners by an examination of a case of contagious disease among domestic animals becomes satisfied that the public good requires it, he shall cause such animals to be securely isolated at the expense of the owner, or he shall cause them to be killed without appraisal or payment, but may pay the owner or any other person an equitable sum for the killing and burial thereof, and may also pay a reasonable sum for the animal destroyed, should it appear by a post-mortem examination or otherwise, that the said animal was free from the disease for which it was condemned."

This clause was in 1894 entirely altered, so that, as stated elsewhere, the full value of the animal at the time of condemnation for tuberculosis was given, provided the animal had been in the State for six months, and there had been no contributory neglect on the part of the owner.

Animals slaughtered for food, the meat of which is afterwards condemned by an inspector as unfit for food on account of tuberculosis, gives rise, apparently, to no compensation.

Laws of the several States on Compensation.

In Nebraska the full value of the animal on a health basis is given, but in the case of cattle it must in no case exceed \$20.

In Maine, one half value of the animal on a health basis is given, but there is a proviso that the appraised value shall in no case exceed \$100 for a pedigree animal, nor \$50 in a non-pedigree animal.

In Vermont similarly, one-half value on a health basis is allowed, but the limit of appraisal is fixed at \$40.

In New York State also one-half value on a health basis is given.

In Connecticut, Ohio, Iowa, Missouri, Kansas, and Pennsylvania, the actual value of the animal in the diseased condition is allowed, that is, the appraisers shall have due consideration for the actual condition of the animal at the time of appraisal.

In Illinois it is practically the same, the appraisal being based on the fair cash market value of the animal for beef, or for use for dairy purposes.

APPENDIX M.

EXAMPLES of SOCIETIES for the INSURANCE of CATTLE destined for SLAUGHTER and the PAYMENT of COMPENSATION for LOSS from CONDEMNATION. (See also Report on a Visit paid to certain Places in Belgium, Germany, and Denmark.)

DRESDEN.

REGULATIONS for the INSURANCE of CATTLE destined for SLAUGHTER in the CATTLE MARKET and SLAUGHTERHOUSE of DRESDEN.

1. The Cattle Insurance Office, under the management of the Butchers' Union in Dresden and a Committee elected by the cattle traders of the cattle market and slaughter house, insures against the loss which falls on the owners of animals that are exposed for sale in the cattle market, when, after slaughter, as the result of veterinary examination, they are found to be diseased (*nicht gesund*) and are therefore to be regarded either as able to be used (*geniessbar*) but not of full value, (and to be sold on the freibank), or as not able to be used (*ungeniessbar*) and to be destroyed.

Damage said to be inflicted by transport or a diminution of value resulting therefrom is not a matter of compensation from the insurance office, and in such cases the dealer must claim compensation from the seller.

2. Every member of the insurance office is bound to insure all the animals exposed for sale by him even if they are insured elsewhere (see, however, par. 4).

Every cattle-dealer who is not a member can become so on paying an entrance fee. The entrance fee is determined in each case by at least one member of the council of the Butchers' Union, and one member of the committee.

If two or more cattle-dealers expose animals for sale in common, the animals can only be insured if those taking part in the transaction are members of the insurance office.

3. If a dealer who is not a member of the insurance office wishes to insure his cattle he must pay a double premium, and must engage to insure all his cattle at this increased premium until he has become a member.

4. Animals which are found diseased or suspected of disease by the veterinary surgeon in charge cannot be insured, and must be marked in a conspicuous manner. The animals that are condemned by the sanitary police cannot on any account be insured, even if they had not been marked.

5. The insurance is effected by the payment of a premium, the height of which is regulated by the committee of management of the office, usually at the beginning of each quarter, or whenever it is deemed necessary. The collection of the premium is effected through the inspector of the cattle market or his deputy.

6. The premium, after a fixed reserve fund has been collected, shall be regulated so as just to cover with the compensations due and the costs of management.

7. The person who has possession of the animal in question at the time of seizure must be regarded as the insured party.

If in the market an animal is again sold the insurance is nullified without the paying back of the premium; but the insurance can be again effected on repayment of the premium, provided the new purchaser is a member of the insurance office.

The insurance value after the payment of the premium is the purchase price of the animal. If several animals have been bought together, and the value of the condemned animal is difficult to determine, it is settled by two members of the committee of management according to the prices prevailing in the

market where the purchase was effected. Besides the purchase price the party insured receives in addition all expenses, such as the slaughter charges, &c., &c.

8. The compensation to be paid for individual organs and portions of meat, if their value cannot at once be determined, are settled by the committee of management.

Usually the price is as follows:—

For an ox liver	-	-	6 marks.
" tongue	-	-	4 "
" lung and heart	-	-	3 "
" stomach	-	-	6 "
" spleen	-	-	0.75 "
" intestines	-	-	2 1/2 "
" udder	-	-	3 "

9. The purchase price of the animal is paid to the owner if, before the sale, the animal in question dies through no fault of the owner.

10. In the case of animals which when not sold are taken by the owner to other cattle markets to be sold the insurance is annulled, and when they are removed the premium that has been paid after deducting 1 mark is paid back.

The same practice prevails in the case of animals that are bought to be taken to other places for sale, yet the insurance in this case may be allowed to stand if the exporter again pays the premium on the animals that are removed.

11. The insurance is allowed to stand in the case of animals which are sold for immediate slaughter outside.

It may, however, be annulled; in which case on the removal of the animals the premium, less 1 mark, is paid back.

12. If it is desired to retain the insurance in the case of animals which are removed from the market for the purpose of immediate slaughter, the purchase price of the animal in question must be notified to the director. The cattle are then marked in a particular manner.

13. The compensation is paid if the cattle that are removed elsewhere are seized after slaughter by a veterinary surgeon within five days, and in the case of cattle remaining at the slaughter-house if seized within ten days.

In the case of animals which remain unsold in the cattle market of Dresden an extension of 14 days is allowed.

14. The director must be furnished with immediate proofs when insured animals have been removed elsewhere to be slaughtered and are seized by a veterinary surgeon.

Until he receives the decision of the director, the owner of the animal in question must do everything to facilitate the eventual utilisation of the carcass.

In the case of seizures of insured animals exposed for sale the proofs of the extent of the loss must similarly be furnished to the director, and attention must at the same time be paid, without an order from the director, for the utilisation of the condemned portions or whole carcasses as the case may be.

In all seizures a written statement by an official veterinary-surgeon is necessary, and this must contain exact particulars as to the identity of the animal in question.

15. The representative of the insurance office is, in all business matters, the director of the cattle market

and slaughter-house, or his deputy. In all legal disputes, however, the President of the Butchers' Union in Dresden or his deputy represents the office.

16. All the property of the insurance office, reserve fund and capital, is and remains the property of the members.

Should the office for any reason cease to exist, the property, after all liabilities are paid, shall be distributed amongst the members belonging to the office at the time of its ceasing in proportion to the premiums which they have paid in during the last two years.

The closing of the office can only take place by resolution of two-thirds of the members.

17. Any change in the above regulations rests in the hands of the committee of management of the insurance office. The payment of the officials employed, and of the veterinary surgeon attached to the insurance office devolves upon the committee of management.

Dresden, 25th June, 1894.

Terms of the premiums till further notice.

Oxen and steers	-	5 marks each.
Bulls	-	6 "
Cows and heifers	-	8 "

Form to be filled in by member.

I, the undersigned, declare that I am satisfied with the aforesaid regulations affecting the voluntary insurance of the cattle introduced into the cattle market and slaughter-house in Dresden, and pledge myself by my own signature to insure all the cattle I may introduce there in accordance with these regulations, and to pay the premiums fixed immediately to the director on introducing cattle.

Date

Place of abode

Signature

HALLE.

REGULATIONS of the CATTLE INSURANCE ASSOCIATION of the AGRICULTURAL UNION of the DISTRICT of the SAAL, an ASSOCIATION with limited liability, having its headquarters at HALLE.

1.—Membership.

All owners or tenants of a farm can become members on furnishing proof that their residence is in the province of Saxony or neighbouring States, and that they belong to a recognised Agricultural Union. Cattle dealers and butchers in business cannot become members.

To obtain membership application must be made to, and the candidates named voted on by, the Committee.

Those who are not members can insure their cattle by paying a special premium, fixed by the committee of management, with the same conditions of compensation as are imposed on the members, and in accordance with the following regulations:—

2.—Commencement of the Insurance.

The insurance comes into force on duly filling up the insurance form, the passing of the same by the officer of the society, and on payment of the premium.

3.—Premiums.

The height of the premiums to be paid is settled by the committee of management at certain intervals, and is made known by bills.

4.—Payment of the Premiums.

The premiums can be paid at the same time that the insurance form is filled in, or through the post.

Non-members must see, whenever the animal is insured, that the premium paid is correct; if they do not, the insurance loses its value, and they fall under rule 14. Membership may cease—

- (1.) By reason of acts contrary to the interests of the society.
- (2.) By neglecting to carry out statutory obligations.
- (3.) By inability to pay.

6.—Operations of the Society.

If an animal that has been insured is totally condemned, after slaughter, by the Veterinary Surgeon attached to the slaughter-house, the fact must be at once announced to the officer of the Society and the

receipt for the premiums handed over to him for the purpose of regulating the compensation. The skin must not be severed from the neck of the condemned animal until it has been seen by the officer. The carcass then becomes the property of the Society, which on the one hand pays over within three days to the insured party the sum for which the animal has been insured, in addition to the slaughter-house charges; and on the other, seeks to utilise the condemned portions for trade purposes in the interests of the Society. Condemned animals are to be prepared and cut up in the same way as animals of full value; neglect in doing this on the part of the butcher may entail the non-payment of the compensation. If only portions of the animal are seized the company only compensate for the amount seized. For this purpose a written statement is required from the veterinary surgeon, in which the value of the condemned portions must be stated.

7. No compensation is given in the case of external injuries, or such as occur in transport or in the stall, nor for particular portions of the organs with the exception of the liver, unless the whole of the organs are condemned; nor, further, for small portions of flesh, unless they exceed the weight of 10 lbs. in the case of cattle, and 2 lbs. in the case of sheep. Condemned portions of meat and organs must not be destroyed before the written attest of the veterinary surgeon has been produced, and they have been seen by the officer of the Society and had their weight determined by him.

8. Decision as to the Capital necessary for covering Cases of Compensation.

If the charges received for insurance do not cover the amount of the compensation to be paid, the deficit is paid out of the reserve fund; after that, each member may be called on for a sum equal to the amount of his yearly premium; in other cases the regulations laid down in the Statute come into force.

9.—Obligations as to Insurance.

All animals which are healthy and free from epidemic diseases, as determined before slaughter in the municipal slaughter-house by the veterinary surgeon, shall be insured. Nevertheless the officer of the Society has the right to exclude from the insurance animals which are emaciated, or which he may suspect to be affected with disease.

Animals which are only brought to the cattle market for the purposes of being sold and removed outside need not be insured.

10.—Filling up of the Insurance Form.

The law does not allow the insurance to lead to any profit. The party insuring, therefore, must give the live weight and purchase price without adding other expenses, for that alone can be reckoned as the insurance sum. The age, colour, and exact means of recognising the animal must be clearly entered on the report.

11. If the alleged price appears too high, a committee consisting of one member of the Society, the director of the slaughter-house or his deputy, or an expert chosen by them decides on the value of the animal.

12.—Liability.

The liability of the Society to the party insured ends on the 22nd day after the form has been filled in.

13.—Action taken in regard to incorrect Statements.

If it is found in the filling in of the form that incorrect statements have been knowingly made, or that material facts have been intentionally withheld, which would have rendered the animal in question not capable of being insured, the committee of management is empowered to declare the contract as not binding.

The Company hands back the premium paid, and the party insured is not entitled to any compensation; he can, however, appeal to the council of supervision.

14. In accordance with the regulations of paragraphs 14, 3, and 4 of the Statute, it is the duty of every member of the Society and every non-member, to insure his animal or in default to pay a fine of 50 marks for each beast. The height of the fine is determined by the committee of management.

15.—*Non-payment of Compensation.*

Compensation is not paid—

- (1.) In the case of all diseases which fall under the Contagious Diseases of Animals Act (*Seuchengesetz*) for which compensation is given by the communal insurance office.
- (2.) In the case where an animal has been killed and condemned, and no attest as to its origin can be furnished within a week by the party insuring.

16.—*Special Regulations for Non-Members.*

The premiums for non-members are settled by the committee of management, and are made known by bills in the office of the Company. For the rest these regulations affect them in the same way as they do members.

Partial insurance is only allowed for non-members in cases where they can show a reliable insurance form from another cattle insurance society; but the parties insuring are bound to notify, without exception, to the officer before slaughter, all the cattle of the kind in question coming to the slaughter-house, whether they are insured in the Company's office or in any other.

17. In cases of doubt with regard to compensation, each of the parties in question must choose an arbitrator from among the members, who must appoint an expert not belonging to the union. No appeal can be made against his decision.

EXTRACTS FROM THE STATUTE REGULATING THE INSURANCE OF CATTLE INTENDED FOR SLAUGHTER, OF THE AGRICULTURAL UNION FOR THE DISTRICT OF THE SAAL.

Foundation of the Association.

1. The association has been started to advance the trade and interests of the members under the above title.

The object of the Company is to protect the members from the damage which may result to them from the total or partial condemnation of the cattle brought by them for slaughter in the Halle public slaughter-house, or other places where the Society has branches.

15. The composition of the Company consists:—

- (1.) The committee of management.
- (2.) The court of supervision.
- (3.) The general assembly.

The Association is represented by the committee of management in all judicial matters; it consists of the director, three other members, of which one is deputed to act as the director's deputy, and the officer of the Society.

The committee of management is elected by the general assembly for a period of three years. Each year one-half the members of the committee retire and are replaced by others.

The court of supervision is entitled to allow members of the committee of management a certain sum of money in proportion to the amount of time devoted by them to the business of the Association.

The member of the committee of management who takes over the duties of officer and clerk is paid. He takes charge of all the details of the office, receives all money, and makes all payments.

Court of Supervision.

21. This consists of six members chosen by the general assembly for three years, and, as in the case of the committee of management, one-third of the members retire yearly—they receive no pay, the position being an honorary one.

22. Members of the court of supervision cannot at the same time be members of the committee of management, nor, as officials of the Society, conduct its business.

23. Sittings take place at least four times a year.

24. The duties of the court of supervision are to supervise the management of the Association in all its branches. It has the power of examining all books and papers belonging to the Society as well as the condition of the exchequer. It has to audit the accounts and consider the proposals for the distribution of the profits or for covering any loss.

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25. The council of supervision represents the Company in the concluding of contracts with the committee of management, and must take such legal measures against members as the general assembly determines.

28. The height of the premium is determined by the committee of management and the council of supervision together.

General Assembly.

Every member has the right of appearing and voting in the general assembly on questions relating to the conduct of business, and to the distribution of the profit or loss.

30. The general assembly can be summoned on the written demand of 16 members, provided the grounds for such meeting are given.

36. The general questions which the general assembly are called upon to discuss are:—

1. Alteration in, or extension of, the statute.
2. Approval of, or alteration in, the management of the business.
3. Stoppage or liquidation of the association.
4. Acquisition of, increase of, or sale of, property belonging to the society.
5. Confirmation of all contracts which may affect the association.
6. Election and remuneration of the committee of management, council of supervision, and of the lawyer empowered to take legal proceedings.
7. The removal of the members of the committee of management and council of supervision from their offices.
8. The decision on all accusations brought against the committee of management as regards their conduct of the business.
9. Expulsion of members.
10. Approval of the balance sheet, and distribution of the profit or loss.
11. Decision as to what shall be done with any balance.

39. The shares of the Company are valued at 11. Every member who has a farm with 30 cattle can hold one share; if 60 cattle, 2 shares; and over 60, 3—(15 sheep and 5 pigs count as equal to one cow). Three is the largest number of shares which a member can hold.

40. A reserve fund is to be formed for covering any loss that may arise in the yearly accounts from the entrance fees and fines, and from an eighth to a fourth of any balance there may be in hand.

The reserve fund shall be brought to half the amount of the capital represented by the shares—it must not exceed this.

Three-quarters to seven-eighths of the balance in hand at the end of the year is to be used as an additional reserve fund to cover any deficit there may be on the next year, but this must not exceed half the total value of the shares. Any profits arising over and above the reserve fund is distributed in accordance with the resolution of the general assembly.

Par. 47. If there is a deficit it is to be recovered, first, by the portion of the capital that has been set aside for such a contingency; and if this does not suffice, each member may be called on for a sum equal to the yearly premium paid by him.

EXTRACTS FROM THE ANNUAL REPORT FOR 1895 OF THE INSURANCE ASSOCIATION OF THE AGRICULTURAL UNION OF THE DISTRICT OF THE SAAL AT HALLE.

	Number of Animals Slaughtered.	Number Insured.	Per Cent.
Cattle - -	7,302	3,805	52.11
Calves - -	13,635	280	2.05
Swine - -	29,441	8,042	27.32
Sheep - -	14,493	591	4.08
Total - -	64,871	12,718	--

The members numbered 305.

The Association in the first two years of its operations made a profit; but in 1895, the third year, the balance

sheet showed a deficit amounting to 104l. The causes of this deficit are explained:—

- (1.) By the lowering of the premiums on cattle and swine from the beginning of the year 1895 up to October 1st, in consequence of which the receipts were less by 120l. than they were in 1894.
- (2.) Cessation of the compulsory insurance of calves and sheep.
- Both the above measures seemed fully justified from the experience of the previous year.
- (3.) Extraordinary increase in the losses sustained in the cattle insurance departments, especially owing to tuberculosis condemnations.
- (4.) Diminution in the proceeds from the sale of melted fat, &c.
- (5.) Greater expenses in the management.

In order to avoid such a result in the future the committee of management and the council of supervision have raised the cattle premiums for members from 6 to 7 marks, and for non-members from 7 to 8 marks. They considered, further, whether it was not advisable to make those members who, in the last two years, had received more in compensation for tuberculosis seizures than they had paid in premiums, bear themselves one-sixth of the insurance sum lost.

It was felt, however, that this was undesirable, as no one would willingly allow tuberculosis to spread in his herds.

On the part of the Association an appeal was made to the members that they should do all in their power to eradicate the disease from their herds.

It was frequently found that prices higher than the actual sale price were inserted in the forms.

Compensation was paid in the following cases:—

	Total insured.	Totally destroyed.	Relegated to Freibank.	Small portions destroyed
Cattle	3,805	11 146l.	72½ 1,215l.	433l.
Swine	8,042	7 40l.	64 356l.	50l.
Sheep	591	1 1l. 10s.	4 5l.	—
Calves	280	1 1l. 13s.	—	4s. 6d.

Total Compensation paid, 2,198l. 7s. 6d.

INCOME and EXPENDITURE of the CATTLE INSURANCE OFFICE in 1895.

	Receipts.	Expenses.
	£	£
Carried forward from 1894	22	—
Premiums from members	700	—
" " non-members	894	—
Sale on freibank	712	—
Proceeds from skins, fat, &c.	154	—
Reserve fund	28	—
Compensation to members	—	1,140
" " non-members	—	1,111
Cost of management, &c.	—	368
Loss on the year	109	—
	2,619	2,619

APPENDIX N.

RULES and REGULATIONS on MEAT and MILK INSPECTION, with special reference to TUBERCULOSIS in BRITISH COLONIES.

CANADA.

ONTARIO.

Pamphlet No. I., 1896, on Meat and Milk Inspection, containing the Act providing for the Inspection of Meat and Milk Supplies of Cities and Towns; Plans and Estimate of Cost of a Municipal Abattoir, and Regulations of the Provincial Board of Health regarding the same; also Report on Inspection of Meat and Milk, and Regulations relating thereto.

Issued by Provincial Board of Health of Ontario.

"In the Municipal Act of Ontario, provision has existed since Confederation for the passing of bylaws for the inspection of both foods and drinks. The more important of these provisions have been incorporated in the Public Health Act of 1884, and amendments added with regard to the inspection of slaughter-houses, milk and ice supplies, and supplying powers for the seizure of animals infected with any contagious disease named in the Animals Contagious Diseases Act (Dominion Statutes). In connection with the work of inspection of foods, a few towns only in Ontario at present attempt any systematic work, and still fewer, even, attempt to examine either milk for adulteration with water or into the sanitary condition of the cow byres which supply the public with milk. Once, or at most twice, a year several Ontario cities have the milch cows inspected as to their general health, but no town or city yet makes any systematic inspection of animals before slaughter, or of the meat subsequently, at the several slaughter-houses of the town or city; while no properly constructed and managed municipal abattoir exists in Ontario.

"A number of cities have felt strongly the dangers due to the absence of any systematic method for assuring the healthfulness of meat and of milch cows, and have asked advice of the Provincial Board of

Health as to the best method of providing for inspection thereof.

"The great need of inspection of meat is seen in the fact that the packing houses of Canada are refused admission for their dressed hogs to continental countries, because they can show no certificate of systematic inspection by qualified Government officials, though these houses would gladly pay for such inspection.

"The absence of such inspection of cattle for export is causing the scheduling of Canadian cattle in the English market; while, owing to this, a distrust has been created in the London and Liverpool cattle markets against Canadian as compared with United States cattle, as established by abundant available evidence. When it is remembered that the total value of live stock in Ontario in 1893 was \$116,070,902, and that 107,224 cattle were exported in that year from Canada, the economic loss resulting from any distrust as to the health of Ontario cattle abroad, apart from the dangers from second-rate meat at home, is obvious.

"The consensus of opinion of all scientific authorities is that great and positive dangers exist in the use of meat and milk from animals suffering from consumption or tuberculosis; and that the two best methods of limiting these dangers are by the examination of the carcasses of slaughtered animals for tubercle and by the testing of milch cows with tuberculin. In view of the demands of municipal authorities for assistance by legislation, also regarding the views of all scientific experts, and of the numerous Medical Health Officers of Ontario, and further recognizing the practice of all countries most advanced in public health matters, the Provincial Board of Health of Ontario, having instructed its committee to endeavour to obtain legislation, the following Bill has been passed by the Legislature of Ontario, entitled, 'An Act for the Inspection of Meat and Milk Supplies in Cities and Towns,' being chap. 63, 59 Vict., 1896:

Absence of inspection results in England in scheduling imported cattle, with an economic loss.

Consensus of opinion of scientists that danger to health results from tuberculosis of meat and milk.

Provisions for inspection supplied in Public Health Act, 1887.

Existing lack of systematic inspection of meat and milk.

"An Act to Provide for the Inspection of Meat and Milk Supplies of Cities and Towns."

"Power is given to municipal councils to make by-laws for the establishment of public slaughter-houses and cattle-yards, to be constructed and regulated in conformity with rules adopted by the Provincial Board of Health. The slaughter-house is to be under the control of the local board of health, and the cost to be defrayed by the fees charged for slaughter or inspection (Pars. 1 and 2).

"Inspectors approved by the Medical Health Officer may be appointed (3).

"Par. 4 states (1) The local board of health of every city and town may, in addition to periodical examination as to purity of public milk supplies, and as to the sanitary condition of the byres, or places where cows for public milk supplies are kept, inspect every milch cow kept therein, as to its general health. In addition to such general inspection the local board of health may provide for the testing with tuberculin by a registered veterinary surgeon of every cow kept in such byres or places for the diagnosis of tuberculosis.

"(2) Every cow may be tested and thereafter dealt with according to the methods set forth in the regulations adopted by the Provincial Board of Health, and approved of by the Lieutenant-Governor in Council."

The powers conferred by the Public Health Act on local boards of health apply to the present Act as regards supervision and inspection of all kinds of food-stuffs, so as to prevent them when diseased, or unsound, or unwholesome or unfit for food, from being exposed for sale or used for food of man.

The medical health officer, in addition, when he knows, or from information received from a veterinary surgeon or other qualified person he has reason to believe, that any animal, or the meat or milk of any animal is affected with any contagious or infectious disease named in section 2 of the Animal Contagious Diseases Act (which includes tuberculosis), is empowered to prevent its being exposed for sale or used for human food.

And any person, knowing the nature of the disease, offering for sale such diseased meat or milk shall be liable to a fine not exceeding \$50. In connection with any prosecution under this clause the medical health officer can make "at the cost of the municipality, such scientific examination of the animal, meat or milk, suspected of being diseased as may enable the court to determine whether or not such disease exists."

Regulations adopted by the Provincial Board of Health, June 9th, 1896, under Cap. 63, 59 Vict., 1896, to provide for the inspection of meat and milk supplies of cities and towns, and approved of by Order in Council dated December 23rd, 1896.

Regulations for construction and equipment of abattoirs.

"1. Every municipal slaughter-house or abattoir, together with the cattle yards and pens attached thereto, shall be of the character and equipment set forth in Pamphlet No. 1 of 1896, issued by the Provincial Board of Health, or such as shall be approved by the Board and shall have:

- "(a) Yards and pens with shelter for cattle, and appliances and conveniences for feeding and watering the same.
- "(b) Killing floor.
- "(c) Refrigerator or store-room with separate hanging-room and ice chamber.
- "(d) Proper and adequate appliances for killing, cleaning and hanging animals, for heating water, for removal of blood and offal and for receiving the organs and fat.
- "(e) Pure water to be obtained from town or city waterworks, or from tanks attached to a windmill or other mechanical appliance, assuring an adequate supply for flushing and general cleansing purposes.
- "(f) Sufficient and proper appliances for heating and ventilation.
- "(g) Properly constructed and adequate sewerage and means for disposal of sewage.
- "(h) adequate arrangements for disposing of refuse and offal, so as not to create a nuisance.

"2. The special inspection carried on by local boards of health as provided for by section 4, chap. 63, 59 Vict., shall consist of:—

- "(a) A personal inspection by a veterinarian of every milch cow, kept for supplying public milk, for evidence of disease.

Regulation for inspection of cows in public dairies.

"(b) An injection of tuberculin, supplied through the local board of health or medical health officer, and obtained from a source approved of by the Provincial Board of Health, and applied in the following manner: Having had the forenoon and afternoon temperature taken to obtain an idea of the existing condition of the animal, a 10 per cent. solution of normal tuberculin is to be injected to the amount of from one to four cubic centimetres according to age of animal, and this injection should be made in the evening. The temperature must thereafter be taken regularly every three hours for a period of from 12 to 15 hours, and carefully recorded. Any notable rise of temperature after injection indicates the existence of tuberculosis in some one or more organs.

Method of applying the tuberculin test.

"(c) Each animal tested and found healthy shall be described and numbered by the veterinary inspector in a book supplied and prepared by the local board of health, which book shall be its property. A metal tag shall be affixed to the ear of the cow, with a number corresponding to that entered in the book describing said cow.

Method of registering inspected cows.

"(d) Any animal in any dairy herd found to give the tuberculin reaction or found otherwise seriously diseased, shall at once be removed from the herd, and shall be dealt with by the veterinarian of the local board after the methods hereinafter set forth.

"3. The cows found tuberculinized or to re-act with tuberculin are to be dealt with in some one or more of the following ways:—

"(a) If wasting, and the clinical symptoms of lung disease are present, the cow shall be destroyed and the carcass so disposed of as to prevent it from being exposed for sale or used for food for man.

Methods of dealing with cows reacting under the tuberculin test.

"(b) If showing the re-action of tuberculin, while in fair condition, such cows shall be placed in stables or pens separated by an open-air space from the healthy herd; and must not have access to the same yard, or the same food or water as the healthy animals. Thereafter the milk of such cows may be allowed to stop or dry up, and the animals fattened as speedily as possible for slaughter; or the cows may be milked and the milk thereafter boiled for half an hour, and then fed to pigs or calves.

"(c) A cow in calf may be kept, but the calf at birth must be at once removed from the cow, and if fed with milk from a tuberculinized cow such milk must be sterilized. Such cow should, however, be fattened and killed while the disease is still slight and localized.

"Note.—Re inspection under the powers given health officers under Section 99 of the Public Health Act:

"(a) An inspection prior to slaughter, of all animals intended for human food should be made by a veterinary surgeon or other competent person approved of by the Medical Health Officer, and the facts of such examination and notes of any deviations from health entered by him in a book to be supplied by and to be the property of the Local Board of Health.

Rules for guidance of health officers in inspecting animals and disposal of diseased meat.

"(b) An inspection at the time of slaughter, when the lungs, bronchial glands, liver, intestines and other tissues should be carefully examined by the inspector for evidence of disease.

"(c) All knives or other cutting appliances which may have touched any diseased tissues should be at once boiled in water or placed in a steam sterilizer for at least ten minutes and properly disinfected before being again used.

"(d) The meat of emaciated or wasted animals, or meat otherwise described as diseased or unwholesome, as provided under section 99; chap. 205 R.S.O., 1887, and amendments thereto, must not be used for human food, but must be destroyed, or so disposed of as to prevent it from being exposed for sale or used for food for man.

"(e) The flesh of tuberculinized animals is to be declared diseased and unwholesome; (1) If there exist tubercular nodules in the muscles; (2) If the tubercular disease be generalized, that is, if tubercular nodules or abscesses have invaded the greater part of a viscous organ, or are present in several organs; (3) Or show themselves on the walls of the chest or of the abdominal cavity.

"The Act of 1896, while making it optional for cities and towns to construct municipal abattoirs requires that any city or town establishing an abattoir shall construct and equip it according to the regulations adopted by the Provincial Board of Health and sanctioned by the Lieutenant Governor in Council, and have the inspection of animals and meat carried out as

provided in section 99 of the Public Health Act already quoted. With a view to advancing this most desirable work of controlling the inspection of meat and milk, it has been thought proper to not only publish the regulations adopted by the Board, but also to add thereto directions which it is hoped will prove of use to those municipalities which hitherto have had little or no experience in this work."

[Then follow the regulations and directions, together with a plan for the construction of an abattoir for a town of 5,000 population.]

The following additional extracts from the annual report of the Provincial Board of Health for 1895 reproduced in the pamphlet are appended.

"Owing to the relatively higher status of Canadian stock through the importation of thoroughbred animals for breeding purposes, to their inspection on entry, and to the cattle being better cared for, together with a healthier climate, we see that Canadian stock, isolated on small farms, and not running free in large herds as on the western plains, have hitherto enjoyed a reputation for healthiness which has allowed the expansion of our cattle trade to go on, unimpeded by vexatious restrictions at the ports of those countries receiving most largely of our exports. In the report of 1883, the absolute immunity from disease of Canadian cattle is remarked upon as one of the main factors in the prosperity of the trade.

"The Animals' Contagious Disease Act of Canada, passed in 1885, named the following diseases as being contagious or infectious, and being those for which compensation was to be given: while actinomycosis has been added to the list during the session of 1896. The expression 'infectious or contagious diseases' includes, in addition to other diseases generally so distinguished, *glanders, farcy, mange, pleuro-pneumonia, foot and mouth disease, anthrax, rinderpest, tuberculosis, splenic fever, scab, hog cholera, hydrophobia, variola ovina, and actinomycosis.*

"The chief veterinary inspector, in his last report, states that out of a total of 99,606 cattle landed from Canada at British ports in the year ending November 1st 1895, not a single case of pleuro-pneumonia could be discovered.

"Not only is this the case, but your inspectors have been very seldom called upon to investigate any diseases in the country, that, in fact, with the exception of tuberculosis and actinomycosis, and a few cases of scab in sheep, no diseases of a contagious nature exist in the herds or flocks of Canada. The healthiness of the stock generally in this country is 'almost phenomenal.' Again:—The number of herds infected by this disease (tuberculosis) during the past year has greatly decreased in Quebec and the Maritime Provinces, due, no doubt, to the owners of cattle being now generally well informed of the incurable and dangerous nature of the disease, and the ways in which the infection is spread, more care in adopting preventive measures being exercised by them."

"The percentages of tuberculosis in lungs examined at Quebec, Halifax, and St. John, were respectively, 2.1, and 2 per cent. Dr. A. Smith, of Toronto, chief inspector for Ontario, in speaking of the 927 pairs of lungs examined at Toronto, Hamilton, London, and Galt, makes no mention of tuberculosis.

"It must be presumed that the chief inspectors at the port of embarkation have carefully examined all animals exported. Of the 99,606 cattle shipped, 57 lame, 15 old and poor, 1 with mange, and 67 with lump-jaw, are stated to have been detained, and not one was found to be tuberculous. There would seem to be included in the staff for the whole Dominion 15 veterinary inspectors and 7 who report as customs officers at small ports of entry. These would not appear, from the few cattle reported, to be continually engaged in inspecting cattle at ports of entry, and several of the number are guardians of cattle yards principally where American cattle pass through the Lake Erie peninsula in transit. From this staff performing such work as comes to hand, we have to look to obtain the exact information which goes into the annual reports. In direct contradistinction to this, it is learned that the staff of the chief inspector at Buffalo for carrying out the regular work of daily inspection of the Bureau of Animal Industries is 23, including veterinarians and others. With an animal population of over 5,000,000 cattle, over 3,000,000 sheep, and over 1,000,000 hogs in the Dominion, it is apparent that broad statements made on the strength of what such a staff of observers only occasionally and incidentally, not

entirely, engaged may discover of tuberculosis for instance must, if published, only serve to cast doubt upon the accuracy of other statements with regard to pleuro-pneumonia or any other suspected disease.

"The work done by municipal authorities in Ontario, supported by ample legislative enactments, is certainly most limited and unsatisfactory in the work of protecting against such diseases, and, as has been shown in the United States, no state legislative action has been effective in dealing with the inspection of cattle. Encouraged, however, by the comprehensive, systematic, and scientific work of the Federal Bureau of Animal Industries, the State legislatures have within the past three years supplemented very largely Federal action. As in a peculiar sense the movement of cattle becomes interstate and interprovincial for purposes of commerce, it is quite apparent that nothing can be effective in Canada unless begun from this standpoint by the Federal authorities. When it is remembered that from 1889 to 1894 the increase of the export cattle-trade of fat cattle, of the United States, even with the embargo of the English schedule on all stockers, was 22.5 per cent., while in Canada, without any embargo, and with the freedom to enter stockers, the increase of our export cattle trade was notably less, it is quite apparent that those interested in this important part of our national prosperity will do well to be guided by facts and not by self-complacency."

QUEBEC.

BYELAWS AND REGULATIONS of the BOARD of HEALTH of the PROVINCE of QUEBEC, 1891.

The regulations apply to each municipality of the Province of Quebec, and the Board of Health of the Province has alone the right and power to exempt from all or part of them such municipalities as shall establish, to the satisfaction of the board, that they have regulations at least equivalent, for their guidance in sanitary matters, to the present regulations.

Para. 39 states:—"It is forbidden to sell or offer for sale food or drink which is injured, tainted, or spoiled, the flesh of animals which have died of sickness, or have been killed while in ill-health, of calves, swine, and lambs killed before they are at least three weeks old, adulterated milk, or milk from cows affected with tuberculosis or any other disease."

A footnote is added that, in doubtful cases, it is always safer to boil milk before using it.

Para. 47:—"The dairy in which milk intended for sale is placed and kept shall be in a separate and special apartment, which shall be used only for dairy purposes. Such dairy shall be situated at a distance of at least 20 feet from any stable or pigsty, and from any heap of manure or refuse."

Para. 49:—"When a cow-shed or dairy is not kept in accordance with the rules contained in paras. 44, 45, 46 (relating to cleanliness and purity of water-supply in cow-sheds, stables, &c.), and 47, the Municipal Council, or the Board of Health of any municipality where the milk from such dairy is sold shall forbid the sale or distribution thereof as long as such cow-shed or dairy shall not have been placed in the conditions required by the said regulations."

In virtue of the powers conferred upon it by the Public Health Act, 1890, the Board of Health of the Province of Quebec includes, amongst other insanitary conditions or nuisances, "any dairy or cow-shed, stable, pig-sty, poultry yard, in an uncleanly state, and any animal kept in an improper place or left in an uncleanly state."

MANITOBA.

BYELAW, No. 1176, passed by the Council of the City of Winnipeg for the Licensing, Inspection, and Regulation of Dairies and Vendors of Milk, in July, 1896.

In forwarding the byelaw to the Commissioners, Mr. Wood, Secretary of the Provincial Board of Health, says:—

"The matter was dealt with by the Board in its annual report two years ago, when it was strongly recommended that the subject should receive the earnest consideration and attention of the various municipalities throughout the Province. As a result,

Municipal cattle inspection in Canada limited, owing to no provision for compensation.

Canada Animals' Contagious Diseases Act passed in 1885 included many diseases.

Statements in annual report of Canada Department of Agriculture in 1895.

Effects of statements based upon imperfect inspection.

the city of Winnipeg, the chief and only city in Manitoba of any size and population, containing approximately 40,000 souls, passed a very stringent byelaw dealing with dairies and milk vendors. This byelaw was improved upon from time to time, and I send a copy of the one now in force and operation, and which has been productive of much good."

"1. The health officer of the city of Winnipeg shall keep the register of all persons licensed from time to time for carrying on the trade or business of vendor of milk in the city of Winnipeg.

"2. There shall be an officer known as veterinary inspector who shall act under the direction of the health officer. The veterinary inspector shall hold office during the pleasure of the council, and his services may be terminated at any time without notice or payment beyond the time of actual service.

"3. Every vendor of milk in the city shall first obtain a license therefor in accordance with this byelaw, and without such license no person shall sell or deliver any milk in the city.

"5. Every person desiring a license as a vendor of milk shall make application therefor in writing, delivered to the health officer or at his office, which application shall state: (a) The applicant's full name and place of residence. (b) The number of cows the milk of which he intends to sell. (c) The number of cows or other animals kept by himself or the person or persons the milk of which cows he intends to sell. (d) The place where said cows are kept. Such application shall be accompanied by the payment to the city treasurer of a sum of money equal to one dollar (\$1.00) for the license and the sum of fifty cents (50c) for each cow whose milk he intends to sell, wholly or partly, in respect of which he desires such license. Such money shall be paid to the city treasurer, who shall at once notify the health officer of such payment.

"6. It shall be lawful for such veterinary inspector to enter in and upon all such cow-sheds, dairies, and other buildings, farm or dairy yards or other places used by such vendor of milk, or from which he obtains or intends to obtain same, and examine and inspect the said premises, the cattle therein or thereon, and he shall inspect the cows belonging to such vendor or intending vendor of milk, using for such inspection the tuberculin test or such other test as may be deemed necessary or expedient by the health officer, and he shall also inspect the stables and premises and all appliances and milk vessels used therein for containing milk.

"7. The tuberculin test may be employed in all cases, not only with cows giving or intended to give milk for sale as aforesaid, but also with any cattle which are kept within close communication with such cows or any of them.

"8. No person shall obtain a license as vendor for the sale of milk from any cow or cows, or once having a license shall sell or continue to sell or deliver any milk from any cow or cows, kept by any person, whether the licensee himself or not, either in or outside of the city of Winnipeg, whose cow or cows, the stable, milk house, premises, and utensils do not comply with the following conditions:—

"(a.) As to disease. If, in the case of any cow or cows or other cattle, whether that or those giving the milk being sold or intended to be sold under the license issued or to be issued, or any cow or cattle with which such cow or cows is or are kept in close communication, on the tuberculin test being employed the reaction in point of increase of temperature equals two degrees Fahrenheit, the cow or other animal so tested and so reacting shall be deemed to be suffering from tuberculosis unless there are other circumstances not inconsistent with the good health of such animal which in the opinion of the veterinary inspector fully explains such increase of temperature. If disease is present the following prohibition as to license or sale of milk shall apply: If any cow or cows in respect of the sale of whose milk a license is applied for be diseased or any other cattle stabled or kept in close communication with it or them be found diseased with tuberculosis or any other contagious disease or diseases, then such diseased animal or animals shall be immediately separated and kept apart from the others until it is found upon inspection that such animal or animals has or have recovered. And in such case the veterinary inspector shall make a further inspection of the animals at first appearing well to find if they or any of them have

developed such disease. Such further inspection shall be made not less than two weeks nor more than eight weeks after the first."

(Then follow provisions for the cleanliness of animals, for the ventilation of cowsheds, cubic space for each cow, the limewashing of walls every six months, drainage, water supply, care of utensils, removal of milk from the cowsheds immediately after milking, &c.)

"9. As soon as possible after any application for such license has been made as aforesaid an inspection shall be made by the veterinary inspector. The health officer shall have the right to make an inspection in any case. The veterinary inspector shall make a report of his inspection to the Market, License, and Health Committee of the City Council, and shall file a copy or duplicate of such report in the office of the health officer. If the latter has made the inspection he shall report it to the said committee. Such report or reports shall state whether the prescribed regulations have been complied with, and also whether the cows, dairies, stables and utensils from which the milk is supplied or intended to be supplied have been found in a satisfactory condition.

"10. Such reports may also contain any remarks or statements as to particulars of compliance with the regulations which the officer so reporting may deem proper, and the report may generally be in the following or like form:—

"(1.) Name of applicant. (2.) Residence. (3.) Number of cows in respect of which license applied for. (4.) Locality of stable. (5.) Name of owner of cows. (6.) Number free from disease : Number diseased : Remarks as to separation of diseased animals. (7.) Light in stable: Ventilation; Air space; Height of ceiling; Drainage; Water supply; Position and condition of milk house; Care of utensils; Care of animals; Remarks.

"11. The health officer shall if no contrary order be received from the Market, License and Health Committee at its first meeting after such report has been made, issue a license to the applicant, naming the number of cows in respect of whose milk it issues, and stating the proper particulars so as to identify therein the stable or premises where the same are kept.

"11A. In case a licensee adds any cow or cattle to his dairy or stable he shall at once notify the health officer of the same, shall pay at same time a fee of 50 cents per head, and shall at a time appointed bring such animals to the veterinary inspector's stable to be inspected and tested. The procedure in respect of same shall be as herein-before provided.

"14. Every vendor of milk or intending vendor who applies for a license in respect of milk from cows kept outside the city shall secure to the health officer or veterinary inspector, or both, full opportunity of inspection as aforesaid, including the use of the tuberculin test, and if such opportunity be refused to such officers, or either of them, such applicant shall be refused a license.

"15. Every such licensee shall hold his license upon the condition that the cows from which his milk is obtained, the stables in which they are housed, and the milk houses, dairies, and all utensils used about the same shall be subject to inspection at any time. Every such licensee shall at any and at all times when asked by the health officer or veterinary inspector state fully from whence he obtains or has obtained the milk he sells or has been selling.

"16. In no case in respect of which the said regulations have not been complied with, or upon the said inspection the cows, dairies, stables, or utensils from which any milk is supplied or intended to be supplied have not been found in a satisfactory condition, shall the health officer issue a license as aforesaid.

"17. Provided, however, that in case of special circumstances the Council may direct a license to issue."

Par. 18 has reference to infectious disease amongst the owners of or attendants in the dairy or cowshed; prohibiting them, while so suffering, from assisting in any way in the production, distribution, or storage of the milk.

Par. 19 prohibits the milk store or milk shop being used as a sleeping apartment.

"21. If at any time disease exists among the cattle in a dairy or cowshed, or other building or place,

notice shall at once be given to the health officer, and the milk of a diseased cow therein shall not be mixed with other milk, and shall not, under any circumstances, be used or sold for human food, and shall also not be sold as food for swine or other animals, unless and until it has been boiled for at least 30 minutes."

Pars. 22-24 refer to the taking of samples.

"25. The health officer or veterinary inspector may, at any time, inspect any cows or cattle in the city of Winnipeg, whether the owner or person in charge of same is or is not selling or intending to sell meat, milk, or other food products of said cows or cattle. Such inspection may be made by the use of the tuberculin test or such other test as the health officer may deem necessary or expedient. Such inspection shall be made of all milk cows and of any cattle kept with the same in the city of Winnipeg, for which a fee of 50 cents per head shall be collected; and if any such cow or cattle upon such inspection be found to be suffering from tuberculosis or any other contagious disease, the owner or person having the care of such cow or other cattle shall isolate the same in the manner and for the time as provided in section 8 (a) hereof, and it shall be unlawful for the owner or person having the care of any cow found to be so diseased to permit the milk thereof to be used for food.

"26. No person shall sell milk, meat, or other food products, which are diseased or infected, or any milk which is the product of diseased animals, or which have been exposed to infection from any of the conditions in regard to dairies, stables, or cows hereinbefore prohibited.

"27. Each and every licensee or person obtaining a license as a vendor of milk shall be furnished with a tag or some suitable shield on which shall be printed or raised a number corresponding to the number of such person's license, and this shield shall be affixed conspicuously to some part of the harness of the animal drawing the milk waggon or upon some conspicuous part of the waggon, or in case the milk or vessel containing the same is carried by hand or in a vehicle pushed or drawn by hand, then such shield or tag shall be worn conspicuously upon the sleeve of the person carrying the milk in such a way that the inspector may readily observe it."

Par. 28 states that any person infringing any of the provisions of the bylaw shall pay a penalty not exceeding 50 dollars for each offence.

BRITISH COLUMBIA.

SANITARY REGULATIONS of the PROVINCIAL BOARD of HEALTH, approved 30th June 1896.

The regulations contain the usual provisions for the inspection of food stuffs by the medical health officer or sanitary inspector, and the seizure thereof if unfit for food.

Para. 16 states: "All milk cows and all cow byres, and all dairies or other places in which milk is sold or kept for general use, and all cheese factories and creameries shall be subject to regular inspection under the direction of the local board, and the proprietors shall be required to obtain permission in writing of the board to keep such dairy or other place where milk is sold or kept as aforesaid, and the same shall not be kept by anyone without such permission, which shall be granted after approval of such premises upon inspection, and upon it being found that such places are constructed, managed, and kept in accordance with any regulations of the Board of Health, and it further being found that the milk is not likely to contain any matter or thing liable to produce disease, either by reason of adulteration, contamination with sewage, absorption of disease germs, infection of cows, or any other generally recognised cause; and upon such conditions being broken, the said permission may be revoked by the board."

An Act to Prevent the Spread of Contagious Diseases among Horses and other Domestic Animals. 20th April 1891.

In the Act "diseases" includes tuberculosis, with cattle plague, pleuro-pneumonia, anthrax, &c.

Notification of disease to the inspector having jurisdiction in the locality is enjoined, who must require a veterinarian, or, where there is no such person in the district, then three or more persons of skill and experience with animals, to inspect the animals in question.

The owner, on receipt of the notice that the animal is diseased, must not let it leave his premises until it has been determined in a court of summary jurisdiction that the animal is free from disease.

If the court determines that it is diseased, they can give an order to the inspector for the immediate isolation or slaughter of the animal.

The Contagious Diseases (Animals) Amendment Act, 1895, however, expressly exempts "bulls, bullocks, cows, heifers, steers, or calves infected with pleuro-pneumonia or tuberculosis" from the provisions (excepting as regards notification) of the above Act, and substitutes for them the following:—

"The inspector shall regularly inspect all dairies and dairy premises maintained for the supply of milk to the public, and all cows from which such milk is taken, and shall on each inspection give a certificate thereof showing the date of the inspection and the condition of the cattle and premises inspected, which certificate, or a summary thereof, shall be published in the 'British Columbia Gazette.' Further, on notification by the inspector that certain animals are affected with either of these diseases, the owner must, at his own expense, keep them apart from the other animals or destroy them, and must not sell the milk taken from them."

Byelaws almost identical in nature are enforced in the cities of Victoria and Vancouver, requiring the licensing of all dairymen and milk vendors. The application for the license shall contain the following information:—

"The name and address of the applicant, the source or sources from which he obtains his supply of milk, and a written agreement, signed by the farmer, dairyman, farmers or dairymen, from whom he obtains his supply of milk, stating that he is or they are willing that his or their farm or farms, cows, food, and water supply shall be inspected from time to time by the medical health officer and the sanitary inspector of the city, or by either of them."

The byelaws include paragraph 16 of the Sanitary Regulations of the Provincial Board of Health relative to the inspection of all milk cows and all cow byres.

In the Vancouver City bylaw there is a clause requiring all farmers and owners of cows who supply milk to the city, on the demand of the medical health officer or health inspector, to furnish a certificate under the hand of the Provincial Government Veterinary Inspector, certifying to the state of the health of the cows.

No laws or regulations on meat and milk inspection, with special reference to tuberculosis, appear to have been passed in the provinces of Nova Scotia and Prince Edward Island, nor in the North-West Territories.

VICTORIA.

Public Health Department

Offices of the Board,

Melbourne, 2nd November, 1896.

SIR,

I HAVE the honour to inform you that the Honourable the Minister of Health desires that the accompanying copy of the Health Act and of the Stock Diseases Act be forwarded to the Secretary of State, and that it be mentioned that the Colony is sanitariously administered centrally by the Department and the Board of Public Health, and locally by the Municipal Councils; that general inspection of stock is constantly maintained by the Stock Branch of the Agricultural Department administering the Stock Diseases Act, the inspection of dairy cattle and of animals slaughtered for human consumption being undertaken by the Board of Public Health in conjunction with Municipal Councils by aid of officers of health, veterinary surgeons, and general inspectors; and that the condemnation of meat and of milk from tuberculous cows is provided for by the Health Act, there being no byelaws or regulations under that Act for the purpose.

I have, &c.

(Signed) D. A. GRESSWELL,

The Honourable the Premier.

Chairman.

NOTE appended by Mr. G. PENTLAND, Chief Inspector of Stock, to Mr. MARTIN, Secretary for Agriculture.

I respectfully beg to report that there is but a very slight percentage of tuberculosis in our dairy stock, and that it is steadily decreasing through the constant supervision of the inspectorial staff of this department; and, besides, stockowners themselves are deeply interested in keeping their herds free from disease, as they invariably destroy animals showing early signs of it, so that they may be protected against infection. Our cattle live in the open pastures, and are exceedingly healthy, and therefore they are less liable to contract disease; and the percentage of tuberculosis is lower in this Colony than in any other country. So far back as 1883 this Government appointed a Board of Experts to advise generally on this matter, and it was upon their recommendation that this disease was placed on the schedule of contagious diseases, and power given to have all affected animals destroyed. The effect of this action has been to minimise tuberculosis, and to educate stockholders generally as to the great necessity of having it exterminated. I may further add that the stock generally of this Colony is in a satisfactory state. Enclosed are copies of the Board's Report, the Stock Diseases Act, and Regulations thereunder.

10/11/96.

(Signed) G. PENTLAND.

REPORT ON TUBERCULOSIS to the MINISTER OF AGRICULTURE.

A Board was appointed in 1883 "to inquire into the existence and extent in the Colony of the disease in cattle known as tuberculosis, whether its existence is likely to be detrimental to the public health, and what preventive measures should be adopted?" The Board presented an exhaustive report in October 1885 on the disease as far as the knowledge then obtainable with regard to it permitted.

The recommendations of the Board, in order to limit the spread of tuberculosis among cattle, and to prevent its transmission from cattle to human beings, were:—

1. That "Tuberculosis in Cattle" be declared by the Governor in Council to be a contagious or infectious disease for the purposes of The Diseases in Stock Act, 1872; and that "Tuberculosis in Cattle" be accordingly placed in the Second Schedule of the Regulations under the said Act.

2. That a circular letter be addressed to owners of stock, requesting their active co-operation with the Government so as to limit the prevalence of tuberculosis, and indicating the measures most effective to this end.

3. Concerning tuberculosis in reference to meat supply, the Board has the honour to make the following recommendations:—

(a.) In all large centres of population, the slaughtering of animals for food should be concentrated entirely in public abattoirs; and the system of inspection of slaughter-houses should be made more thorough.

As far as possible, every carcass should be inspected by a proper officer. Apart from such inspection, there is no security for the public; and no system of inspection can be thorough when private abattoirs are allowed to exist in all directions. At present, 20 private abattoirs exist in Melbourne and its suburbs alone; and though some of these may be, and doubtless are, well conducted, the whole system is evil in principle, and full of mischief. The evidence given before the Board shows that the whole metropolitan district could be supplied from the city abattoirs, without in any way embarrassing the market; and, therefore, no difficulty should be experienced in smaller centres of population in carrying out the same principle.

The fact of concentration would limit the number of inspectors required; and the inclusion of tuberculosis in the Second Schedule under the Stock Act would reduce the number of tuberculous animals sent to any abattoirs, inasmuch as the inspectors of stock would have power to cause the slaughter of all tuberculous cattle presenting themselves at the overland border or found travelling, or on stations, farms, or dairies, or in the cattle yards.

(b.) Rules to the following effect should be prescribed by the Central Board of Health for the guidance of inspectors in dealing with the carcasses of tuberculous cattle:—

I. Condemn all wasted animals in which even a moderate amount of tubercle is found.

II. Condemn all animals, no matter what their condition, (a) when tubercles are found in several organs, whether softened or unsoftened, especially if both the chest and the abdomen are affected; (b) when large masses of tubercle in an advanced state of softening are found even in one organ.

III. Do not condemn well-nourished animals on account of the presence of tubercles on the serous membranes only, or even if, in addition, the lungs be affected; provided that the nodules in the lungs are not very extensive, and not in an advanced stage of softening; provided, also, that all traces of the disease can be readily and completely removed.

IV. Condemned carcasses should be sprinkled freely with petroleum.

4. Concerning the eradication of tuberculosis from dairies, the Board has the honour to report as follows:

That special inspectors should be appointed by the Governor in Council to examine all dairies and dairy cattle, and should hold office under the Central Board of Health and the Chief Inspector of Stock; that such inspectors should by preference be veterinary surgeons, if possible, with experience in inspectorial duties. That there be one inspector for the metropolitan dairies, and two for the extra-metropolitan dairies, their precise districts and duties to be fixed by the President of the Central Board of Health and the Chief Inspector of Stock.

The recommendations of the Board of Inquiry have been to a large extent carried out, as will be seen from the extracts from the subjoined Acts:—

An Act to consolidate the Laws relating to Diseases in Stock, 10th July 1890 (extracts).

Tuberculosis in cattle is included in the list of infectious or contagious diseases of which the Act takes cognizance.

PART I.—DISEASES IN STOCK GENERALLY.

4. The Governor in Council may from time to time make such regulations under this Part of this Act as may be deemed expedient for all or any of the following purposes, and may rescind the same:—

For extending all or any of the sections of this Part of this Act to any particular stock or kind of stock:

For prohibiting the introduction into Victoria either by sea or land of any stock found to be diseased:

For regulating and fixing the conditions upon which certain kind of stock may be introduced into Victoria:

For the inspection of newly introduced stock:

For taking such steps as may be deemed expedient to prevent the spread of any disease which may have obtained a footing in Victoria and to eradicate it:

For placing any stock in quarantine for such periods at such places or buildings and within such limits as may be deemed expedient, and for declaring any such place or building a quarantine district:

For the purpose of subjecting any stock to such restrictions or remedial measures as may be deemed necessary to prevent the introduction and spread of disease:

For the seizure and destruction of any diseased stock:

For the purpose of proclaiming any portion of Victoria a quarantine or a clean district:

For prohibiting or regulating the introduction into Victoria of any fodder or fittings and for the seizure, sale, or destruction of any such fodder or fittings landed without the written authority of an inspector of stock.

Governor in Council may make regulations, "The Diseases in Stock Act, 1872."

Governor in Council to appoint inspectors and other persons.

5. The Governor in Council may, subject to the provisions of the *Public Service Act, 1890*, from time to time appoint and remove a chief inspector of stock, inspectors of stock, and such other officers as may be necessary to carry out the provisions of this Part of this Act.

Powers of inspector and penalty for hindering and obstructing him.

6. Inspectors of stock shall have power to enter at any time into any ship or any land or into any building not being a dwelling-house for the purpose of inspecting any stock or enforcing the provisions of this Part of this Act or the regulations made in pursuance hereof. Any person who shall obstruct or hinder any inspector in the performance of his duty shall on conviction before two justices of the peace forfeit and pay a penalty not exceeding fifty pounds for every such offence.

Inspection of newly introduced stock.

7. Stock newly introduced either by sea or land shall not travel until it has been inspected by an inspector appointed for that purpose.

10. Whenever the Governor in Council shall be satisfied, upon the report of an inspector of stock and otherwise, that any stock is diseased, he may order the destruction of the same, and the owner thereof shall have no claim for compensation for their destruction.

Expenses connected with diseased stock to be borne by the owner.

11. Whenever the Governor in Council shall have ordered that any stock shall be placed in quarantine or under restrictions for the purposes of this Part of this Act, or that remedial measures shall be taken to prevent the introduction or spread of disease, the cost and expense thereby incurred shall in every case be borne by the owner of the stock dealt with, if it shall be proved to the satisfaction of the Governor in Council that such stock are or have been diseased; and such cost and expense may be recovered in a summary manner before any two justices of the peace on complaint by an inspector of stock.

An Act to consolidate the Law relating to Public Health (extracts), 10th July 1890.

Board to make regulations as to dairies, &c. "The Public Health Act, 1890," s. 22.

29. The Board may from time to time make, alter, and revoke regulations—

- For the inspection of all dairy farms and milk stores.
- For the inspection of the grazing ground of dairy cattle, and for prohibiting the use of the same if likely to be prejudicial to health by affecting the milk or otherwise.
- For the inspection of cattle in dairies, and for prescribing and regulating the lighting, ventilation, cleansing, drainage, and water supply of houses, dairies, and cow-sheds in the occupation of persons following the trade of cowkeepers or dairymen.
- For prescribing the precautions to be taken for protecting milk against infection or contamination.
- For cleansing or disinfecting dairies, milk stores, milk shops, or milk yards, and for destroying or removing from any dairy, milk store, milk shop, or milk yard any diseased cows or other animals, or for removing any sick persons from the premises of any such dairy, milk store, milk shop, or milk yard.

The Council may make byelaws (among other things for):—

The registration annually with the council of all persons carrying on the trade of cowkeepers, dairymen or purveyors of milk, and the payment by each such person to the council of a reasonable fee not exceeding one pound for each such registration;

The inspection of the grazing ground of dairy cattle, and if found to be likely to be prejudicial to health by affecting the milk or otherwise, to prohibit the use of the same, and for the inspection of cattle in dairies and the prescribing and regulating of the lighting, ventilation, cleansing, drainage, and water supply of houses, dairies, and cowsheds in the occupation of persons following the trade of cowkeepers or dairymen:

The securing of the cleanliness of milk stores, milk shops, and of milk vessels used for containing milk for sale by such persons;

The prescribing of precautions to be taken for protecting milk against infection or contamination;

The prevention of the keeping of animals of any kind so as to be a nuisance or injurious to health;

The supply of a sufficient quantity of water to abattoirs or slaughter-houses.

ADULTERATION OF FOOD, AND UNWHOLESOME FOOD.

50. No person shall sell, offer, keep, or deliver for sale, whether wholesale, or retail, or exchange, or authorise, direct, or allow the sale of any milk from cows to his knowledge suffering from anthrax, tuberculosis, or pleuro-pneumonia, or suffering from any disease from time to time declared by the Governor in Council, by notice in the *Government Gazette* to come within the meaning of this section.

The court before whom any person is charged with an offence against this section shall dismiss the charge, if it appears to the court that the defendant took all reasonable and practicable means to inquire and ascertain whether or not the milk so sold by him or so allowed to be sold came from cows suffering as aforesaid.

In any prosecution with respect to the sale or delivery of milk, it shall be no defence that the defendant is only the servant or agent of the owner of such milk, or is only entrusted for the time being with such milk by such owner, but such servant, or agent, and such owner shall both be liable.

If such defendant, being a servant or agent, proved that he delivered such milk in the same state in which he received it from his master or employer, and without knowledge that the nature, substance, or quality of such milk was injuriously affected, he may, notwithstanding that such master or employer has himself been convicted and fined, recover in any court of competent jurisdiction, from such master or employer, the amount of any penalty in which he may have been convicted in respect of such prosecution, together with the cost paid, or to be paid by him upon such conviction, and those incurred by him in and about his defence thereto.

Where a servant or agent is so convicted, the court may, if it think fit, suspend the operation of such conviction for any period not exceeding three months, as it shall consider long enough to enable him to recover the amount thereof from his master or employer. For the purposes of this section "cream" shall be deemed to be "milk."

52. Any officer of the Board, or of any council, or any member of the police force may, at all reasonable times in the day-time, and with respect to those shops, places, or premises, where articles of food or drugs are usually manufactured, prepared, or sold during the night, at any hour of the day or night, enter into and inspect any abattoir or slaughter-house, or any butcher's, poulterer's or fishmonger's shop, or any shop, store, bakery, dairies, warehouse, bonded or free store, auction room, custom house, shed, or any place or premises, or any part thereof, which he may have reasonable ground for believing is kept or used for the slaughter, or for the sale, or storage, or preparation for sale of any animals, or carcasses of animals, or any meat, poultry, game, flesh, fish, fruit, vegetables, corn, bread, flour, tea, sugar, or milk, or any articles used, or which he may have reasonable ground for believing are intended to be used as food, or drugs for human consumption, and may inspect any such animals, carcasses, or articles, and may inspect any articles of food or drugs which are being conveyed through the public streets or roads by any butcher, baker, milkman, grocer, dealer, hawker, or other person, and may examine and cut open any articles, or packets, or cases of articles contained therein, or conveyed thereby, and may remove portions of such articles for examination or analysis, and may seize any of such animals, carcasses, or articles, which are, or appear to him to be diseased, or deleterious to health, or unwholesome, or any meat which has been blown, spouted, greased, stuffed, or pricked, and may destroy such articles, or portions thereof, as are, or as before they are claimed, become decayed or putrefied: and any person claiming any animals, carcasses, or articles

Prohibition of sale of milk of diseased cows. "The Public Health Act, 1890," s. 15.

Liability of servant.

Master's liability to servant.

Diseased animals or unwholesome food may be seized. "The Public Health Amendment, Stat., 1892," s. 28. 38 & 39 Vict. c. 55, ss. 116 and 117.

so seized, may, within forty-eight hours after such seizure, complain thereof to any justice, and such complaint may be heard and determined before any two justices, who may either confirm or disallow such seizure wholly or in part, and may order the animals, carcasses, or articles so seized, or some, or portion of them to be restored; and in the event of no such complaint being made within forty-eight hours after such seizure or of such seizure being confirmed, the animals, carcasses, or articles as to the seizure of which no complaint has been made, or the seizure of which has been confirmed, shall thereupon become the property of the council, or, in case such seizure is made by an officer of the Board, of the Crown and shall be destroyed or otherwise disposed of so as to prevent their being used for human consumption.

The Public Health Act, 1883, s. 2.

ality on session (whole- or food diseased mails. *The Public Health Act, 1883, s. 6.*

53. If any person sells or imports, or has in his possession, or under his control, for the purpose of sale, or storage, or preparation for sale for human consumption any meat, poultry, game, flesh, fish, fruit, vegetables, corn, bread, flour, tea, sugar, milk, or any articles of food or drugs of a nature deleterious to health or unwholesome, or any meat which has been blown, spouted, greased, stuffed, or pricked, such person shall be guilty of an offence against this Act, and shall be liable on conviction thereof to pay any expenses incurred in the inspection, seizure, and disposition of such articles as hereinbefore provided, and shall also be liable to a penalty not exceeding twenty, and not less than five pounds, for every such offence, and for any second or any subsequent offence to a penalty not exceeding fifty and not less than ten pounds; and if any person sells, or imports, or has in his possession, or under his control, for the purpose of sale, or storage, or preparation for sale for human consumption any diseased animals or carcasses of animals, or if any person exposes, or leaves, or causes to be exposed, or left in any market, or saleyard, or at any auction, or drives or causes to be driven to any market, auction, or saleyard for sale, any animal suffering from pleuro-pneumonia, tuberculosis, anthrax, fluke, or any disease or ailment whatsoever, to such an extent as to render such animal when slaughtered unfit for human consumption, he shall be guilty of an offence against this Act, and shall be liable on conviction thereof to pay any expenses incurred in the inspection, seizure, and disposition of such animals or carcasses, and to a penalty for any such offence not exceeding one hundred and not less than ten pounds, or to imprisonment for a term not exceeding two years. And no officer of the Board or of any council nor any member of the police force seizing any article of food or drugs, or any animal, and no inspector of stock or sheep seizing any animal shall be liable for any costs, expenses, or damages, on account of such seizure, if he acted under a reasonable belief that such article of food or drugs was unwholesome, or that such animal was diseased. Provided that no person shall be convicted under this section, if he satisfies the court or justices that he offended against the provisions thereof without knowledge that such articles of food or drugs were unwholesome, or such animals diseased, and could not with reasonable diligence have obtained such knowledge.

The Public Health Act, 1883, s. 2.

ns of ed. *The Public Health Act, 1883, s. 2.*

54. If in any case under this part of this Act it appears that the animals, carcasses, or articles as aforesaid, are of a kind usually used as food or drugs for human consumption, the proof that such animals, carcasses, or articles were not intended for human consumption, or for sale for human consumption, shall lie on the party-contending that they were not, so intended.

DIVISION 5.—ANIMALS.

267. The Governor in Council may from time to time make, alter, and repeal such orders as may seem to be necessary for the purpose of prohibiting or regulating the introduction into Victoria from any country, or colony, or part of a country or colony (in which respectively any disease in sheep, cattle, horses, dogs, swine, or other animals of the same or any other kind or kinds whatsoever is known to exist), and for the detention in quarantine in such place and for such period as the Governor in Council by such order appoints or directs of all sheep, cattle, horses, dogs, swine, or other animals.

governor in council may make orders prohibiting regulation importation and export of animals, &c. *The Public Health Act, 1883, s. 2.*

271. No person shall keep any swine, sheep, or cattle on any butcher's business premises, and no person shall dress any carcass for sale as food of man in such premises unless such premises are duly licensed for slaughtering purposes under some Act relating to the slaughtering of cattle or other animals, and any person offending against the provisions of this section shall on conviction of such offence, be liable to a penalty not exceeding five pounds for each day during which such offence has been committed.

Swine, sheep, and cattle not to be kept or dressed on premises not licensed for slaughtering. *The Public Health Act, 1883, s. 47.*

273. All abattoirs, slaughter-houses, and other premises used for the purpose of slaughtering any cattle, sheep, or other animal, and all stables, cow-yards, cattle-sheds, and pig-sties, and all yards, sheds, stables, or enclosures connected with any abattoir or slaughter-house in which any cattle, sheep, or other animal intended for slaughter is kept or drafted, shall be constructed of suitable materials, and be paved or flagged with brick, stone, cement, asphalt, or other like impervious material, and shall have such impervious drains and receptacles for offal, dung, or other filth or refuse as the council may by order from time to time direct.

Abattoir stables, &c., to be paved. *The Public Health Act, 1883, s. 34.*

If it appears to any council that such abattoirs or slaughter-houses or other premises, or such stables, cow-yards, cattle-sheds, and pig-sties, or such yards, sheds, stables, or enclosures, are not properly built, constructed, paved, or flagged, or have not proper drains and receptacles, such council may, by notice specifying the time within which any improvements specified in such notice shall be effected, direct the occupier or person in possession to make such improvements.

If such occupier or person in possession fail to comply with such notice he shall be liable to a penalty of ten shillings for every day he continues to make such default, and such council may cause such improvements to be made at the expense of such occupier or person in possession.

If any council is satisfied that any abattoir or slaughter-house is not kept in accordance with the provisions of this section, or that it is dilapidated or unsuitable in any way, such council shall refuse to re-license such abattoir or slaughter-house.

If the Board is satisfied that any abattoir or slaughter-house is not kept in accordance with the provisions of this section, or that it is dilapidated or unsuitable in any way, or that it is a nuisance or a source of danger to the public health, it may by order direct such council to refuse to re-license such abattoir or slaughter-house until further order, and it may also by order declare the license or registration thereof under any Act, bylaw, and regulation to be and the same shall thereupon be null and void.

SOUTH AUSTRALIA.

In the Stock Diseases Act, tuberculosis is included amongst the contagious or infectious diseases to which the Act applies.

The Act resembles closely similar Acts in force in Victoria and New Zealand.

Paragraph 29 runs "No compensation whatever shall be payable to, or recoverable by, any person for or in respect of the forfeiture, killing, or destruction of any stock, fodder, or fittings, forfeited, killed, or destroyed under the authority of this Act or the Regulations: Provided that full compensation shall be paid to the owners for all stock destroyed under the provisions of section 13" (which allows the inspector, who believes certain stock to be diseased, to kill a few of them to decide the point), "and which shall be found to be free from infectious or contagious disease."

Paragraph 71A in the revised regulations under the Act issued in 1893 states, "No person shall keep or use any cow for the purpose of obtaining milk therefrom, either for use or sale, which shall be affected with tuberculosis, cancer, or actinomycosis; and no person shall sell, or offer for sale, any milk from a cow which shall be so affected."

WESTERN AUSTRALIA.

An Act to amend the Law relating to Public Health, 20th August 1886:—

Power is given to make bylaws for the inspection of cattle in dairies (amended by Public Health Act Further Amendment Act, 1895, into "dairies from which milk is supplied to persons residing in a municipality," "whether such dairies are or are not within the bounds of such municipality,") and the prescribing and regulating of the lighting, ventilation, cleansing, drainage, and water-supply of houses, dairies, and cowsheds in the occupation of persons following the trade of cowkeepers or dairymen:

For securing the cleanliness of bakeries, milk stores, milk shops, and of milk vessels used for containing milk for sale by such persons:

For prescribing precautions to be taken for protecting milk against infection or contamination:

For preventing the keeping of animals of any kind so as to be a nuisance or injurious to health.

The sections (31, 32, and 33) dealing with unwholesome food, powers of entry for purposes of inspection into slaughter-houses, dairies, &c. and penalties inflicted on persons importing or possessing diseased animals or unwholesome food, are almost identical with sections 52, 53, and 54 of the Public Health Act, 1890, of Victoria, which have been already quoted.

TASMANIA.

Premier's Office, Hobart,
Tasmania,
2nd November 1896.

Royal Commission on Tuberculosis.

My Lord,

I HAVE the honour to return to your Excellency the despatch, dated 11th August 1896, from the Right Honourable the Secretary of State for the Colonies, and to enclose therewith, as requested for the use of the Royal Commission, copies of laws, rules, and regulations enforced in this colony dealing with the subject of meat and milk inspection.

With regard to meat inspection, in the larger towns the matter is dealt with in the special Acts of Parliament relating to their municipal government as well as in their slaughter-house rules, in the manner set forth in the Hobart Act, 1893, in such sections as 211 and 220, and in the Hobart and Launceston slaughter-house rules. In both towns every animal is inspected before slaughter by the inspector, and in Launceston after slaughter by the medical officer of health, under whose orders all tuberculous organs are burnt, and if the disease is in anything but the very first stage, the whole carcass also is thus destroyed.

In the smaller towns and in rural municipalities the inspection of the meat supply is carried out under the provisions of bylaws similar to No. 3 of the Beltana bylaws enclosed herewith.

With regard to milk inspection, the matter is dealt with under bylaws, such as bylaws No. 16 to 26 of the Hobart Local Board of Health and No. 4 of Beltana, which provide for the periodical inspection of all dairy cattle.

I may mention that we have no record showing that tuberculosis exists among Tasmanian stock or dairy cattle, the only reports of the disease being in connexion with stock imported from other colonies for immediate slaughter.

I have, &c.

(Signed) WM. MOORE,

The Right Honourable
Viscount Gormanston, K.C.M.G.,
Governor.

HOBART CORPORATION ACT, 11th November 1893.

Clauses relating to the Slaughter of Animals and the Sale of Meat.

Power is given to build a public slaughter-house for the city, the expenses to be defrayed out of the Municipal Fund (paragraph 203).

An inspector of stock to be appointed to manage and supervise public slaughter-house (205).

Every slaughterer to be licensed (206).

Any person slaughtering elsewhere than in a public slaughter-house to forfeit a penalty not exceeding twenty pounds, and any person selling or offering for sale the unsalted carcass of any animal, except pigs, which has not been slaughtered in such public slaughter-house to forfeit a penalty not exceeding fifty pounds (209, 210).

Animals are not to be slaughtered for sale nor to be exported without notice to inspector (211 and 212).

Any person selling or offering for sale as the food of man, the carcass of any sickly or diseased animal, or any unwholesome food whatsoever, to forfeit a penalty not exceeding fifty pounds (217).

General powers are given to seize and destroy unwholesome meat exposed for sale as human food (218-222).

Persons may sell within the city of Hobart meat killed elsewhere, provided the person is the holder of a license, and the carcass has been inspected by an inspector of stock (232).

In the regulations for the public slaughter-house of the city of Launceston it is stated that "when the carcass of any cattle, sheep, or pig is inspected, a ticket certifying that the same has been inspected shall be attached thereto by the inspector, and no person shall sell or deliver to any slaughterer or retail vendor, nor shall any slaughterer or retail vendor receive the carcass of any cattle, sheep, or pig without such ticket being attached thereto."

EXTRACTS FROM THE BYLAWS OF THE CITY OF HOBART
LOCAL BOARD OF HEALTH.*Registration of Cowkeepers, Dairymen, and Purveyors of Milk.*

16. Every person carrying on the trade of a cowkeeper, dairyman, or purveyor of milk, shall on the first day of July in every year register himself with the local board of health in manner following, that is to say, by signing and forwarding to the secretary of the local board of health an application and declaration in the form hereunder written; and every such person with every such application may be required to pay a fee of five shillings.

Application for Registration as

To the Secretary of the Local Board of Health of Hobart.

Sir,

I hereby apply to be registered, in accordance with the particulars in the schedule hereunder:—

Schedule.

Name in full	
Trade in respect of which registration is applied for.	
Style or firm under which trade is to be carried on.	
Every place within the jurisdiction of the local board of health at which such trade, or any part of it, is to be carried on, including a full description of all paddocks, grass lands, grounds, and enclosures occupied or used or intended to be used by the applicant.	
Period of time for which registration is desired.	Year commencing the 1st day of July 18 .

Five enclosures.

And I hereby declare that the cows belonging to me are in good health; that the grazing ground in my occupation is not, in regard to water supply or otherwise, in a condition likely to be prejudicial to the wholesomeness of the milk; that every house, dairy, and cowshed in my occupation is in good condition in regard to lighting, ventilation, paving, cleanliness, drainage, and water supply; that every place for keeping the milk is clean, well ventilated, and properly supplied with vessels.

Signed . . .
Address . . .
Date . . .

And every false declaration made in such application shall be an offence against this byelaw and punishable accordingly.

Registration.

17. Upon receipt of every such application and fee, the secretary for the local board of health shall endorse the same with a memorandum of the date on which it is received, and of the payment of the fee, and shall file the same, and shall enter the particulars in the schedule to such application in a book to be kept for that purpose, and cause the same to be properly indexed.

Inspection of Grazing Ground and Cows.

18. All paddocks, grounds, lands, and enclosures used as grazing grounds for dairy cattle, shall, whenever necessary, be inspected by any officer of the said local board or by any person authorised in writing by the chairman or secretary of the said local board; and if on inspection such paddocks, grounds, or enclosures, or any one of them, are or is likely, in the opinion of the officer or person so inspecting, to be prejudicial to health, by affecting the milk or otherwise, the said local board may, by an order in writing, signed by the secretary and served personally or left at the dwelling-house of the registered person, or, in the case of an unregistered person, served personally or left at his dwelling place or posted upon the land, prohibit the use of the same for the purpose of feeding dairy cattle either absolutely or for any time named in such order. All cattle in dairies shall also be similarly inspected by a veterinary surgeon or other competent person, and any cows found to be diseased, or which from poverty or weakness are, in the opinion of the inspector, likely to be unfit for use for dairy purposes, shall be forthwith removed from such dairy if ordered by such inspector or other officer as aforesaid. And any such order as aforesaid the said local board may revoke, but upon every fresh inspection a similar order may from time to time be made.

Inspection of Dairies.

19. All houses, dairies, cowsheds, milk stores, milk shops, or other premises used for the purposes of the trade of a cow-keeper, dairyman, or purveyor of milk, and the milk therein, shall be frequently inspected by the inspector, or, whenever necessary, by any officer of the local board of health, or by any person authorised in writing by the chairman or secretary of such local board; and if on inspection there is anything in the opinion of the person so inspecting prejudicial or likely to be prejudicial to health, by affecting the milk or otherwise, the said local board may by an order in writing, signed by the secretary of such local board, and served personally or left at the dwelling-house of the registered person or occupier or owner of such premises, require such measures to be taken as may be prescribed by such local board, or as may be necessary for the remedying of any defective condition.

Cleanliness of Dairies.

20. All houses, dairies, cowsheds, milk stores, milk shops, or other buildings or structures in the occupation of any person following the trade of cow-keeper or dairyman, shall be kept in such a state in respect of cleanliness as not to be a nuisance or injurious to health, and shall be thoroughly and effectively lighted and ventilated, and the drainage of all such buildings shall be so arranged that no stagnant water or refuse matter of any kind shall remain or lie in any way whatever in or upon or contiguous to any premises of such person following the trade of a cow-keeper, or dairyman.

Cleanliness of Cow-yards, &c.

21. All yards, sheds, or other places used for keeping or holding dairy cows shall be regularly swept and be kept perfectly clean, and shall, within twenty-four hours of any order to such effect from the officer of health or inspector, be fumigated, disinfected, or lime-washed, as may be in any such order so directed.

Milk Vessels.

22. All vessels used for containing milk shall be thoroughly scalded and scoured every time they are used.

Prevention of Infection.

23. If any person, or any member of the family of any person, registered as aforesaid, but employed as a cow-keeper, dairyman, or purveyor of milk, or any visitor or member of the family of any visitor to any such person, or any person in the employment and dwelling on the premises of such registered person, shall be attacked by any infectious disease, the occupier of the house in which any such person shall be, or (if he be the person attacked) his wife or other person in charge, shall immediately give notice thereof to the local board or officer of health, or to the nearest member of the police force, who shall immediately inform the local board of health, and thereupon it shall and may be lawful for the said local board or the officer of health, by order served as aforesaid to prohibit absolutely the sale and vending and forwarding of milk for sale from any premises in the use and occupation of any such cow-keeper, dairyman, or purveyor of milk, until danger, in the opinion of such local board or officer of health, no longer exists. And in any such case it shall not be lawful to allow any person so suffering, or having recently been in contact with a person so suffering, to milk cows or to handle vessels used for containing milk for sale, or in any way to take part or assist in the conduct of such trade or business. Nor, if the person registered or conducting such business be himself the person suffering, shall he take any part whatever in the conduct of such trade or business until, in either case, in the opinion of the officer of health, all danger therefrom of the communication of infection to the milk or of its contamination has ceased.

Health of Cows.

24. If at any time disease exists in the premises of any dairyman or among the cows or cattle in any cowshed or dairy, or in the herds of any cow-keeper, vendor, or purveyor of milk, the registered person, owner, occupier, or other person in charge, as the case may be, shall immediately give notice to the local board, officer of health, or nearest member of the police force; and the milk of a diseased cow shall not be used in any way whatsoever.

Water Supply.

25. No cow-keeper, dairyman, or purveyor of milk shall use for any dairy purpose, or allow his cattle to drink any water declared by the local board as unfit to be used for such purpose.

Customers.

26. In the event of the appearance or outbreak of typhoid fever or any infectious disease on the premises or in the neighbourhood thereof of any cow-keeper, dairyman, or vendor of milk, if any suspicion be raised that such appearance or outbreak is due to the use of unwholesome milk, the owner or occupier of such premises shall, on the demand of the local board, furnish a list to all customers or purchasers of milk from such dairy or milk vendor.

NEW ZEALAND.

AN ACT to REGULATE the SLAUGHTERING of CATTLE and the SUPERVISION of ABATOIRS and SLAUGHTER-HOUSES, 18th October, 1894 (extracts).

A distinction is drawn between an abattoir (a public slaughter-house, erected and established by the Governor or by any local authority under this Act) and a slaughter-house (a place in respect of which a

license has been issued for the slaughtering of large or small cattle under this Act, p. 2).

Local authorities may erect abattoirs, and expense thereof may be defrayed out of district funds. Money may be borrowed for the purpose (6-9).

Public notice must be given as soon as the abattoir is completed, and after the expiration of 10 days from such publication, no person shall slaughter any cattle or dress carcasses for sale in any place, either within such borough, or within half a mile from the nearest boundary line of such borough, except in a duly licensed slaughter-house, erected and in actual use for that purpose before the coming into operation of this Act, or in the abattoir so provided for the borough, under a penalty not exceeding ten pounds for every such offence (11).

Any person slaughtering without a licence is liable to a penalty not exceeding ten pounds for every head of cattle so slaughtered (25).

The local authority may make byelaws for the inspection of abattoirs, &c., for their efficient sanitary construction, for preventing and prohibiting the supply from such abattoirs and slaughter-houses to the inhabitants of meat which, in the opinion of the inspector, is diseased or unfit for human consumption, and for the destruction of such meat; for the destruction and removal of any animal suffering from disease so as, in the opinion of the inspector, to be unfit for human food; for prescribing the conditions under which meat may be brought for sale from outside the local authority's district, but it has no power to prohibit the sale of meat that has been inspected and passed as sound by the inspector of an outside district; and for preventing the sale of meat not supplied from abattoirs or slaughter-houses under this Act (30).

The Governor, on the recommendation of local authorities, may appoint persons to be called "Inspectors of Abattoirs and Slaughter-houses, and of Cattle intended for Slaughter," who shall have free access to such buildings, and may examine any large or small cattle intended for slaughter (33).

The keeper of the abattoir or slaughter-house must keep a record of large and small cattle slaughtered (34).

Nothing in this Act shall apply to any *bona fide* farmer who, as incident to his farming operations slaughters on his farm, for sale or batter, large or small cattle: Provided that the proof shall at all times lie on him to satisfy the court that his principal avocation is farming, and not slaughtering (51).

Notwithstanding anything in this Act, no cattle slaughtered for export purposes only, in a slaughter-house belonging to an establishment for the freezing of meat shall be liable to the provisions of this Act relating to inspection (52).

No person shall be entitled to compensation for any meat or large or small cattle destroyed pursuant to any byelaw under this Act (53).

A noticeable feature of this Act is, that by para. 52, all cattle slaughtered for export purposes in a slaughter-house belonging to an establishment for the freezing of meat are exempt from the inspection provided by the Act. It is not stated whether such meat is inspected under any other Act. In 1895 the paragraph was amended by the addition of the following words, "but the carcasses of all cattle slaughtered in such establishment, if sold within the colony shall be subject to all the provisions of this Act."

THE STOCK ACT, 1893 (EXTRACTS).

This Act corresponds in its main features with the Diseases of Animals Act, 1894, in force in Great Britain. There is, however, this important difference between the two, that tuberculosis is included amongst the diseases of cattle to which the Stock Act applies, whereas in the Diseases of Animals Act it is not.

Schedule A. enumerates the infectious and contagious diseases affecting stock coming under the Stock Act:—

- In horses.—Anthrax, farcy, glanders, rabies, mange.
- In cattle and other ruminants.—Actinomyces, anthrax, cancer, foot-and-mouth disease, pleuropneumonia, rabies, rinderpest, tuberculosis.
- In sheep.—Anthrax, catarrh, foot-and-mouth disease, rabies, rinderpest, scab, sheep-pox.
- In swine.—Anthrax, foot-and-mouth disease, swine-fever, hog-cholera, rinderpest, tuberculosis, trichinosis.
- In dogs.—Rabies.

The Act creates inspectors of stock to carry out the provisions, with power to enter any land or premises and direct the owner to take such measures as, in the opinion of the inspector, shall be necessary to eradicate or check the spread of disease (pars. 9-13).

The inspector may declare infected areas and places where disease exists, and may kill one or more head of stock (pars. 14-19).

For preventing the introduction of disease, the Governor may appoint quarantine grounds under the charge of the chief inspector (pars. 20-22); and by Order in Council may make regulations for preventing the spread of disease, including the "registration, inspection, cleansing, drainage, water-supply, and for the general management of dairies, milk-shops, cow-sheds, and slaughter-houses, and for providing for remedial and precautionary measures to be taken by the owners and occupiers thereof against disease" (par. 23).

"Every owner of diseased stock, or of stock suspected to be diseased, shall, within 24 hours from the time when he shall have discovered or suspected such stock to be diseased, give notice to the proprietor of the subdivision in which such stock are running, and shall keep the diseased stock from coming into contact with any other stock. Every person offending against or violating the provisions of this section shall, on conviction, be liable to a penalty of not less than five pounds and not exceeding fifty pounds for each and every day that he shall neglect or omit to perform the duty hereby imposed upon him" (par. 25).

"The costs and expenses of, and attendant upon, the destruction of diseased stock, or upon the treatment of diseased or infected stock when in infected places or under restrictions for the purpose of eradicating disease or preventing its introduction or spread, shall in every case be borne by the owner of the diseased or infected stock so dealt with" (par. 30).

Compensation payable in respect of Stock, &c. destroyed under Authority.

Proviso.

"Compensation according to market value of such stock, to be ascertained by arbitration, shall be paid to the owner of any stock destroyed under the provisions of this Act; but subject always that no compensation shall be paid to any owner of imported stock which may be destroyed as aforesaid, unless such destroyed stock shall have been depastured within the colony for the term of six months before the date of such destruction, or of cattle which, on examination after slaughter, are found to be actually diseased with actinomycosis, cancer, or tuberculosis" (par. 33).

An Act to regulate the Manufacture of Butter and Cheese, and to provide for the purity of Milk. Known as The Dairy Industry Act.—23rd October 1894. (Extracts.)

3. The Governor, from time to time—

- (1.) May appoint or remove such inspectors and other officers as he shall deem necessary for the administration of this Act;

Appointment of officers.

And the Governor from time to time, in similar manner, may alter or revoke any such Order in Council, in whole or in part.

4. Every inspector under this Act, or other duly authorised officer, shall have and may exercise all the powers and authorities conferred upon an inspector under "The Adulteration Prevention Act, 1886," and any amendments or extensions thereof, and also shall have full access, egress, and ingress to all places of business, farms, cowsheds, dairies, factories, creameries, carriages, cars, vessels, cans, and steamers used for the manufacture, storage, and carriage or transit of milk, cream, cheese, or butter.

Powers of entry, &c. of inspectors.

He shall also have power and authority to open any keg, box, or package which contains butter or cheese for the purpose of inspecting whether or not any false description or brand is placed inside of the keg, box, or package, and he may take therefrom samples for analysis.

5. Any inspector under this Act, or duly authorised officer, shall have the power to inspect any farm, cowshed, or premises where cows are kept, or the milk of such cows is stored, and the water supplied to cows the milk of which is sold, supplied, sent, or brought to a

Inspector may inspect farm, &c. and require remedial

dairy, factory, or creamery, or the public; and should such farm, cow-shed, or premises be not kept in a clean and satisfactory condition, and an ample supply of fresh water provided, the inspector may notify in writing the owner to remedy such defects within the time mentioned in such notice; or, should he consider the defects to be of such a nature as to affect the purity or wholesomeness of the milk, he shall at once serve said owner with a notice in writing prohibiting the disposal of such milk until said owner has remedied such defects; and should said owner refuse or neglect to comply with such notice, he shall be liable to a penalty as hereafter provided. Either of the aforesaid notices may be in the form or to the effect of Schedule A. hereto.

Schedule A.

Dairy cattle suspected of being diseased may be inspected.

Pure milk only to be sold, unless otherwise stated.

Milk not to be sold after contact with anything infected.

Milk not to be sold if tainted, or from diseased animal.

Milk to be cooled or aerated.

Schedules.

6. Any inspector under this Act may inspect any dairy cattle suspected of being diseased, and for such purpose shall have all the powers conferred on an inspector under "The Stock Act, 1893."

7. Every person offering milk for sale to a dairy, factory, or creamery, or to the public, shall, unless otherwise stated in writing, supply pure milk only, as defined by this Act. And, for the purpose of obtaining a conviction under this section, it shall be sufficient to show that such milk so sold, supplied, brought or sent to a dairy, factory, or creamery, or to the public as aforesaid, is materially inferior in quality to pure milk.

8. No person shall sell, supply, bring, or send to a dairy, factory, or creamery, or to the public, any milk, which has been near or in contact with any person, animal, or thing suffering from or infected with any infectious or contagious disease.

9. No person shall sell, supply, or bring, or send to a dairy, factory, or creamery, or to the public, to be used for human consumption or manufactured into butter or cheese, any milk that is tainted or sour, or taken or drawn from a cow that is suspected or known to be suffering from or infected with any disease, as defined in "The Stock Act, 1893," or ulcers, or running sores, or other disorders, or for four days after calving.

12. Every person supplying milk to a dairy, factory, or creamery shall, immediately the milk is drawn from the cow, pass the milk over a cooler or aerator for the purpose of being properly cooled or aerated.

SCHEDULES.

SCHEDULE A.

"THE DAIRY INDUSTRY ACT, 1894."

Notice to Dairyman.

To
TAKE notice that the _____ belonging to you is [or are] not in a satisfactory condition, and I hereby call upon you to remedy the defects within _____ days [or prohibit you disposing of any milk till such defects are remedied].

Dated this _____ day of _____, 189 ____.

Inspector.

SCHEDULE B.

Particulars for Registration of Dairy, &c.

1. NAME of dairy, factory, creamery, or packing-house:
Where situated:
2. Name of and distance to nearest
(a.) Post office:
(b.) Telegraph or telephone office:
(c.) Railway station:
(d.) Shipping port:
3. Name of owner, with address in full:
If co-operative dairy company, give name and address of secretary:
If joint stock company, give name and address of secretary:
4. Name of manager, butter-maker, or cheese-maker:
5. Registered brand or trade-mark, if any:
6. Number of patrons supplying milk to the factory or creamery:
7. Longest distance the patrons reside from the factory or creamery:
Give an estimate of the average distance the patrons reside from the factory or creamery:
8. Approximate number of cows kept by patrons for supplying the factory or creamery with milk:
9. Are the by-products (separated or skimmed milk, buttermilk, or whey) returned to the patrons (or milk suppliers), or utilized at the factory or creamery?
If at the factory, or creamery, for what purpose are they utilised?
10. If pigs are kept at the dairy, factory, or creamery, state average number:
State approximately the number of pigs kept by the patrons (or milk suppliers) in case the by-products are returned:
11. Is the milk paid for according to its productive character, or at a fixed price per gallon of 10½ lb. avoirdupois?
(a.) If the former, what milk tester is used?
(b.) Illustrate the basis of calculation used for estimating the productive character of the milk:
12. What price is paid for the milk?
13. On what terms are the by-products returned to the patrons (or milk-suppliers)?—
(a.) Separated or skimmed milk:
(b.) Buttermilk:
(c.) Whey:
14. Storage—
Have you a cool chamber in connexion with the dairy, factory, or creamery?
If so, what is its capacity?
What make of refrigerating machine are you working, if any?
15. How long is the butter or cheese kept at the dairy, factory, or creamery, prior to shipment?
What is the average temperature of the cool chamber in which the butter is kept prior to shipment from the dairy, factory, or creamery?
What is the average temperature of the cheese store-room or curing-room in which the cheese is kept prior to shipment from the dairy or factory?
What is the average length of time the cheese is kept in curing-room at dairy or factory prior to shipment?

PRÉCIS OF EVIDENCE.

PRÉCIS.

ACKERS, MR. BENJAMIN ST. JOHN (Digest of his Evidence). Chairman of the Cattle Diseases Committee of the Central and Associated Chambers of Agriculture; Chairman of the Farmers' Club; Member of the Council of the Shorthorn Society, and other agricultural societies, whose views he has been nominated to convey to the Commission, 4611-12.

Considers that the stamping out of tuberculosis by means of slaughter, on the lines adopted in the case of cattle plague and pleuro-pneumonia, is impracticable, but offers no special recommendation, except that where seizures are made in the interests of public health, compensation should be paid out of Imperial funds to the extent of three-fourths value, 4628-30, 4647-50, 4667-81, 4693-705, 4710-14, 4771-2, 4839-44.

The report of the Cattle Diseases Committee of the Central and Associated Chambers of Agriculture, recommending the slaughter of all milch cows visibly affected with tuberculosis, or having chronic disease of the udder, or found yielding tuberculous milk, and that three-fourths of their value should be paid as compensation, must not be read as meaning the total destruction of the carcasses; but that any sum arising from the sale of portions of the carcass should go towards the payment of suggested three-fourths compensation, 4631-44, 4663-4731-7, 4773-5, 4780-3, 4818-21.

Considers that the Board of Agriculture, and not the local authorities, should issue uniform instructions regarding diseases of cattle, including inspection of meat, both of foreign and home production, and believes that stamping meat would be advantageous to the home producer, 4644-6, 4664-6, 4682-92, 4706-9, 4753-6, 4776, 4845-55.

Has personally never suffered loss through tuberculosis, 4651-61, 4740-5.

Suggests that dairy attendants suffering from consumption should be discharged, and that their discharge being in the interests of public health, they should be compensated, 4647-8, 4693-705, 4710-14, 4740-52, 4757-63, 4856-7.

Owners of cattle, if satisfied as to the reliability of the tuberculin test, and provided compensation for loss was paid, would willingly suffer inconvenience during the period of testing their herds, 4766-9, 4864-7.

It might be possible to frame regulations to prevent breeding from tuberculous cows, 4715-23, 4761-3, 4788-817.

If a warranty were demanded from farmers by butchers, any loss ensuing would fall on the former, without any enhanced value of his stock in consequence, 4738-9, 4822-32.

BELL, MR. JOHN (Digest of his Evidence). President of the Carlisle and District Butchers' and Insurance Association, 6051.

The formation of the Association arose from the seizures of carcasses affected with tuberculosis; and in order to protect their united interests and prevent the loss falling heavily on any single individual, the butchers adopted a system of mutual insurance; the number of members is 45, only four butchers in the town not joining, 6053-5. The premiums are fixed at 1s. 6d. for cows, and 1s. for a bull or heifer; the amounts paid in compensation in the years 1895 and 1896 were 94l. 15s. 6d., and 209l. 8s. 5d., representing compensation up to three-fourths value in the case of the seizures of 16 and 32 carcasses respectively, 6056-64, 6213-24.

Complains of the condemnation of carcasses by the medical officer of health, and gives an instance where, in August 1896, an Irish heifer, one of 20, costing 18l. 10s. each, was destroyed, because slightly affected with tuberculosis in the liver and flank, 6072-4, 6148-61, 6172-5. Has no personal

BELL, MR. JOHN—cont.

grievance, 1½ carcasses only having been seized out of 3,300 belonging to him, 6176-85.

Compensation should be paid for carcasses seized, as in the case of those condemned under the Contagious Diseases (Animals) Act, and no carcass ought to be condemned unless it was obviously unfit for food; in the latter case compensation should be paid to the butcher if the purchase was made in good faith, 6076-6125, 6189-96, 6202-12, 6228-9.

Considerable difficulty arises from the want of uniformity of inspection, and thinks this difficulty would, to a great extent, be removed by having public slaughter-houses and properly qualified veterinary surgeons as inspectors, 6108-12, 6130-7, 6197-201.

Their society is about to take steps to refuse, or limit the amount of compensation, in the case of traders who deal in inferior cattle, such as old cows, and he agrees with other witnesses that compensation should not be paid in the case of animals costing less than 8l. to 12l., 6162-71.

BERWICK, MR. JOHN (Digest of his Evidence). Represents the Bradford and Shipley District Butchers' Associations, formed five years ago, which have a membership of 108; Bradford, 78; Shipley, 30; 7897-8, 7898-900, 7916.

Gives instances of three seizures of carcasses voluntarily surrendered by Shipley members, inflicting great hardship on the owners, 7879-81. Has had carcasses passed by inspector which were partly tuberculous, 7889-90.

Those whom he represents consider inspectors of meat should be practical butchers; personally he is in favour of veterinary surgeons, 7881-5, 7901-5.

About 800 cattle are slaughtered in Bradford every month, of which about one is condemned for tuberculosis, 7886-8.

In Shipley about 160 cattle are slaughtered per month, 7906-15.

His Society advocates compensation, but has not entered into the question of insurance, 7891-7, 7918-20.

Personally he slaughters about 20 beasts weekly, and during several years' experience only remembers one seizure for tuberculosis, 7922-30.

BILLING, MR. GEORGE TIMOTHY (Digest of his Evidence). Inspector, Holborn Meat Market, comprising Charterhouse, Cowcross, and St. John's Street Markets, 1556-7.

Describes his mode of inspection, and procedure before and after seizure, 1558-64, 1582-4, 1587-9; and the class of meat sold, 1665-70. Suggests establishment of public abattoirs or clearing-houses, where inspection of meat and offal could be made before distribution, 1571. Considers it hard on butchers who give, in good faith, fair prices for cattle to suffer whole loss through seizure; cannot specify any case of hardship, 1572, 1574-8. No seizure of carcasses, found partly tuberculous, has been made in his district, unless the other portions were unfit for food, 1573, 1590-3. Offal comes from private slaughter-houses, frequently from Deptford and Islington, and occasionally from Rotterdam, 1580-1. Describes his occupations prior to his present employment, 1594-9.

BOND, WILLIAM ARTHUR, M.D. (Digest of his Evidence). Medical Officer of Health to the Holborn and St. Olave's Board of Works.

Holborn Meat Market comprises Charterhouse, Cow Cross, and St. John's, Streets, and consists of 17 shops, 1430-4. Offal, consisting of the tongue, tail, heart, lungs, liver, spleen, tripe, and the kidneys

BOND, WILLIAM ARTHUR, M.D.—*cont.*

sometimes, (the head and kidneys of pigs being sold with the animal), together with meat, are sold in those shops, 1435-7. The inspector, who devotes his whole time, has had practical experience as a butcher, and has some knowledge of disease in cattle, 1438-9, 1498-500; his ideal of an inspector would be one having veterinary experience as a basis, supplemented by great experience in the slaughtering of animals at slaughter-houses, and the diseases of animals used for human food, 1440, 1468-70, 1509, 1511-2. The duties of the inspector are confined to inspection; on receiving his report he sees the meat or offal (inspection of the latter difficult), seizes it, if necessary, and places the facts before the Sanitary Committee. Where prosecution is suggested, the solicitor of the Board is consulted, and the inspector becomes legally the prosecutor, 1445-51, 1471-7. In 1896 the total number of seizures of diseased meat amounted to 258. Eighty-six were for tuberculosis; 80 beef and six pork; 69 out of the 80 beef cases were whole carcasses, as were also all the pork, 1453-4, 1527-8. Would not seize whole carcass if part only were found tuberculous, except under special circumstances, 1455-61, 1484-7, 1510-1, 1517-21, 1526. Considers that the establishment of public abattoirs would facilitate inspection, and considerably lessen the quantity of tuberculous meat now sold, 1463-7, 1529-39. Uniformity of inspection might be brought about by requiring meat inspectors to pass a more satisfactory examination and obtain a certificate as to their competency, 1479-81, 1482-3, 1496-7. Prior to 1896 there were no records of seizures in Holborn, probably owing to inefficient inspection, 1488. Irritation among salesmen arose owing to the more active inspection, and every obstacle was put in the way at first, 1489-90; but the condition of things is much better now, 1493. Salesmen who admit that the carcass is diseased are not prosecuted, but consignors who knowingly send diseased meat for sale are prosecuted, 149-2. Tuberculous livers are frequently met with by inspector, 1501-8, 1523-6. Has no doubt carcasses are exhibited for sale and passed by inspectors which have had localised tuberculosis, the organs having been removed before coming to the market, 1513-5. Compensation should only be given in very exceptional cases, 1521-2, 1548-50. There are only two private slaughter-houses in his district; and their inspection is very inadequate, 1540-5. Inspector receives 200*l.* per annum, and is independent of any undue influence, 1551-5.

CAMERON, SIR CHARLES A., M.R.C.P.I. (Digest of his Evidence). Professor of Hygiene and Chemistry in the Royal College of Surgeons; Medical Officer of Health, Dublin, &c., &c., 2612-5.

There is one public slaughter-house in Dublin which cost 20,000*l.*; at the time of its erection it was intended to close compulsorily the private slaughter-houses in the city, of which there are 70; but owing to legal neglect and enormous cost of compensating owners, the latter object was never accomplished; in these circumstances no satisfactory system of meat inspection is possible in Dublin, 2618-21, 2825-34, 2839-42. Before 1870 there was no inspection of slaughter-houses in Dublin, but from 1870-6 there were 2,231,193 lbs. of diseased and unsound meat seized under his certificate, principally for pleuro-pneumonia, 80 per cent. consisting of carcasses of oxen; 90 persons were fined, 21 committed to prison, thus showing that up to, and prior to inspection, a large trade in diseased meat was carried on, 2622-4. The proportion of tuberculous carcasses was very small, no figures showing results, 2624, 2698-702. Has modified his ideas regarding the condemnation of whole carcasses in cases of localised tuberculosis, 2625-6, 2627-9, 2,870-80. His experience points to tuberculosis being more prevalent among used-up milch cows, 2627. Considers that compensation should be paid in all *bona fide* cases seized for the public benefit; in Dublin compensation is paid for destruction of property that is likely to produce or spread disease, 2629-33, 2709-13, 2706-82, 2802-10, 2845-62, 2879-895.

There are 260 dairy yards, containing from 5,000 to 6,000 cows, in Dublin City, irrespective of sur-

CAMERON, SIR CHARLES A., M.R.C.P.I.—*cont.*

Précis.

rounding townships; there are 24 inspectors; experiences great difficulty in getting yards and cows kept clean, 2634-9, 2643-7, 2676. Out of 5,000 cows examined, only one infected udder was found, 2640-2, 2694-7. Danger of infection arises, in his opinion, more from milk than meat, and little from either, 2648-62, 2687, 2690-3, 2,870. Suggests as safeguards periodical inspection of dairy cows and cowsheds by a veterinary surgeon, 2,663-75, 2786-96, and the establishment of large dairies and abattoirs, 2676, 2682-5, 2729, 2740-55. Attributes the high death-rate from phthisis and abdominal tuberculosis in children to improper feeding, overcrowding, and poverty, 2730-8, 2866-8. Agrees with the suggestion that uniformity of meat inspection would be facilitated by rules drawn up by the Local Government Board, 2756-8.

CARMICHAEL, SIR THOMAS D. GIBSON, BART., M.P. (Digest of his Evidence). Landowner, Member of Parliament for Midlothian, represents the Scottish Chamber of Agriculture before the Commission, 6921-2.

Is a breeder of and owns 120 polled Angus cattle, 6924-5.

Has had his cattle subjected to the tuberculin test by Professor Dewar, first trying it in March 1895, believing it to be fairly correct; gives the results of his experiences and those of others who have had the test applied, 6926-60, 6,992-7001. Has fed calves with the milk of cows that re-acted without any harm to them, and will continue to do so except in cases where tuberculosis in the udder is apparent. Is of opinion that the separation, under cover, of animals found to re-act from those that do not, would tend in great measure to extirpate tuberculosis in cattle, 6961-9, 6977-85, 7003-9. Does not think there is much danger of communicating the disease in the pastures; intends to test this by turning healthy and unhealthy animals into the fields together, 6986-91.

Has not much practical experience of byres, but considers that cows showing obvious signs of tuberculosis should be eliminated, 7010, 7041-6.

Is of opinion that breeders, and also feeders, would be gainers were they to adopt a system of careful selection and housing of animals, 7023, 7028-30.

Considers that butchers have a real grievance in having carcasses seized which were bought in good faith, and for which they paid full market value; notwithstanding the trade risk in the transaction they ought to be compensated, 7031-6. Is, however, of opinion that practical butchers are generally in a position to discriminate between sound and diseased animals whilst alive, and that if some general rule was adopted that only carcasses showing generalised tuberculosis should be condemned, the question of compensation and general grievances would largely disappear, 7037-40.

CHALMERS, DR. ARCHIBALD K. M.D. (Digest of his Evidence). One of the Medical Officers of Health of Glasgow, 3407.

Submits tables and statistics showing a great reduction in deaths from tubercular diseases in Glasgow since the year 1883, from which period definite returns have been kept, and attributes the reduction in infantile mortality to the better housing of the people, 3408-28, 3450-5.

Danger arises from use of tuberculous milk and uncooked meat juice, particularly in children, 3429-39. Believes the Royal Hospital for Sick Children, Glasgow, has arranged for securing their milk supply from cows that have been proved free from tuberculosis, 3445-7.

Describes supervision exercised in Glasgow over the meat trade, 3462, 3530-5. Inspectors are appointed by Public Health Department, and are chiefly butchers by trade; there are also police inspectors who act as meat inspectors, 3463-8, 3478-92.

Gives particulars of foreign animals brought to Glasgow since the year 1880, 3459-60.

Slaughtering in Glasgow can only take place in the public slaughter-houses provided, 3474-7.

There are no definite written instructions for the guidance of meat inspectors. He would condemn

PRÉCIS.

CHALMERS, Dr. ARCHIBALD K., M.D.—*cont.*

carcasses having any sign of tubercle, although meat was otherwise apparently healthy, 3501-10, 3547-50.

There is an average profit of 3,000l. per annum on the three slaughter-houses of the Corporation, 3511-17.

Does not consider a general clearing-house for the examination of dead meat coming into Glasgow practicable, nor does he think a system of stamping carcasses would be acceptable, 3535-46.

The Public Health Committee appoints inspectors of dairies and cowsheds, at salaries ranging from 17l. 17s. to 21l. 14s. per week. Recently a chief inspector, a veterinary surgeon, has been appointed at a salary of 250l. per annum, whose duty it will be to visit and inspect dairies and cowsheds and use the tuberculin test where he thinks necessary, this latter power being conferred by the 24th section of the Glasgow Police Amendment Act, 3555-69, 3583.

The powers of the health authority apply to places outside the municipal boundary from which milk is sent to Glasgow, 3574-5, 3602-10.

Particular attention is paid to the cubic space, ventilation, and lighting of byres, 3572-82.

Under the 26th and 27th sections of the Act a cow-keeper who sells milk after having been told that a cow is tuberculous is liable to a penalty of 10l., and he who retains such a cow in the cowshed is liable to a penalty of 5l., 3584-5. Cows found to be tuberculous are invariably destroyed, even if a small nodule in the udder is found, and no compensation is paid, 3591-601, 3611-15.

He would not compensate butchers or cowkeepers for the loss by seizure of carcasses or animals; still he is not averse to compensation where notification is adopted and is voluntary on the part of the owner, 3616-59.

COOPER, Mr. GEORGE WILLIAM (Digest of his Evidence). Hon. Sec. of the St. Helen's and District Butchers' Association, 3127.

Complains that the principle recommended by the Tuberculosis Commission (1890), of not destroying a whole carcass where part only is tuberculous, is not acted on by the Medical Officer of Health of St. Helen's, resulting in considerable monetary loss to local meat traders, 3129-33, 3209, 3212-3. Considers that if the present system of inspection is continued, compensation should be paid from Imperial funds, 3134-6, 3155-72.

Advocates a uniform system of inspection, and asserts that carcasses passed in one place are condemned in another, 3137-8.

Is of opinion that, unless compensation is given the requirement of a guarantee from farmers, and the purchase of foreign meat, will become a necessity in the butchers' trade, 3136, 3171-3, 3182-3, 3185-93.

Does not agree with the system of mutual insurance against loss, 3195.

COOPER, Mr. WILLIAM (Digest of his Evidence), Chairman of the Meat and Cattle Section of the London Chamber of Commerce, member of the Cattle Markets Committee, London Corporation, a tenant farmer in Scotland, and engaged in the Scotch dead-meat trade during the past 30 years, 1891-7.

Considers compensation should be paid for carcasses found tuberculous if the animals when alive were purchased in good faith, 1909. The system of inspection in the London markets is most satisfactory owing in great measure to the co-operation of salesmen and inspectors, 1910-14, 2079-81. Inspectors should be practical butchers, 2005-6.

Abolition of private slaughter-houses and substitution of abattoirs would result in serious loss to the poor, encourage still larger trading in foreign dead meat to the injury of the home producer, and would not result in uniformity of inspection, 1915-27, 1981-2005, 2003-4, 2049-66, 2070-2.

Personally his losses through the seizure of tuberculous carcasses have practically been nil; ascribes this result to the great care of his consignors, but submits that seizure without compensation is a hardship; cannot give instances of hardships

COOPER, Mr. WILLIAM—*cont.*

suffered, 1928-67, but believes they exist, 2033-6, 2046-8.

Compensation would not encourage trading in tuberculous animals as there would be necessary safeguards, 1968-71, 2040. Reference to the large number of carcasses "seized" by the City Commissioners of Sewers is very misleading; gives instances in support of this contention, 1972-6. Does not agree with the suggestion that the purchase of animals that may afterwards be found to be tuberculous is a trade risk, 2007-22.

Veterinary examination of animals submitted for public sale or auction is impracticable, 1949-59, 2073-6.

Sees no parallel between the purchase and condemnation of fish and that of cattle, 2023-4, 2029-32. Hopes that the Commission will define when meat, found to be tuberculous, should or should not be condemned, 2077-81.

DAVIES, Mr. EBENEZER (Digest of his Evidence), M.R.C.S., and Medical Officer of Health in Swansea, 7457-8.

The rule prevailing in Swansea in regard to inspection and seizure of carcasses is that the inspector of nuisances calls the attention of the owners to suspicious cases, when the latter either voluntarily surrenders or appeals to the veterinary inspector; sometimes the medical officer of health is called in, but very rarely, about twice annually. There is no specific rule governing the extent of tuberculosis, which would involve the total condemnation of a carcass, but personally he would not totally condemn unless generalised tuberculosis was present; gives the number of carcasses condemned in Swansea during the years 1893 to June 1897, 7459-82, 7493-5.

Is aware of the discontent that prevails, and thinks that it would be extremely valuable if the Local Government Board issued general instructions making inspection of meat uniform throughout the kingdom, and indicating to what extent tuberculosis might exist in a carcass before it should be wholly condemned, 7485-90.

DOBBIE, Mr. JOHN (Digest of his Evidence). Is a farmer and appears on behalf of the Scottish Chamber of Agriculture, 7054-5.

Submits returns obtained from various towns and cities in Scotland relating to losses through tuberculosis, and bearing on the question of meat inspection; complains of the want of uniformity, not only in the case of condemnations, but also in the qualifications of inspectors, 7058-81, 7118-40. Makes recommendations on these points, and urges that all meat inspectors should be qualified veterinary surgeons, 7091-2, 7202-5; advocates the abolition of private and substitution of public slaughter-houses, the scheduling of tuberculosis under the Diseases of Animals Act, and compensation for the loss of apparently healthy animals condemned for tuberculosis, 7093-7113, 7162-80, 7198-2000, 7211-19, 7220-35.

In regard to milk supply the recommendations are that dairy cows should be periodically inspected by a veterinary surgeon appointed by the Board of Agriculture; that milk should not be allowed to be sold from "piners," or from cows with tuberculous udders; that the owner should be allowed to call in a veterinary surgeon and have the tuberculin test applied where he disputes the diagnosis; that the use of tuberculin should not be compulsory; that licenses be given by the local authorities to milk dealers; that powers should be granted to suspend summarily the sale of milk from suspected sources, and that compensation be paid under certain conditions, 7114-17, 7181-90, 7205-11. These and other recommendations have been made, on the supposition that this Commission will recommend greatly increased stringency of inspection, and other regulations, 7153-61, 7191-7. Refers to a dairyman who has had his cows tested with tuberculin, and gives particulars of results, 7085-9, 7145-53.

About 50 of his cattle go to the slaughterer every year, and he has never suffered loss by seizure, 7141-4.

ELLIOTT, THOMAS HENRY (Digest of his Evidence).
Secretary to the Board of Agriculture.

The Board of Agriculture established in 1889, as well as its predecessor the Privy Council, has taken great interest in the subject of tuberculosis in animals, 152-4. Various representations have been made to the Department since 1883 from municipal corporations, butchers' associations, &c., asking that powers should be granted for dealing with bovine tuberculosis and the subject was referred to the Departmental Committee appointed in 1888 on pleuro-pneumonia, 155-60. Gives substance of report and recommendations, 160-5, 168-9. Privy Council took no action in the direction proposed by the Committee, for reasons set out in the annual report of the professional officer of the Agricultural Department of the Privy Council, for the year 1888, 166; summary of report, 167. Owing to widespread interest in the subject a Royal Commission was appointed in 1890, and reported in 1895, 170. Is of opinion from the numerous representations reaching the Board of Agriculture that a general desire to stamp out tuberculosis exists, but it is difficult to gather precisely the action which the memorialists have in view, 171-3. Describes the difficulty experienced in arriving at any satisfactory system of "stamping out" the disease, 174-8. Is of opinion that the success of the Board in stamping out pleuro-pneumonia has encouraged people to seek similar results in the case of tuberculosis, and explains the enormous cost that would ensue by adopting any such system, 179. If it were proved to the Board that disease was communicated regularly and affected large numbers of the population, owing to the existence of tuberculosis in the herds of this country, some action would undoubtedly have to be taken, 180. Refers to the Registrar-General's Returns, showing diminution in the mortality from tubercular diseases, as an argument in favour of the contention of the Board that no sufficient reason exists why so enormous a loss should be thrown upon stock-owners in the attempt to extirpate the disease, 181-2, 252-3. Suggests that action might be taken by individual stock-owners to protect themselves; that further inquiries might be made by experts as to the tuberculin test, and that there should be a greater uniformity amongst local authorities in meat inspection, 183-7, 257-60. Complaints have been made of the seizure of animals without compensation, but considers the loss from this cause is not of great magnitude, judging from the Parliamentary Return for the years 1893, 1894, 1895, 188-9. It may be clearly understood that the Board would not be disposed to embark upon an attempt to stamp out tuberculosis, 195-6, 202-3. The cost of the application of the tuberculin test to all the cattle in the country would amount, for Great Britain, to 635,000*l.*, and for Ireland to 436,000*l.*, 200-1. In any proposed legislation the initiative ought to rest with the Local Government Board, because any action taken must affect the action of the public health authorities, 205. Considers that compulsory isolation of affected animals is impracticable, 205-10, 215-17. Considers that the risk of seizure is a trade risk taken into consideration by all parties to the bargain, 219-23. If local authorities were to be empowered to slaughter animals, he thinks compensation should be granted, but the Board of Agriculture are opposed to such powers being conferred on local authorities under the Diseases of Animals Act; even in the case of diseased udders, 224-5. As regards the object of granting compensation, the more the compensation given the more danger is there that the stockowner will be careless about disease, 226-8. Under the Contagious Diseases (Animals) Act, when animals are diseased the owner only gets partial compensation, but if they are found healthy he gets compensation in full, 229-30. His Board agrees with the idea of mutual insurance to cover loss as one way out of the difficulty, particularly where a trade organisation exists, 231-5. Considers that if an alteration in the definition of "disease" in the Dairies, Cowsheds, and Milkshops Order, so as to include tuberculosis, were made, it would extend the powers of local authorities under Article 15 of the Order, which he quotes, 236-8. Taking advantage of post-mortem examinations on animals suspected of pleuro-pneumonia, observations and returns have been

ELLIOTT, THOMAS HENRY—*cont.*

made as regards tuberculosis in herds, which showed that 20 per cent. of the cows, as compared with 2 per cent. of the other cattle slaughtered, were tuberculous. In some herds as many as 30 and 40 per cent., and in one herd 70 per cent. of the cows and heifers in milk, were so affected, 239-42, 243-6. In a case where the tuberculin test was applied, 22 out of 23 in one herd, apparently sound and healthy, reacted, and when slaughtered were found to be more or less tuberculous, 242.

The result of slaughtering and giving compensation in cases of swine fever has only recently been successful, but in regard to the stamping out of pleuro-pneumonia it has been an undoubted success, 266-72.

FIELD, MR. WILLIAM, M.P. (Digest of his Evidence).
President of the National Federation of Butchers and Meat Traders of the Three Kingdoms, affiliated to which are 52 Associations of the largest towns in the United Kingdom, such as London, Dublin, Belfast, Paisley, Manchester, and Liverpool, 273.

The objects of the Association are to look after the interests of the meat trade, 274. For seven years they have been complaining of the want of uniformity in the seizure of animals or carcasses on account of tuberculosis, 275, 403-8. Criticises the Report of the Royal Commission on Tuberculosis (1890), 276-86. Points out that imported carcasses slaughtered at the port of landing may be purchased without any apprehension of confiscation, whilst animals purchased in market overt apparently healthy, on being slaughtered and found tuberculous, are seized, and the loss falls, not on the farmer but on the butcher, and estimates the loss in the course of the past six years at 10,000*l.*, 295-309, 336-46, 348. Complains of the want of uniformity in the inspection of meat, the absence of any definite special qualification of inspectors, and suggests practical butchers, co-operating with veterinary surgeons, as the most suitable inspectors, 310-27, 347, 350, 396-402, 409-13.

Has never had personal experience of confiscation of whole carcass if part diseased, 328. Mentions some places where such system is said to prevail, 351-5. Urges that the system prevailing abroad where only the parts diseased are condemned should be adopted in this country, but expresses doubts as to its success; quotes scientific authorities, 328-36, 361-68, 598, 602. Considers that in the absence of some such system butchers generally will adopt the method prevailing in the Isle of Man, and demand a warranty of soundness and freedom from tuberculosis, 349, 441-2. Neither he nor the Federation approve of insurance against loss, as they consider compensation from public funds should be given, the seizure being made in the interest of public health, 350, 443-7, 585. Compensation should only be given for animals bought in open market, for which not less than 8*l.* nor more than 30*l.* has been paid, 393-4. Would not apply the principle to all foods such as fish, fruit, &c., because circumstances differ, 382-3. Complains of "surrenders" of meat by traders being classed as "seizures," 350, 587.

The establishment of public slaughter-houses would tend to a uniformity of inspection and seizure; but any removal of private slaughter-houses by compulsion should be accompanied by compensation, 412-5, 421-2, 540-52. There would be difficulty in large towns, where slaughter-houses are scattered, in obtaining uniformity of practice, 416-20. Private slaughter-houses have many advantages; meat deteriorates by carriage; cooling chambers, where they existed, might obviate this particular drawback, 424-32, 437-40. Private slaughter-houses continue to decrease for the reason, among others, that the trade in dead meat increases, 433-4.

Believes, with exception of Dublin and Belfast, that no effective meat inspection exists in Ireland, 448-56, 460-9. Many existing slaughter-houses are unlicensed—those built many years ago, but they are registered. New slaughter-houses require licences, 467-9. In regard to the system of seizures, as adopted in Dublin, no complaint can be made, 477-86. First-class meat, as a rule, is sold there, 510, 518-9. Apart from the producers and dealers in food-stuffs he knows of no one who fails to get

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FIELD, Mr. WILLIAM, M.P.—*cont.*

compensation, if their goods are confiscated for the public health; and limitation of confiscation is an incentive to concealment, 501-3. Although the direct loss at present falls on the butcher, it re-acts on the producer, inasmuch as there is a tendency to increased sale of dead meat; and Belfast, for instance, is anxious to secure a landing-stage for foreign animals, and thereby escape tuberculosis prosecutions and confiscations, 520-9. The suggested limit of 8l. as compensation arises from the opinion that an animal purchased for less money, with rare exceptions, would be unfit for consumption, and to avoid compensating unscrupulous dealers, 530-1. Inspection would be greatly facilitated by a central authority issuing instructions and seeing that qualified inspectors were appointed; under such circumstances the co-operation of traders would be secured, 532. Rules governing hawkers, and for inspection of meat slaughtered or brought from outside the boundary where inspection is practised, should be adopted, 587-91. Seizures should only be made on a definite system, and such parts only be destroyed as experts consider to be dangerous, 536-9.

GOURLEY, Dr. SAMUEL (Digest of his Evidence). Medical Officer of Health for West Hartlepool, 4550.

Would not condemn a carcass unless tuberculosis was generalised, 4553, 4588-92. The total number of carcasses condemned during the years 1892-96 was 66, of which 21 were condemned in 1896, out of a total of 3,300 killed, the public slaughter-house being in full working order during the latter year. With one or two exceptions the carcasses condemned were those of old cows, 4554-6, 4566-70, 4572-5. The butchers, although feeling aggrieved at their loss, have made no protest, a committee of their body as well as a sub-committee of the Corporation having seen all the carcasses condemned, 4557.

Considers that compensation, under certain conditions, ought to be paid for seizures, and that public slaughter-houses should be established on the principle of those in Scotch boroughs, 4562-3, 4607-10.

Does not consider the inspection in West Hartlepool unduly rigorous, 4565.

Suggestions were made by the Local Authority that the butchers might sterilise some of the tuberculous meat and sell it as such, but they objected. Personally he did not think the public would buy it, 4565, 4603-6.

GREEN, Mr. WILLIAM HENRY (Digest of his Evidence). Resides at Higher Broughton, near Manchester, and carries on the business of cattle dealer, farmer, and dairyman, 3893-4.

Is of opinion that the scare about tuberculosis will drive butchers to buy foreign dead meat to the detriment of home produce unless compensation is granted for seizures. Believes that the knowledge that compensation would be paid would encourage owners to report doubtful cases to the authorities. Personally his losses have been very small, owing to his taking great care in the selection of animals; rarely keeps a milch cow more than 12 months, after which time he fattens her and sends her to the market, 3895-965, 3976-4015.

The sale of milk yielded does not pay the cost of purchase and keep of cows; but the price the milk fetches, together with the sale of fattened cows, yields a profit, and any seizure without compensation would, therefore, be a serious loss, 3966-74, 4016-24.

HAMER, Dr. WILLIAM HEATON, M.D. (Digest of his Evidence). Has been Assistant Medical Officer of Health to the County of London since 1892, and been concerned in the work relating to slaughter-houses, dairies, cowsheds, and milkshops, 1368-70.

The County Council has the power of granting or withholding licences for slaughter-houses at the annual licensing meetings, and is the authority for enforcing byelaws regulating the conduct of the business of a slaughterer of cattle, 1371. There are now in the County of London 469 licensed premises, all private, 1415. In 1874, when the

HAMER, Dr. WILLIAM HEATON, M.D.—*cont.*

Slaughter-houses Act was passed, there were 1429; they had fallen in 1888 to 732; there was a further drop in 1892, and they are still on the decline, 1372. The decline may have arisen from stricter supervision, but he is of opinion that the increase in the importation of dead meat into London has had an influence, 1373, 1398, 1415. There are six inspectors who inspect the slaughter-houses about six times annually. They have no power of seizing unsound meat, but have reported to the Council cases where they have found diseased animals upon slaughter-house premises; but such cases are very rare, 1374-7.

The question of establishing public slaughter houses is now under the consideration of the Council. Gives outline of contemplated action, 1378-9. This proposal, it is anticipated, would eventually do away with private slaughter-houses, 1380-1, 1416-8. The Dairies, Cowsheds, and Milkshops Order is enforced by the Council, 1382. There are 393 licensed cowshed premises, which are inspected once a month by the same inspectors, 1383-5, 1411-14.

In 1895, Mr. Hancock, M.R.C.V.S., examined on behalf of the Council 1,638 cows out of an estimated total of 6,000; of these, 18 showed clinical evidence of tuberculosis, and four or five had induration of the udder, 1386-7, 1404-10, 1427-8. If an inspector suspects an animal, a veterinary examination takes place, and if, as a result, the suspicion is confirmed, the cow-keepers have voluntarily given up the sale of the milk, but the Council has no power to enforce their doing so, 1388-90, 1402-3. Milkshops and registered dairy-men are under the same inspection, 1391.

Under the Dairies and Cowsheds Order, milk from a "diseased" cow must not be sold; tuberculosis under that Order is not scheduled as a "disease"; but representations have been made by the Council within the past year to the Local Government Board to amend the Order so as to include tuberculosis, 1392-5. The Order, however, had reference only to diseases communicable from cattle to cattle, and had no concern with human health, 1396-7. The inspectors having no jurisdiction over cattle or meat, require no veterinary training; their work is sanitary, and those recently appointed hold certificates of the Sanitary Institute, 1419-24. The small proportion of tuberculous cows in London may arise from no inbreeding taking place, and also from the fact that, generally speaking, when they run dry, they are sent to the slaughter-house, 1425-6.

HAYDON, Mr. WILLIAM (Digest of his Evidence). Chairman of the Public Control Committee, L.C.C., President of the London Butchers' Trade Association, and Vice-President of the National Federation of Butchers' and Meat Traders' Associations, 1600-1.

Was a practical slaughterer for many years and has had many opportunities of observing tuberculous animals, 1602-4. Stall fed, as compared with other animals, are more subject to tuberculosis, 1605-7, 1747-50, 1768-9. Has seldom observed tubercles in the muscles, generally on walls of chest which he removed, 1608, 1612, 1643-50. Would sell tuberculous meat unless in very advanced state, 1611-13, 1651-63, 1740. London traders have not much to complain of on the score of inspection; suggests greater uniformity for provinces, practical men as inspectors, and approves of butchers' juries in cases of dispute, 1618-28, 1664-7, 1682-3, 1693-8, 1744-6, 1842-4. Where seizures are made in the interest of the public health, and where there is no attempt to conceal, compensation ought to be paid by Government or local authority; refers to a case of hardship in Scotland, 1629-37, 1668-76, 1725-39, 1772, 1792-803, 1810-16. It does not necessarily follow that the presence of extensive tuberculosis will alter outward appearance of animals, and quotes striking example, 1638, 1847-51, 1860-83. Personally inclined to favour public slaughter-houses but points out trade objections to their usefulness, 1639-42, 1684-92, 1758, 1776-91.

Inspection of animals killed in private slaughter-houses in scattered areas would be very difficult and expensive, 1703-7, 1853. Considers that fruit and other classes of food, bought from sample,

HAYDON, Mr. WILLIAM—*cont.*

which are liable to seizure without compensation, have no parallel in the meat trade, 1720-6, 1818-28. Has no personal knowledge of loss through seizure for tuberculosis, such seizures being very rare in London, 1809-16, 1845-6, 1856-9. The establishment of public slaughter-houses would favour the increase of foreign meat supply, 1886-90.

HEDLEY, Mr. MATTHEW, F.R.C.V.S. (Digest of his Evidence), Chief Inspector of the Veterinary Department, Irish Privy Council, 7931.

Gives particulars and results of post-mortem examinations of cattle destroyed in the suppression of pleuro-pneumonia, and the number found affected with tuberculosis, these results indicating that tuberculosis was less rife in Ireland than he had reason to believe, 7942-9. Considers swine and old cattle suffer most from tuberculosis; the State should buy up all the latter as a preliminary to getting rid of tuberculosis, 7950, 7992-8000, 8001-5, 2027-37, 8041-4. A careful professional observer would be able to diagnose the presence of tuberculosis without the aid of tuberculin, 7959-60.

Inspectors of meat and of dairy yards, &c. should be, in his opinion, trained men with a knowledge of animals in health and disease; they should, in fact, be veterinary surgeons with special training; the present arrangements for inspection are most unsatisfactory, and the existing powers of inspection of dairies and dairy stock should be extended, 7961-9, 8023-5, 8065-74.

Compulsory slaughter of animals with the object of stamping out tuberculosis would be undesirable in the present uncertain state of knowledge as to its extent, and the damage likely to accrue from the use of tuberculous meat or milk to the human subject, but in the event of compulsory slaughter compensation should be paid, 7970-81, 8014-22.

Has had rabbits, hares, and pheasants sent to him for post-mortem examination, and found them affected with generalised tuberculosis, although no report of tuberculosis amongst the cattle on the premises had reached him, 7984-91.

Considers that the use of tuberculin, of which he has had no personal experience, should be under public control, 8006-13.

Is in agreement with the suggestion, with a view to economy in veterinary inspection, that members of the Royal Irish Constabulary, after some training, would make good assistant inspectors, reporting to the veterinary inspector suspicious cases, but the control should rest with the Imperial authorities and not with local bodies, 8049-64.

HIDES, Mr. HENRY, appears in conjunction with Mr. Charles E. Pearson, on behalf of the Sheffield Butchers' Association, 7496-8. (See Mr. PEARSON'S EVIDENCE.)

HOLMANS, Mr. STEPHEN G. (Digest of his Evidence), Inspector for the Board of Agriculture, Deptford Division of Kent, the Foreign Cattle Market coming within his province, 2085-6.

Describes the system of inspection of cattle landed and slaughtered at Deptford, 2087-90; 2,600 or 2,700 would be the average number of cattle inspected weekly; hands in return covering periods 1886 to 1895, 2091. Has nothing to do with examination of carcasses, but in the years 1892, 1893, and 1894, at the request of the Board of Agriculture, he examined the lungs of cattle slaughtered and found very few cases of tuberculosis; gives particulars, 2092-7, 2104-7. There is no regular inspection of meat at Deptford, most of it goes to the Central Meat Market, where it is inspected, but quantities of meat are taken away to other places without any examination, 2099-103. Never heard of an animal passed by him as healthy being afterwards condemned, 2108.

HOPE, Dr. EDWARD W., M.D., D.Sc. (Digest of his Evidence). Is Medical Officer of Health of Liverpool, 1008-10.

In addition to the public slaughter-house there are 28 private slaughter-houses within the city where a certain amount of meat is prepared and sold. The staff consists of a chief and four assistant inspectors. The salary of the chief is 290*l.*, of the

HOPE, Dr. EDWARD W., M.D., D.Sc.—*cont.*

assistants 120*l.* to 140*l.* per annum, with other allowances; they are employed exclusively on the examination of meat; all were butchers by trade and are without veterinary qualifications, but in cases of doubt they can appeal to the veterinary surgeon, his assistant, or to himself, 1011-13. The principles which govern the action of the inspectors are laid down in section 116 of the Public Health Act, which are very definite, 1014-15, 1113; in regard to tuberculous meat they act under his instructions, which are on the lines adopted in Germany, France, and elsewhere, 1014-17. Would not seize or condemn whole carcass if only part were found tuberculous except under special circumstances, which he indicates, 1018-19, 1083-6, 1114-30. 214 in 1894, and 103 carcasses in 1895, were destroyed for tuberculosis, 1022-6, 1046-9, 1104-5. Inspectors and salesmen work harmoniously together, 1027-9. The loss falls generally on the consignor, who may be a butcher or cowkeeper; his experience is that tuberculosis is rarely found excepting in dairy cows, 1030-2, 1050-60, 1080-82. Where animals are sent to the abattoir for slaughter in good faith and are found to be suffering from any form of illness, an old custom prevails of summoning a jury of the trade who examine the carcass, and if all agree, a certificate is signed, and the carcass destroyed, without compensation, 1033-7, 1131-4, 1147-50. Inspectors have, except in the cases of imported carcasses, every opportunity of examining the viscera and other parts, 1039. Private slaughter-houses are less easy to regulate than public, the latter being most desirable, 1041-3; the suppression of private slaughter-houses would be very costly, 1110. He would not separate meat from other articles of food for the purposes of compensation in the ordinary course, but thinks there are exceptional cases where compensation might be made, 1061-6, 1089-98, 1179-83, 1192-3. Considers, apart from scientific knowledge, that a special training in the inspection of meat is necessary, 1099-103, 1111-12. It is to the interest of owners of cattle, and particularly of dairymen, to slaughter suspected animals, 1098, 1135-43; furnishes return of animals sent to public and private slaughter-houses from Liverpool dairies, 1220.

Milk Supply.—Cowsheds are called "shippons" in Liverpool; certificated sanitary inspectors visit and report on them, and under the Sale of Food and Drugs Act examinations are made of the milk by special inspectors; in addition, by order of the Health Committee, bacteriological examinations of milk are made with special reference to tuberculosis, 1151-2; but the city having to depend on a large external supply of milk is still liable to danger; suggests inspection of outside suspected areas by powers similar to those in the 4th section of the Notification of Diseases Act, 1890, including tuberculosis in schedule of diseases, 1153-7, 1187-91, 1195-7, 1210-12, 1214-20.

There is a steady diminution in mortality from tubercular diseases in Liverpool. Attributes diminution to general sanitary measures, improved dwellings of the poorer classes, better diet, wholesome meat and milk supply, 1158-65, 1167. Considers greater danger to the human being arises from milk than from meat, particularly in children, 1166-76. Considers that a dairy cow with any disease of any kind should be eliminated, 1194. Cubic space required in shippons in Liverpool is 600 feet; would prefer to see it raised to 800 feet, 1184-6, 1199-203. It would be a matter of difficulty to detect a tuberculous condition in the udder of a cow except in pronounced cases, 1208-9; periodic inspection of udders would be a step in the right direction, because it would detect any advanced case of illness, 1213.

HOPKIN, Mr. MORGAN (Digest of his Evidence). Salesman and cattle-dealer in Swansea, and a Vice-President of the National Federation of Butchers and Meat Traders, 7310-11.

Has surrendered three animals out of a 1,000 in 10 years; in one case he obtained no portion of the purchase money from the seller, in the second instance he received part, and in the third the whole sum, 7313-32. The voluntary surrender

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HOPKIN, MR. MORGAN—*cont.*

was largely due to business considerations, 7376-8. Has never heard of the system of insurance against loss adopted by members of his federation, 7333-47, but considers compensation for loss arising out of seizures where animals cost upwards of 10*l.* should be paid by the Imperial Government, 7348-65. It is not the practice in Swansea to condemn carcasses that are partly tuberculous, only those in which the disease is generalised, 7360. Is in favour of the stamping out of tuberculosis in animals, appreciates the great difficulties in doing so, but as a step in that direction would punish rather than compensate butchers found dealing in cheap cattle, costing from 3*l.* to 4*l.*, 7361-5, 7380-3. Considers that compensation should be paid for all articles of food purchased in good faith, and seized in the interests of public health, either by the local or Imperial authorities, 7391-7404. Has never availed himself of veterinary assistance in testing animals for tuberculosis, either at time of purchase or prior to slaughter, 7413-16. Does not think, that in the purchase of fat cattle there is a trade risk which would warrant him in paying a less price because of any such risk, 7425-41. From personal observation he has come to regard pure bred shorthorns as more subject to tuberculosis than other breeds, and admits, in respect to them, that there is a certain risk, and that such risk would affect the question of compensation for loss, 7442-56.

HUNTING, MR. WILLIAM, F.R.C.V.S. (Digest of his Evidence). Ex-President of the Royal College of Veterinary Surgeons, and Veterinary Inspector under the County Council of London, 7236-9.

Has given much thought to the question of the suppression or diminution of tuberculous disease in animals. Suggests a modification of the existing glanders regulations, making notification compulsory; recommends inspection and disinfection of premises where disease exists; isolation, where practicable, of animals found to be affected, through the application of the tuberculin test, and the slaughter of animals visibly diseased, with compensation by the local authority. Would not make the use of tuberculin compulsory, but thinks the Board of Agriculture should contribute to the expense of providing tuberculin, and also provide qualified veterinary surgeons who would be responsible for applying the test; this should not be left to every veterinary surgeon, and care should be taken that the tuberculin used was of good quality, 7242-9, 7294-309. Any attempt to stamp out tuberculosis in the same way as pleuro-pneumonia would be impracticable owing to the great cost; but acting on the principle in the Sale of Goods Act that a seller should not dispose of any deleterious article, thinks the purchaser of an animal, such as the dairyman or butcher, might have a warranty to extend over eight days that the animal was free from tuberculosis; this arrangement would, in his opinion, largely do away with claims for compensation, 7280-93.

KAY, MR. JAMES (Digest of his Evidence). President of the Lancashire Farmers' Association, Chairman of the Blackburn and District Farmers' Association, and Member of the Cattle Diseases Committee of the Central Chamber of Agriculture, 5193-7.

Has taken an active part in drawing public attention to the subject of tuberculosis in cattle, and to the fact that carcasses are seized and condemned, regardless of the extent of the disease, particularly in Lancashire, where he estimates that a loss of 25,000*l.* annually is incurred through seizures without compensation, 5198-211. Recommends compulsory notification, if accompanied by compensation, of suspected animals, and especially of milch cows, owing to the greater danger of infection from milk, 5212-7, 5334-7. Agrees with the resolution of the Central Chamber of Agriculture that all cows "visibly affected with" tuberculosis "should be slaughtered and compensation paid without regard to the cost it would entail on Imperial Exchequer, of which he has made no estimate, 5218-34, 5311-6, 5344-57.

KAY, MR. JAMES—*cont.*

Reference having been made to the Parliamentary Return of carcasses seized in Lancashire on account of tuberculosis, as compared with the number said by witness to have been seized, the witness disagreed with the accuracy of the official return; his personal loss was seven animals since 1892, he having farmed about 80 cattle, 60 being milch cows, 5243-86.

Having regard to the greater stringency of inspection on the part of medical officers of health in Lancashire and other places, he agreed with the suggestion that if some rule was made general that only carcasses showing very general signs of tuberculosis should be condemned, it would greatly remove the present grievance, 5287, 5338.

The isolation of suspected or infected cattle in ordinary dairy yards or farms would be difficult and expensive, 5325-30.

Explains that indirectly the farmer is a loser by seizures from butchers, 5339-43.

The system lately adopted by him in the purchase of young cattle instead of cows in full milk, namely, retaining the former for shorter periods after calving, and then selling them for slaughter is more profitable, although the initial cost is greater, 5318-21, 5358-66, 5372-81.

KING, MR. JAMES, M.R.C.V.S. (Digest of his Evidence). Veterinary Inspector of the City of Manchester, 7799-800.

Describes the result of testing, with tuberculin, 13 milch cows, having previously obtained the sanction of owners, 7801-15. In the case of two of the cows the sale of their milk was prohibited by the medical officer of health, acting under the Manchester Cowsheds Order, of which he produced a copy and read the passage, 7815-21. Admits, however, that they have no legal power to deal with milk in this manner, 7846.

There are two public slaughter-houses and 96 private slaughter-houses in Manchester, 7822-3. Submits a return of the number of carcasses condemned for tuberculosis in the public and private slaughter-houses during the years 1894-96, 7824-8, 7836-8, 7847-51, 7858-67. The increase in the number of carcasses condemned arose from increased trade and better inspection, additional inspectors having been appointed, 7829-31.

It is not customary in Manchester to condemn whole carcasses unless the disease is generalised, 7835, 7839-43.

In consequence of the number of cows condemned, as stated in the return, there is now a disinclination on the part of owners to have them slaughtered at the abattoir; they are slaughtered outside and reach the abattoir dressed, 7852-7, 7875-6. Has no knowledge of any trade being carried on in tuberculous cows at the present time, 7857.

The profits on the public slaughter-house, after paying ordinary expenses, rent, and interest on capital, are about 3 per cent., 7868.

His experience is opposed to the suggestion that butchers prefer dealing in foreign rather than home meat, 7871; but certain butchers who formerly dealt in cows in Manchester now buy foreign meat, 7870, 7873-4.

LANG, MR. JOHN (accompanied by Mr. James Scarlett). Is President of the Paisley United Fashers' Society, of which Mr. James Scarlett is Secretary, 5782-3. (See MR. SCARLETT'S EVIDENCE.)

LITTLEJOHN, DR. HENRY HARVEY, M.B., F.R.C.S.E. (Digest of his Evidence). Lecturer on Medical Jurisprudence and on Public Health at Surgeons' Hall, Edinburgh, and Medical Officer of Health of Sheffield, 7614-16.

In his latter capacity, which he has filled since 1891, his practice is to condemn all carcasses showing signs of tuberculosis (hands in a return from the year 1890); the system of condemnation, admittedly severe, though acquiesced in, has given rise to dissatisfaction, 7617-32, 7637-51, 7679-96.

In regard to the evidence of Mr. Pearson, who represented the Sheffield Butchers' Association, it should be pointed out that his complaint of loss refers in great measure to cows consigned to him for sale, the loss falling on the consignors, 7628-31, 7709.

LITTLEJOHN, DR. HENRY HARVEY, M.B., F.R.C.S.E.—*cont.*

The sanitary conditions of cowsheds have greatly improved under his supervision; in all new sheds he requires 800 cubic feet of space, in the old sheds 500, also a proper system of ventilation and sound flooring, 7633-6, 7671-8.

Would not give compensation in the case of cows condemned costing less than 8*l.*, or where the sanitary arrangements of the cowsheds were of such a nature as to foster the disease, 7659-67. Would, however, draw a distinction between a cow seized whilst alive and its carcase after slaughter, 7701-3.

Is of opinion that if rules were adopted by a central Government department as to the extent of tuberculosis in a carcase, that should lead to its total condemnation, they would be accepted and acted on by medical officers of health and local authorities, 7688-9.

Notwithstanding statements to the contrary in the Report of the last Royal Commission on Tuberculosis, he believes that tuberculous meat under certain conditions is injurious to the consumer, 7637-51, 7680-94.

Attributes the reduction in mortality from tubercular disease, as shown by the Registrar-General's Returns, partly to the stricter inspection of meat all over the country, 7704-9.

MACDOUGALL, MR. PATTEN (Digest of his Evidence).
Legal Member of the Local Government Board of Scotland, 3303.

Describes the action of the "Board of Supervision," now called "Local Government Board," in regard to dairies and cowsheds, and suggests that the latter body should have the power of defining "disease," so as to include tuberculosis, 3304-26, 3339, 3355-60.

Local authorities in Scotland have considerable powers for suppressing private slaughter-houses, 3327-33, 3364-7.

Owing to the voluntary surrender of tuberculous carcasses, prosecutions are rare; out of 47 borough and 15 district local authorities, only 15 prosecutions took place, 3340-1, 3381-2.

Agrees with the suggestion that districts might combine, as in England, for certain definite purposes, such as inspection of meat, and of dairies and cowsheds, &c., and thereby secure better service, 3347-51.

Were powers conferred on Local Government Board by Parliament, it would be the duty of the former to issue uniform instructions for inspection and condemnation of meat, &c., 3352-4.

Notification of diseases of the udder would facilitate inspection, 3377-9.

No complaints have reached his Board from butchers as to seizures of carcasses or from dairy owners as to the control of dairies, 3383-4.

Has formed no definite opinion on the question of compensation for seizures, 3385-406. Submits, as an Appendix, a summarised statement of the Statutory Regulations and Orders affecting the sale of milk and meat in Scotland, 3406a.

MACFADYEAN, PROFESSOR J., M.B., B.Sc., F.R.S.E. (Digest of his Evidence). Member of the Royal College of Veterinary Surgeons, Graduate in Medicine and Science of Edinburgh University, was Lecturer at the Royal Veterinary College, Edinburgh, is now Principal of the Royal Veterinary College, London, 1221-5. Was employed by the last Royal Commission to carry out some experiments, and to report on the means of diagnosing tuberculosis in the living animal, 1226. Gave evidence before the Departmental Committee on Pleuro-pneumonia and Tuberculosis in 1888, 1227. Milk from a diseased udder, if undiluted with milk from other cows, would be a very certain method of infecting the individual; recently has had a sample of milk submitted to him, with a view to diagnosis, from a diseased udder, and had no difficulty in detecting tubercle bacilli, in it, and shortly afterwards heard that the milk from that cow was still being sent for sale into the adjoining city; does not think the case exceptional, 1229-30. Considers there is no danger from milk unless it comes from a diseased

MACFADYEAN, PROFESSOR J., M.B., B.Sc., F.R.S.E.—*cont.*

udder; the latter condition must, after a short time, be apparent to the milker; recommends veterinary inspection at intervals of two or three weeks, and would make it penal for any person to sell milk from an udder manifestly diseased in any form. Suggests slaughter of animal, 1231-3, 1253, 1264-8, 1271. Considers veterinary knowledge a necessary qualification for inspectors, but lay inspectors might be trained in superficial examinations with appeal to a veterinary surgeon in suspicious cases, 1234-9, 1326-35. Steaming the milk is the best of all precautions; it is inexpensive, and absolutely certain, 1240-49.

To safeguard the public against danger from meat, skilled inspection is necessary; considers that no satisfactory system can exist whilst private slaughter-houses are allowed to remain in towns, of any size; the cost would be considerable but they ought to be abolished, 1241, 1243-4. Does not think tuberculosis is conveyed frequently to the human subject by means of the flesh of tuberculous animals, nor does he approve of the total destruction of a carcase where the disease is localised; refers to various congresses held on the Continent during the past 10 years dealing with this subject, and urges the adoption of the system in operation in France during past four or five years as a sufficient safeguard to the public health, combined with a compulsory system of inspection, the rule as to condemnation being (1) "If the lesions are generalised, that is to say, not confined exclusively to the visceral organs and their lymphatic glands; (2) if the lesions, although localised, have invaded the greater part of an organ, or are manifested by an eruption on the walls of the chest or abdominal cavity." This system would not lead to the destruction of one carcase in 200, whilst the system of total seizure would, in his opinion, lead to the destruction of 15 to 20 per cent. of all adult cattle, and to 30 per cent. of our dairy cows; gives some statistics in support of his calculation, 1242-3, 1245-6, 1322-3, 1342-3. Where an animal apparently healthy on being slaughtered is found to be tuberculous, compensation ought to be paid; but if ailing before slaughter, would give no compensation; such action might lead to fraudulent dealing, 1250-2, 1269-70. It ought to be made compulsory to notify symptoms of tuberculosis in a milch cow, and the use of its milk should be prohibited, 1254, 1258, 1264, 1271-81. Tuberculosis of the udder is usually found in advanced cases of tuberculosis, 1255-6. Could not rely on the ability of stockowners to diagnose tuberculous inflammation of the udder owing to its insidious character, 1257. Without the use of the tuberculin test no one could, with certainty, diagnose the disease. With tuberculin it is a certainty, gives result of his experiments and cites examples. Would supplement physical examination of the udder by the tuberculin test unless those physical signs were a perfectly clear diagnosis, 1260. Will be disappointed if, as a result of this Commission, some definite regulations are not laid down for inspectors of meat as to when carcasses should or should not be condemned, 1324-5. Considers the system of a "Freibank" as adopted on the Continent would not be successful in this country, 1339-41.

MARSDEN, DR. ROBERT SYDNEY, M.B., D.Sc. (Digest of his Evidence). Medical Officer of Health of Birkenhead, which is one of the principal centres of the foreign meat trade, 2110-11.

Submits a return for years 1894-5, showing number of carcasses examined, number found tuberculous, and seized, in whole or in part, at the Woodside and Wallasey Lairage, 2112-6. Offal is separately inspected, but there is no system by which the offal, if found affected, can be identified as belonging to any particular carcase, 2117, 2174-5. Inspection is superficial, there being no power to cut into the glands of a suspected carcase, which is a weak point in the method of inspection. Powers should be granted to do this, 2118-9, 2170-3, but there is no difficulty with the best class of traders, 2183-4, 2204, 2235-9, 2263-9. In regard to home animals slaughtered in the

Précis.

MARSDEN, Dr. ROBERT SYDNEY, M.B., D.Sc.—*cont.*

Tramere abattoirs the inspection is more complete, carcasses and offal are easily identified and examined together, 2120-1. Gives returns of number slaughtered during the years 1892-6, where they came from, total number affected with tuberculosis, distinguishing between sex, 2122-4, 2187-8. Complaints of butchers in his district as to the strictness and want of uniformity of inspection and condemnation are constant, but the strictness makes them very careful in selecting sound stock, 2125-7, 2129-31, 2159, 2208-9. Personally inspects 30,000 carcasses per annum. Would not condemn a whole carcass if part only were tuberculous. It is customary for him to pass carcasses if the trace of disease is confined to the internal organs, 2128, 2137-56, 2171-3, 2298-9. Thinks public authority, out of the rates, ought under certain circumstances to give partial compensation for seizure and compulsory slaughter where the purchase was proved to be *bona fide* and the slaughter took place in the interest of the public health, 2215-22, 2270-3, 2383-7, 2402-3, 3132-6. Considers there is no absolute protection for the public against diseased meat owing to the existence of private slaughter-houses and indifferent inspection in them; suggests their abolition and establishment of public slaughter-houses centrally situated for convenience of scattered communities, 2190-2202, 2251-3, 2297. Uniformity of inspection could, in his opinion, be easily brought about by adoption of certain standard rules, 2202.

Before seizing or prosecuting he gives in most cases the option of voluntary surrender, which is invariably conceded; that done, the butcher is in no way exposed, 2257-60, 2286-7.

Seizures of fowls and rabbits have been made by him, but the risk to the human subject from that source is a small one, 2420-3.

Has no power either to prevent milk being sold, which, to all outward appearance, comes from tuberculous cows, nor to examine cattle in cowsheds or dairies. Thinks, owing to the danger of infection, particularly to children, through use of raw milk, that powers should be given for testing with tuberculin suspected milk cows, for prohibiting the sale of their milk, and for the removal of such as have diseased udders, 2300-23, 2340-4, 2347-51, 2378-81, 2397-401, 2412-7.

A large quantity of milk sold in Birkenhead comes from outside the borough. Samples for analysis are frequently taken, which is the only check on the sale of infected milk coming from outside, 2354-65.

MIDDLETON, Mr. CHRISTOPHER (Digest of his Evidence). Has been a dairy farmer during the past 15 years, is on the Council of the Dairy Farmers' Association, and gives evidence on behalf of the Cleveland Chamber of Agriculture, 6591-3.

Disease of the udders is exceptional, but considers the milk from cows visibly affected with the disease more dangerous to health than the meat, 6596-9, 6631-5, 6722-7.

The present system of inspection of dairy farms, is most inadequate; considers compulsory notification and periodical inspection by thoroughly qualified veterinary surgeons necessary, the expenses being borne by the Imperial Exchequer for reasons stated, 6600-9, 6615-20, 6654-9, 6672-82, 6703-12, 6713-21, 6728-30, 6752-6.

Would not advocate the compulsory use of the tuberculin test, but where a dispute arose between the owner and inspector the test might be adopted, although personally he is doubtful as to its reliability, but is open to conviction, 6611-2, 6660-5, 6688, 6699-702.

Compensation up to the full value should be paid for an animal compulsorily slaughtered, the condition of the carcass as a marketable commodity being the standard, 6609-10, 6613, 6643-4, 6730-40. This, in his opinion, would tend to minimise breeding from tuberculous animals, 6614. Has lost 18 animals through tuberculosis in 15 years, in addition to six others, of which he bore part of the loss, 6635-9. Attributes small loss to great care in buying stock, 6639-42.

Advocates a uniform system of inspection of meat on recognised principles, 6622-3, 6757-9; and believes

MIDDLETON, Mr. CHRISTOPHER—*cont.*

that the Board of Agriculture should be the central authority for dealing with tuberculosis, 6746-51.

Would extend the system of compensation under certain conditions to cattle purchased in good faith, and bought for not less than 7*l.* 10*s.*, 6624-6, 6643-4, 6741-5, 6760-72. There is an element of risk in purchasing cows for slaughter, and many butchers will have no dealings with them; their value has decreased in consequence of the tendency to tuberculosis and the stringency of inspection, 6627-30. Bullocks are generally slaughtered when about three years old, cows being kept for a much longer period; this is the reason that the latter are more subject to tuberculosis, 6694-8.

NEWSHOLME, Dr. ARTHUR, M.D., (Digest of his Evidence). Medical Officer of Health of Brighton, 4193. During the past two years seizures of tuberculous carcasses have not been contested by the butchers; prior to that, however, great opposition was experienced, but now they voluntarily surrender, and send for the inspector in case of doubt, 4194-5. During the years 1889-96 there were 91 animals condemned for tuberculosis, 4196. Would only wholly condemn animals where tuberculosis was generalised and wasting evident, 4198-200, 4255-60.

In addition to the public slaughter-house there are 45 private slaughter-houses in Brighton, and about 12 per cent. of the animals slaughtered are dealt with in the former, 4201-9. There is no systematic co-operation between adjoining rural or urban authorities with the Corporation of Brighton in protecting the town from diseased meat. Cases have been known of tuberculous carcasses or portions of carcasses unfit for food being sent to Brighton from neighbouring places, and there is danger of this occurring without detection; but the vast majority of Brighton traders would refuse to deal in such meat, 4210-22. Does not consider any scheme of compensation for seizures practicable, but is of opinion that the traders by combination could insure against loss, 4223-4, 4243, 4270.

There are only 14 cowsheds in Brighton, but the system of inspection is inadequate, 4225-6. The cubic space always required is 800 feet per cow, 4261.

So far as tuberculosis is concerned the milk supply is the more important, and to make inspection stringent would indirectly affect the meat supply from tuberculous cows; it would not pay to keep them, 4227, 4284-8. Gives examples of seizures of such animals, and the difficulties surrounding their examination, 4228-35, 4247-49. Suggests improvements as to inspection of dairies and cowsheds, 4244-6. Recommends the abolition of private slaughter-houses except in rural districts, and would make the use of public slaughter-houses compulsory in urban districts, thereby insuring a proper system of inspection, 4235-6. Does not think this arrangement would give any advantage to foreign over home produce, 4237-42, 4255-60. The inconvenience and cost of carrying carcasses from public slaughter-houses is infinitesimal, as the present regulations compel owners of registered private slaughter-houses to remove all offal, etc., within 24 hours after slaughter, 4280-1, 4298-301.

Considers that stamping of meat after inspection would not only be a safeguard to the public, but of material advantage to the butcher; instances Brighton, where the butchers advertise their meat as having passed inspection in the public abattoir, 4262-9, 4275. Agrees with the suggestion that foreign meat might also be stamped at the time of slaughter by inspectors sent from here, 4291-3. Considerable numbers of pigs have been condemned in Brighton for tuberculosis, principally from one insanitary place near Brighton, over which he has no control, where the pigs are fed from the offal of the public abattoir, and considers the disease in pigs might be greatly lessened by more careful feeding, 4271-2.

Refers to a dairy company in Brighton which advertises the purity of its milk supply as coming from cows that have been tested with tuberculin, 4310. Considers it best for dairymen, when they find animals re-act, either to fatten or sell at once as second-class meat, 4302-9.

NIVEN, DR. JAMES, M.A., M.B. (Digest of his Evidence). Medical Officer of Health, Manchester, 3660. The inspection of meat at the abattoir is efficiently carried out by the veterinary inspector; but the efficient inspection of imported carcasses is more difficult, owing to their large number; approves of stamping meat, and obtaining power to cut into the glands where necessary, 3363-8, 3775-82. Speaking generally of the milk supply of Manchester, and the condition of byres and cowsheds, he considers the present state of affairs unsatisfactory, but hopes to obtain powers to improve them; advocates the granting of certain powers of inspection over cowsheds and animals from which milk is received by large urban districts, and considers that tuberculous milk is responsible for a large number of infantile deaths, 3669-89, 3752-6, 3760-3770-1, 3805-15. It does not follow that a cow having a tuberculous udder would be unfit for human food. Instances a case where the owner of a cow with a tuberculous udder refused to slaughter, there being no power to compel him, 3701-8; this, however, was exceptional, 3735-7.

In regard to private slaughter-houses he would advocate compulsory closing in urban districts, 3709-12, 3751.

Would grant compensation from Imperial funds for losses incurred by seizure of carcasses under certain conditions, 3713-16, 3742-50, 3839-41, 3855-70, 3887-92.

Handed in a table showing that, out of 398 animals, not selected, consisting of cows, heifers, bullocks, bulls, and calves, 120 were found on examination to be tuberculous, but only 14 were unfit for human food, 3717-29.

Advocates the appointment of veterinary surgeons, acting in conjunction with medical officers of health, for inspection of cattle, cowsheds, &c., and considers also that the testing of cattle with tuberculin might be practised, 3761-9. Gives outline of proposals in this connection, 3783-3800, 3842-52.

Has no knowledge of a guarantee of soundness being asked for, and does not think butchers avoid buying cattle in districts where they are known to be liable to tuberculosis, 3801-4.

NUTTALL, MR. THOMAS (Digest of his Evidence). Representing the Central Chamber of Agriculture, is Vice-chairman of the Leicester Agricultural Society, and a member of the Cattle Diseases Committee of the British Dairy Farmers' Association, 5632-3, 5680-96.

Gives the result of his experiences as a dairy-farmer, breeder, and feeder, covering a period of nearly 40 years, as to the liability of certain animals to contract tuberculosis, and the methods adopted in testing them before purchase, 5634-43, 5666-77.

Has had complaints from butchers to whom he has sold animals found to be tuberculous and condemned after slaughter; considers that butchers who buy in a *bona fide* manner should be compensated in full, 5644-7, 5697-8, 5728-9. Considers that no animal of less value than 10*l.* should be sold for meat, 5662-3, 5706-8.

With certain exceptions, where animals or carcasses are seized in the interests of public health, compensation should be paid out of Imperial funds in proportion to the marketable value of the carcass, 5648-61, 5744-79.

Has never seen a case of tuberculosis in the udder, 5664-5, 5678. Has seen indurated udders which might have been tuberculous, 5734-5.

Believes that the injudicious use of brewers' grains as a feeding stuff for cattle is highly injurious and helps to foster tuberculosis, 5680, 5709-11, 5730-3.

Does not believe tuberculosis amongst cattle is infectious, but, if it were proved to be so, it would not be difficult to arrange for the separation of the sound and unsound animals, although the housing accommodation for cattle in his part of the country is poor, 5712-25.

Is rather doubtful whether farmers, given the opportunity of using the tuberculin test, would willingly adopt it, 5741-3.

PEARSON, MR. CHARLES EDWARD (Digest of his Evidence). Appears in conjunction with Mr. Hides, on behalf of the Sheffield Butchers' Association, 7496-8.

Speaking of his personal loss through seizures for tuberculosis, he estimates the amount at 500*l.* in seven years, representing a total of 12,000 animals slaughtered; of which 35, including a calf, were condemned, 7499-508, 7524-64.

Refers to the prosecution of a member of his Association for having a diseased carcass in his possession, which was dismissed; also, to that of a non-member who was fined for having pigs affected with tuberculosis in his possession, which had been bought in good faith, and at full market price, 7509-13, 7546-57.

Considers that compensation should be paid, under certain limitations, for seizures, where the transaction between buyer and seller is perfectly *bona fide*, 7514, 7538-602.

Has not given much attention to the question of insurance against loss, and expresses surprise at its success in Newcastle and other places, 7515-23, 7558-63, 7604-9.

The abolition of private and the substitution of public slaughter-houses would be a disadvantage, as most of the former are used merely for the hanging of foreign meat; estimates that not more than 30 beasts are slaughtered in Sheffield in a week, attributing this, in some measure, to the low price of foreign meat, 7564-9.

Having regard to the want of uniformity of inspection, he is of opinion that no one who voluntarily surrenders a carcass found to be tuberculous should be prosecuted, 7570. Complains of the harsh system of inspection adopted in Sheffield as compared with other places, 7591-7.

PROVIS, MR. S. B., C.B. (Digest of his Evidence). Assistant Secretary of the Local Government Board, Whitehall.

Is conversant with the general law as to public health in England and Wales. Those laws are not applicable to the county of London, the latter being subject to the Public Health (London) Act, 1891.

Outside London the Act of 1875, sections 116-9, relates to unsound meat; it empowers medical officers of health or inspectors of nuisances to inspect and examine meat exposed or deposited for sale, and if it is found diseased or unsound, power is given to have the same examined by a justice; the latter may order the meat to be destroyed, and the person to whom it belonged is liable to a penalty not exceeding 20*l.* or imprisonment for a period of three months. Penalties are also imposed for obstructing officers in the discharge of their duties. Search warrants may be granted by a justice where there is suspicion of concealment, 1-5.

This Act is not in force in Scotland or Ireland, 6, 102-10. Under the Public Health Acts (Amendment) Act, 1890, section 28, further provisions are made respecting unsound meat, which extend to all articles intended for the food of man, 6-7. Cases quoted from the High Courts as to the liability of the buyer, seller, or person in possession of unsound articles of food, 7-12, 91-7. Sections 116-7 of the Public Health Act, 1875, applies to milk as well as to meat, 12. Points out the difference in the provisions of the Public Health (London) Act, 1891, and that of 1875, 13-18. According to a Parliamentary Return issued in 1894, the number of carcasses seized by medical officers of health and inspectors of nuisances during the year ending 25th March 1893, was 3,322, and the number condemned by justices 499, of which 155 were tuberculous; of this number in London there were 382 seized, and 86 condemned, of which 23 were tuberculous, 19-22, 61-3, 111-7. The Local Government Board has no power to deal with unsound meat, but is empowered to prescribe the duties of medical officers of health and inspectors of nuisances; states what the rules applicable to these officers are, 23. *Slaughter-houses* are regulated under the Public Health Act, 1875, outside London, and in London under the Act of 1891, 24. Describes the provisions of the Act of 1875 (in which the Towns Improvement Clauses Act, 1847, with regard to slaughter-houses was

Præcis.

PROVIS, Mr. S. B., C.B.—*cont.*

incorporated), as to the regulations and management of slaughter-houses outside London, 25-34, 64-74, 101. Explains the provisions in the County and City of London, 35, 99-100, 118-20. Erection and closing of slaughter-houses, 121-34.

Dairies, Cowsheds, and Milkshops in London, and outside, generally are regulated by model regulations, approved by the Local Government Board, but are subject to alteration by the local authorities, with the sanction of the Local Government Board. Describes the operation of those regulations in London and in the country, 36-54, 75-9, 89-90, 138-41. Suggestions have been made to the Local Government Board to amend the regulations in regard to dairies and cowsheds, 55, 82-88. Power as to the inspection of milk coming from a district not governed by local authority, 135-7.

Sanitary Inspectors.—Qualifications and examining body, 143-9. Statutory regulations respecting sale of meat and milk, 149-51, also Appendix.

RAYMENT, Mr. S. J., M.R.C.V.S. (Digest of his Evidence). Has been veterinary inspector of the Corporation of the City of London at the Metropolitan Cattle Market, Islington, during the past 30 years, 874-5, 889. During the year 1895 there were 165,728 cattle in the market, which were sent to London and the provinces, 877; about 300 weekly are slaughtered within the market and come under his inspection, 878-9; this number is on the decrease, owing to the large importation of foreign cattle at Deptford, and to the large increase in the foreign dead meat supply, 881-2; it also affects the number of live cattle coming to the market, 883. From the 1st January to 14th November 1896 he condemned 253 carcasses as unsound, of which 133 were affected with tuberculosis, 884-8. On behalf of the Board of Agriculture, in their efforts to stamp out pleuropneumonia, he examined, post mortem, 3,709 animals and found 723 affected with tuberculosis, about 19½ per cent., 889, 912-7, 939; they were contact animals and not supposed to be tuberculous, 891. Would not condemn whole carcasses if only partly affected with tubercle, except under special conditions which he describes, 892-3, 931, 944-7, 965, 972-3. Considers scientific knowledge and special training necessary for inspectors, 894-5. Veterinary surgeons, with special training, would make good inspectors, 906-12, 948. Agrees with the suggestion that if the Local Government Board were to draw up regulations as to what they might condemn it would assist inspectors and get rid of the objection of the butchers as to want of uniformity, 949-52. Public slaughter-houses offer greater facilities for inspection, but thinks it possible for proper supervision to be maintained in private slaughter-houses; instances those under the supervision of the London County Council as excellent examples, 955-6. Agrees with the suggestion that in rural districts where disputes arose veterinary surgeons might be called in to decide, or arrangements be made for inspection at specified hours by veterinary surgeons without interfering with their ordinary practice, 957-9. Where there is a large slaughter-house arrangements might be made to leave a good deal of actual inspection to subordinates, not necessarily veterinary surgeons, and have a veterinary inspector as director, who would pay visits periodically to examine any carcass about which a dispute might have arisen, 960-1. Does not examine every carcass, relying on his men to inform him of any doubtful cases, but considers it a great hardship in the event of his passing a carcass as sound for another inspector elsewhere, without scientific knowledge, to condemn it as tuberculous; the owner in that case might be prosecuted, 978-9. Thinks a systematic inspection of udders in dairies once a month or fortnight very desirable, as it would help to secure the public against tuberculous milk, 985-7. In cases of indurated udder he would have the milk submitted to some expert for bacteriological examination, adding that hard udders arise from other causes than tuberculosis, 991-6, 999, 1002. Cows, with any disease of the udder, should, in the interests of public health, be eliminated from the dairy altogether it would

RAYMENT, Mr. S. J., M.R.C.V.S.—*cont.*

be to the interest of the dairyman to do this; it might possibly meet the circumstances of the case if owners were compelled to report the presence of hard udders, after which the responsibility would rest on the authorities, 1003-7.

ROBERTSON, Dr. JOHN, M.D. (Digest of his Evidence). Medical Officer of Health, St. Helen's, 3217.

There are 19 private slaughter-houses, and one Corporation slaughter-house in St. Helen's, 3227. Inspection regular, 3233, 3278-9.

The number of seizures for tuberculosis represented 1 in 573 animals during the years 1894-6; in the latter year, 3,397 beasts were slaughtered and 13 seized on account of tuberculosis, which was exceptional, 3232-3, 3259-61.

Does not condemn a carcass unless tuberculosis is generalised, 3236-56, 3262-6, 3288-9.

Most of the carcasses condemned were those of milch cows, 3260-1.

The butchers do not complain of his action; their grievance being that they suffer loss through his action, with which he sympathises, 3219-20, 3286, 3290-1.

Considers no system of inspection would be satisfactory to butchers, unless compensation followed condemnation, 3299-302.

ROWLANDSON, Mr. SAMUEL (Digest of his Evidence). Member of the Royal Agricultural Society, Member of the Council of the Central Chamber of Agriculture, and represents both councils, 6488-90. Is a practical farmer, occupying about 2,800 acres in Yorkshire and Durham, 6492-4. About 1,500 to 1,400 cattle, all used for feeding purposes, pass through his hands annually, 6495, 6567-8.

During the past two years his attention has been more directed to the question of tuberculosis in cattle than before, and gives as a reason that his cattle formerly were sent away to be slaughtered, but during the period referred to they have been slaughtered in his district, 6496-501, 6540-2.

Has heard complaints made as to the lack of uniformity of inspection of meat, 6502-5.

The witness partly agreed with the suggestion that, if some general rules were issued governing the action of inspectors, fewer complaints would be heard, and claims for compensation be somewhat diminished, 6538, 6579-90.

Compensation should be paid to owners, under certain conditions, where animals were ordered to be slaughtered by a veterinary inspector, he being of opinion that they were suffering from tuberculosis, 6507-15, 6556-60. Would include butchers in this category where a fair market price was paid for the animal, he himself having sold cattle, apparently sound, which when slaughtered were found to be tuberculous, and were condemned; the loss in those cases fell equally on the butcher and himself by mutual agreement, 6516-37.

In regard to the application of the tuberculin test, he would be most unwilling to submit his cattle to it, maintaining that the knowledge of any of his herd re-acting would, in his case, lead either to its slaughter, its removal from the cowshed, or a public declaration to an intending purchaser; but is of opinion that cattle if subjected to the test should be branded, 6547-51, 6561-4.

SAUNDERS, Dr. W. SEDGWICK (Digest of his Evidence). Medical Officer of Health and Public Analyst to the City of London, 603.

Meat inspection is carried out by Commissioners of Sewers under special Acts of Parliament, 1848 and 1851, and Public Health (London) Act, 1891, 604. This applies to dead meat only, as there is no live stock market in the City of London, 605-707. In the City are 14 private slaughter-houses, all in Aldgate, 606-7, 710-1. Conducted under byelaws, 609. No cowsheds, 608. The average quantity of meat inspected in 1896 was 1,200 tons daily; describes the method of inspection, 610-84; six inspectors form the staff and they are selected after satisfying the sanitary committee and general Court of Sewers as to their fitness, 611-3, 718-23.

SAUNDERS, Dr. W. SEDGWICK—*cont.*

Describes process of destruction and utilisation of condemned meat, 614. Seizures in 1895 represented 600 tons out of a total supply of 347,000 tons; explains the disproportion between "seized" and "condemned" carcasses, 616-20, 777-8. Old milch cows show no more signs of tuberculosis than other carcasses, 626-7. Internal organs are absent at time of inspection, and their absence may be a cause of the small proportion of tuberculous carcasses condemned, 684-5, 713-7, 765-8.

Describes the principle on which meat is condemned as unfit for human food, 632-49, 652-5, 656-68, 687-95, 791-5. Proceedings were formerly taken under the old Sewers Act of 1851, but more recently under the Public Health (London) Act of 1891, 651. Would condemn a carcass showing any signs of tuberculosis, 630, 669-96, 760-4, 824-5. Is of opinion that private slaughter-houses should not exist in large centres, but their abolition in small districts would be very difficult, 674-5, 786-90; has not considered the question of compensation, but has seized and confiscated other food-stuffs, such as tea, fruit, fish, &c., 708-9, 752-9, 807-9. Has closed houses unfit for habitation and given no compensation. Has no control over carcasses taken by the butcher direct from the railway, 746; jurisdiction extends to markets only, inspector seizes bad meat outside which may have escaped his attention, 740. The objection raised to public slaughter-houses without cooling chambers, that the early removal of the meat detracts from its quality is reasonable and true, 747-81. Has no doubt that a large number of animals having slight traces of tuberculosis are eaten as food, 769. Butchers are not affected by seizures and condemnation, only salesmen; the latter have to arrange with consigners from all parts of the country and abroad, his department giving the salesmen a certificate as to cause of seizure, which seems to satisfy him, as only 17 out of 6,096 carcasses were submitted to the justices in 1895, 777-83.

Uniformity of inspection can only be achieved by having skilled inspectors, and public slaughter-houses, 785-6. Difficulty arises sometimes, owing to the opinion of magistrates, as to what constitutes unsound meat; gives instances, 797-801. Very little friction ensues between the salesmen and inspectors, the great bulk of the salesmen being honourable, straightforward, and wealthy men, 804-6. Veterinary surgeons, as inspectors, would experience considerable difficulty in their dealings with a very rough class; cannot say that they would make better inspectors than those at present under him, 719-23, 817-19.

SCARLETT, Mr. JAMES (Digest of his Evidence).

Is Secretary of the Paisley United Fleshers' Society, which has been established 10 years; it has a membership of 67, comprising all the members of the trade in Paisley; its foundation was brought about in consequence of the rigorous inspection of meat and the frequent condemnation of carcasses by the local authority, 5784-94, 5857-61. They get on very well now with the local authority, which employs a veterinary inspector, 5994-5, 6048-50.

Produces statistics in confirmation of the seizures made, and explains the system of insurance in Paisley against loss through those seizures; the results so far show that cows form a large proportion of those condemned, equal to 90 per cent., 5794-839, 5849-56, 5862-92, 5941-2, 5948-51, 5970-9, 5988-9.

Advocates a uniform system of inspection and establishment of public slaughter-houses; indicates neighbouring boroughs of Paisley, where meat is passed which would be condemned in the latter place, 5840-3. In this connection he agrees with the suggestion that if some central authority were to issue instructions throughout the Kingdom as to the conditions under which tuberculous cattle should be seized, the present difficulty and hardship would be largely removed, 5921-8, 6029-32.

Recommends the compulsory use of the tuberculin test, the isolation of milch cows re-acting to it, and in the event of slaughter the payment of compensation to the owners, 5844-8, 5893-7, 5900-19, 5985-6, 6015-9.

1 94260.

SCARLETT, Mr. JAMES—*cont.*

The market in Paisley is held privately, and this system of private markets largely prevails in Scotland, 5932-36.

The system of insurance adopted by his Society and by the auctioneer is only applicable locally; there would be a difficulty in carrying it into effect in places like Glasgow, 5937-40, 6011-14.

He sees no difficulty in rural districts having public slaughter-houses, as a system of centralisation could be adopted, 5929-31, 5943-7. It would also tend to do away with trade in low-class carcasses, 6004-10, 6040-7.

Is, and has been a butcher for 20 years, during which period out of 3,400 animals passing through his hands only one was seized for tuberculosis, that being a cow; but he deals usually in bullocks, 5952-7.

The stamping of meat, either home or foreign, would be of little use as a guarantee to the consumer, 5959-68.

In regard to the question of compensation for cattle of less value than 10l., there is considerable difference in size and breed, and the sum of 6l. would be a fair price in some cases, 5871-4, 5990-3. Would have nothing to do with meat from emaciated animals, 6020-8.

SCOTT, Mr. CONWAY, C.E. (Digest of his Evidence). Executive Sanitary Officer of the City of Belfast, 2896.

Prior to 1888 no seizures for tuberculosis were made in Belfast; since then, inspection has been stringent, causing great dissatisfaction among the butchers, 2897-900, 2971-81, 2997-3000. Compensation should be given for animals purchased in good faith as sound and healthy, as in the case of compensation for destruction of property likely to spread infection, 2900-2, 2938, 2957, 2982-91, 3017-20, 3089-92, 3110-25. Formerly there were 30, but now there are only five, private licensed slaughter-houses, and one public slaughter-house in Belfast; the latter is under the Corporation, and is used by about 61 butchers (table showing results, 2911); the other butchers have erected slaughter-houses outside the City boundary, but their inspection is insufficient. Animals slaughtered in them are brought into the City and sold, 2904-14, 2903-8.

The staff for the inspection of meat consists of one superintendent, two inspectors, one supplementary inspector, a veterinary surgeon, and when necessary, the medical officer and the superintendent medical officer of health, 2915-8, 3080-88.

Practically speaking more than half the meat used in Belfast is not inspected, with the result, based on statistics, that the citizens annually consume upwards of 83 carcasses of unsound meat, 41 being tuberculous, 2919-24, 3041-2; 90 per cent. of the beef used in Belfast comes from dairy cows, 2930-6. There is no inspection of imported foreign dead meat in Belfast; there should be some central depot for that purpose, 2927-9, 2992-6, 3001-6. For the detection of tuberculosis there is practically no inspection of milk or cows, 2939-41, 2962-70.

Considers that greater powers should be given to local authorities with regard to the inspection of milk and cows; recommends isolation of affected cows and closing of dairies with, in some cases, compensation, 2944-55, 2958, 3028-40, 3099-106.

Belfast Butchers' Association insure their members against loss from seizure of tuberculous carcasses by means of subscription from the members, 1,500l. having been paid in eight years, 3008-16.

Recommends periodical inspection of slaughter-houses by responsible officials, and considers the forfeiture of the carcass by seizure sufficient punishment, but in the case of exposure for sale of unsound meat would insist on penalties, 3051-79.

SESSIONS, Mr. HAROLD, F.R.C.V.S. (Digest of his Evidence). Represents the Sussex Dairy Farmers' Association, 6775-83.

Was a farmer up to Michaelmas 1896. Had 40 cows, shorthorns, which he tested with tuberculin, and found 20 or 30 per cent. re-act. Fattened and sold them, 6774-82, 6832-42. Never suffered pecuniary loss, 6885-9.

Compensation, in proportion to the value of the carcass, should be paid in the event of seizure or

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SESSIONS, MR. HAROLD, F.R.C.V.S.—*cont.*

surrender, and a uniform system of inspection should be adopted, 6784-800, 6866-76, 6891-911, 6917-20.

Advocates the tuberculin test in herds where the milk is intended for human consumption; but would not make the test compulsory on all cattle, some breeds being practically free from tuberculosis, 6802-8, 6852-4.

Tuberculosis is undoubtedly contagious, and is spread by introducing fresh animals into sound herds, 6801, 6809-12, 6842-3, 6854.

Is in favour of public slaughter-houses, and a more thorough inspection of dairies and cowsheds, 6818-21, 6855-6.

Thinks that veterinary inspectors should be appointed by a central authority with powers to deal with any outbreak of contagious disease, &c. in specified districts, leaving the central authority to issue general orders. The cost to the nation would be less than the loss from tuberculosis, 6822-31.

Is of opinion that in a few years a stockowner could, by working on sound lines, practically eradicate tuberculosis from his stock, 6857-65. It would be almost impossible to wholly eradicate tuberculosis, but with careful control it could be greatly lessened, 6882-4.

Thinks it quite possible to separate on farms sound from unsound animals by mutual co-operation of landlord and tenant, 6912-5.

SINCLAIR, MR. JAMES MCINNES (Digest of his Evidence). Representative of the Victorian Agricultural Department in Great Britain, 8075.

Presents Reports from the Chief Inspector of Stock for Victoria, showing that tuberculosis is lower in Victoria than in any other country in the world, and the number of animals slaughtered under the Stock Diseases Act for tuberculosis (which latter is scheduled), and other diseases; also the system of inspection and arrangements made with owners of stock that is suspected or condemned, no compensation being paid, with which he fully agrees, as it is to the interest of the farmer to get rid of the diseased animals, 8076, 8081-3, 8100-4, 8133-48.

The inspectors are qualified veterinary surgeons, paid by the Government, and every carcass intended for export is examined, and when passed, the linen wrapper is officially stamped. This system will before long be generally adopted by the various colonies. Cannot say what principles guide the inspectors in condemning carcasses, 8077, 8084-91, 8105-29.

SMITH, MR. THOMAS CARRINGTON (Digest of his Evidence). Has carried on dairy-farming business in Staffordshire for upwards of 40 years, and appears as a representative of the Central Chamber of Agriculture from the dairy-farming point of view, 4875-81, 5064.

Believes that out of his herd of 60 dairy cows his annual loss is about three. Gives typical instances of the effects of the disease, 4886-95, 4981-3, 5017-21, 5073-9.

Does not think tuberculosis in animals can be stamped out, 4905-7, 5117.

If the tuberculin test was proved to be reliable, it would be a help to the dairy-farmer and breeder, 4908-10, 4961-74, 5004-16, 5048-53, 5146.

Considers isolation of suspected animals impracticable, 4911-6.

Notification of the disease should be made compulsory, and compensation paid out of Imperial funds to the extent of 75 per cent. where animals are eliminated from herds, 4917-23.

Attaches great importance to preventive measures, simple sanitary arrangements, proper feeding, and considers that breeding from tuberculous animals should be prevented, if possible, and that there should be uniform regulations throughout the country governing the inspection of cowsheds, dairies, and milkshops, 4923-42, 4975-80, 4985-5003, 5055-63.

Is of opinion that should warranties be demanded from farmers it would decrease the selling price of cattle, 4950-2, 5025-44, 5054.

Where an animal, apparently healthy, is condemned after slaughter, compensation should be paid either

SMITH, MR. THOMAS CARRINGTON—*cont.*

by the local or Imperial authority; but any attempt to stamp out tuberculosis on the same lines as pleuro-pneumonia and swine fever would be impossible, owing to the enormous cost, 4953-60, 5022-3, 5118-43, 5153-82.

Sells about 30 animals per annum for slaughtering. Has sold upwards of 1,000, and never heard of any of them being condemned for tuberculosis, 5065-72.

Has not considered the question of insurance against loss from seizure, but is not in sympathy with the suggestion, 5183-9.

SMYTH, DR. JOSEPH, M.D. (Digest of Evidence). Medical Officer of Naas Dispensary District for 22 years, and Coroner for North Kildare, 5382-5.

Calls attention to the want of proper inspection of meat, milk, cowsheds, dairies, and slaughter-houses in Ireland; admits that adequate expert inspection would be prohibitive owing to its cost; would make notification of suspected animals compulsory under penalties, and compensate, under certain conditions, for those animals destroyed in the interests of the public health, 5389-403, 5481-9, 5507-9, 5512-17, 5535-9, 5555-81, 5585-93, 5605. Little interest in the question of tuberculosis has been created in Ireland outside Dublin and Belfast, and disease of the udder is unknown to men who every year have 1,500 to 2,000 milch cows passing through their hands, 5404, 5505-6, 5547-50, 5582-3, 5625-27. Suggests that any systematic scheme of inspection should be confined to areas such as the poor law unions, and that information respecting tuberculosis, should be circulated by a central authority among farmers and breeders, 5405-8.

In view of the condition of the agricultural labourers and small farmers in Ireland, any seizure of their animals for tuberculosis, without compensation, would, in the majority of cases, mean ruin, 5409-31.

Does not consider boards of guardians in Ireland would be good administrative bodies for carrying any legislation into effect in respect to tuberculosis. Calls attention to the duties at present performed by the Royal Irish Constabulary as regards agricultural matters, and suggests their employment as assistant inspectors acting in conjunction with local veterinary surgeons or medical officers of health, and subject to the control of the Privy Council or other central body, 5434-55, 5458-61, 5510-11, 5594-8.

In regard to cowsheds, light, air, and ventilation, should be insisted on, and the presence of cowsheds in large centres of population should be discouraged by making the requirements so exacting that it would be unprofitable to retain them, 5468-73, 5491-504, 5540-6, 5551-4, 5599-602, 5606-12.

Would not allow breeding from tuberculous cows; appreciates the difficulty of ascertaining the presence of tuberculosis in live animals; looks for a development of the tuberculin test, and would temporarily eliminate from dairies cows suffering from diseased udders until their nature was diagnosed, 5462-7, 5522-34, 5603-4.

STAFFORD, DR. THOMAS JOSEPH (Digest of his Evidence). Medical Inspector, Local Government Board, Ireland, 2497.

The laws in Ireland relating to meat and milk inspection are practically the same as in England, 2499-501.

In rural districts there is no inspection of meat or slaughter-houses, but the rural authorities may, on application to the Local Government Board, obtain urban powers for this purpose, which has been done in one instance near Belfast, 2502-3, 2530-2, 2550-4. Considers it very desirable that a uniform system of meat inspection should be adopted, 2507, 2515-6, 2535, 2591. No complaints had reached his Board from butchers as to seizures of tuberculous carcasses, 2506-10, 2555-60. The inclusion of tuberculosis with the other diseases under the Contagious Diseases (Animals) Act would be undesirable. In cases of seizures for pleuro-pneumonia and swine-fever, compensation is paid out of Imperial funds; his Board would object to compensation for seizures on account of tuberculosis coming out of the poor rate, 2518-26, 2541-3, 2564-7.

STAFFORD, Dr. THOMAS JOSEPH—*cont.*

Arrangements might be made for periodical inspection of cows' udders by veterinary surgeons attached to the various unions, and any found affected therewith should be eliminated from the dairy, 2527-9, 2540-6, 2561-3, 2567-9, 2581-4, 2592, 2603-611.

Prefers isolation of suspected animals to compulsory slaughter, 2547-9.

Advocates the establishment of public slaughter-houses owing to the difficulty of properly inspecting private slaughter-houses, 2585-90, 2593-602.

STEPHENSON, Mr. CLEMENT, F.R.C.V.S. (Digest of his Evidence). Veterinary Inspector for Newcastle and county of Northumberland; has been a farmer and breeder 16 years, 6230-3.

There are nearly 2,000 cattle for sale in the Newcastle market every Tuesday; the local authority has power to remove from it, but not for slaughter, any animal suspected of disease; gives particulars of some cases, also the number of carcasses or parts of carcasses condemned for tuberculosis in Newcastle for a period of years, 6234-50, 6262-70.

Associated with himself in the inspection of cattle or meat is the medical officer of health, and two of his assistants, one of whom, Mr. Hedley, is an experienced meat inspector. Veterinary surgeons do not necessarily make good meat inspectors, 6251-3, 6376-88, 6473-9.

Does not condemn whole carcasses if only part is found to be tuberculous, 6248-9, 6260-2.

All the slaughter-houses in Newcastle are licensed; there is no public slaughter-house, but is emphatic on the necessity for public slaughter-houses all over the kingdom, 6263-5, 6271-2, 6366-75.

Hands in paper showing the great success of mutual insurance against loss by the Newcastle and District Butchers' Association during the past five years, 6266-7, 6355-65, 6406-24.

Does not think the introduction into this country of the tuberculin test, as adopted by Professor Bang, desirable, 6305-13; would make it penal for an owner to sell a cow that reacted to the test; he is convinced that such transactions are of frequent occurrence, and that some steps should be taken to prevent it, 6314-18, 6327-32, 6400.

Compensation should be paid to butchers who buy in good faith and pay a proper price for the animals; also to owners submitting their animals to the tuberculin test, and declaring those that react in order that they may be slaughtered. Thinks the compensation ought to come from Imperial funds, although he fully appreciates the difficulties surrounding the proposal, 6319-26, 6391-6, 6401-2, 6425-42.

Is of opinion that tuberculosis is sometimes conveyed to cattle from human beings, and, this being so, nothing can prevent its recurrence in herds, 6348-50, 6462-70.

Inspection of cattle in dairies which was formerly done by veterinary surgeons, is now carried out by the police; recommends a return to veterinary inspection, and would make notification compulsory, 6389-90.

Marking of meat after inspection has its advantages, but sees difficulties in carrying it out, 6404-5.

On the question of the necessary cubic space and ventilation of byres, he is of opinion that 750 feet is more than sufficient, although the regulations would require 800 feet.

TATHAM, Dr. JOHN, M.R.C.P. (Digest of his Evidence). Superintendent of Statistics, Registrar General's Office, and formerly Medical Officer of Health of the city of Manchester.

From the Registrar General's Returns there is no doubt that during the period 1851-95 there has been a substantial reduction in the death-rate from tubercular diseases, 4317. The figures presented show that, notwithstanding the increased consumption of meat by the people, there is no increase in deaths from phthisis, which practically governs the total death-rate from tubercular diseases between the ages of 15 and 35, 4321-32. The same conclusion applies to the use of milk by children under five years of age, 4332-8. It is not,

TATHAM, Dr. JOHN—*cont.*

therefore, permissible to draw the inference that the use of meat or milk produces tubercular diseases; it might be possible to arrive at some such conclusions, but there are no returns at present available to show this, 3339-40. Attempts in this direction have been made by the Registrar-General of Ireland, 4341-4. Speaking as a medical officer of health of long standing, his opinion is that, to a certain extent, the use of tuberculous meat and milk has an evil effect on those who consume it, particularly as regards milk, 4345-8. (Several tables handed in and appear as appendices.)

TERRITT, Mr. GEORGE PATRICK (Digest of his Evidence). Senior Inspector of Meat in the City of London; occupied in the dead meat market and slaughter-houses at Aldgate, and the markets at Leadenhall and Smithfield, 826-7.

There is an implied understanding that, in the event of a salesman being in possession of a doubtful or suspicious carcass he should call the inspector's attention to it, and speaking generally this is done. Sometimes defence is offered, and he has to take proceedings; the salesman suffers no loss, as he refuses to pay carriage, and refers the railway company to the consignor, 828-32, 845, 849-51. Thinks the trade regard the word "seizure" as reflecting to some extent upon them, but the grievance is sentimental; some say they prefer the word "condemned," 832-3, 836. Does not think any undue pressure is brought to bear on the inspector by salesmen to shut his eyes to the unsoundness of meat, 834. Few salesmen will run the risk of exposing doubtful meat for sale, 835-6. Prosecutions are generally directed against the consignor, and he works with the salesmen with very little friction, 841-2. Condemnation of meat is a matter of judgment on the part of the inspector and the medical officer of health, 843-4. Has not seen tuberculous poultry in his official capacity, but has seen it privately; has never seized any, 852-3. Consignors of unsound meat who suffer loss are, generally speaking, country butchers, and a few farmers who combine the business of dealing with that of farming, 854-5. In the case of cattle consigned alive for slaughter, the loss falls on the consignor, but in those consigned to be marketed alive, the loss falls on the purchaser, 856-7. Would condemn carcasses found partly tuberculous, but they are very few, 858-62. Inspects slaughter-houses for the purposes of seeing that they are kept clean, and also as to the fitness of the meat which is slaughtered in them for human food; there are no public slaughter-houses within the City, only 14 private, 863-6. Explains his method of examination for tubercle, and manner of submitting parts to magistrates for examination, 867-73.

VACHER, Dr. FRANCIS (Digest of his Evidence). Medical Officer of Health for the county of Chester, formerly occupied a similar position at Birkenhead for 18½ years, 4029.

Has had considerable experience in the inspection of meat, and has written books on the subject. Since Koch's discovery in 1883, however, he changed his opinion, and would not now permit carcasses found partly tuberculous to be sold unless sterilised. Considers that no efficient inspection of meat can take place unless public slaughter-houses are established, 4030-1, 4049-59, 4111-17, 4132-8, 4164-9.

While of opinion that tuberculosis is much more common in home carcasses than in foreign, there is not the same opportunity for inspecting the latter, 4032-5, 4064-8, 4178-82. Except in the Wallasey urban district, meat inspection in the county of Chester is more or less neglected, 4036-8.

There are a large number of milk farms in the county. In many places there are no regulations under the Dairies, Cowsheds, and Milkshops Order, without which it is impossible to ensure proper cleanliness, ventilation, &c. The inspection of those places is neither systematic nor careful. Attributes the large percentage of tuberculosis in dairy cattle to overcrowding and insufficient ventilation. Considers 500 cubic feet per animal would greatly

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VACHER, DR. FRANCIS—*cont.*

decrease the disease, 4039, 4094-8, 4151-63. Gives results of inoculations of cows with tuberculin on various well kept farms in Cheshire, and sets out in detail his views on the terms of reference to the Commission, 4039-41, 4069-75, 4099-110.

Does not advocate power being given to inspectors of meat to cut into glands, unless on the principle of compensation if no disease is found, 4139-42.

Has no doubt that greater danger to the human subject, in regard to tuberculosis, arises from the consumption of milk than meat, 4183-92.

WAGSTAFFE, MR. ROBERT (Digest of his Evidence). Meat Inspector at Birkenhead, had previously been a butcher and cattle breeder, 2440-7.

Would not condemn carcasses if part only were affected; explains his system of inspection, 2448-50, 2495-6. His relations with the Birkenhead butchers are very satisfactory now, 2451-3. It is true that diseased carcasses are sold outside the town, but he has no power to interfere, 2454-7. Would give compensation for seizure provided the animal cost not less than 8*l.*, and was not emaciated or in very bad condition; one-third compensation to be paid by the local authority out of the rates, 2458-65, 2482-4; would give compensation in all cases of food seizures where the trading was *bonâ fide*, 2472-5.

Of the number of carcasses seized the greater portion were milch cows, and in only one case was the decision of the magistrate adverse, and in that instance the lungs were destroyed by his order, 2466-71. Of the 71 carcasses seized in the period 1892-6, the animals, when alive, appeared quite healthy, 2476-81; the average seizures for tuberculosis would not exceed 10 in 200,000 carcasses of cattle, 2492-3.

Attempts have been made to unduly influence him in his capacity as inspector, 2485-90.

WARD, MR. GEORGE JACKSON (Digest of his Evidence). Wholesale and retail butcher in Middleton, 7710-12.

Gives instances of personal loss through seizure for tuberculosis; complains of the action of the inspector and offers recommendations, 7713-29, 7755-79, 7784-7, 7790-8.

WARD, MR. GEORGE JACKSON—*cont.*

Has not considered the question of insurance, admits the loss to be a trade risk, but would be willing to abide by a general rule, applicable in all parts of the country, specifying the stage in which carcasses of meat ought, or ought not, to be condemned when tuberculosis was found after slaughter, 730-47, 7755-79.

Compensation should be paid to the butcher by the seller, 7748-53.

WILEY, MR. JOHN (Digest of his Evidence). Butcher and cattle dealer, of West Hartlepool. A system of insurance against loss through seizures has been established by the butchers in West Hartlepool, the latter place being associated with the National Federation of Butchers and Meat Traders, 4379-82, 4457-80.

Complains of seizures without compensation; gives particulars of loss to butchers in West Hartlepool amounting in six years to 1,525*l.* 12*s.* 6*d.*, and has no doubt the medical officer of health and inspectors do their duty fairly and conscientiously, although until recently their inspection was severe, 4383-96, 4403-6, 4487-91. Personally he never suffered loss through seizure, 4494-505, 4594. All cattle are slaughtered in the public abattoir, there being no private slaughter-houses in West Hartlepool, 4397-402.

Is of opinion that shorthorn and Ayrshire breeds are more subject to tuberculosis than other breeds of cattle, 4411-12, 4451-2.

Is not prepared to say that there is greater danger of seizure in the case of cows than in that of bullocks or heifers for tuberculosis, although the premium for them in their society is double for the former, and the majority of members agree in the suggested danger, 4413-14, 4453-5, 4468-72; is not aware of the return received by the Commission from the West Hartlepool Butchers' Association, showing that out of 44 carcasses seized during the period 1891-96, 41 were those of cows, 4481-5.

The Mutual Association already referred to only paid compensation in the case of cows costing 10*l.* and heifers 8*l.*, 4542-8.

Considers it unnecessary to confiscate carcasses affected with tuberculosis in certain stages of the disease, and is of opinion that compensation should be paid out of Imperial or local funds, 4537-41.

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Tuberculosis is scheduled with other contagious diseases in the Stock Diseases Act, *Ib.*, 8081.

No compensation is given for slaughter of animals affected with tuberculosis, *Ib.*, 8082; which is not regarded as a grievance, *Ib.*, 8083; nor is it given for any disease under the Act, *Ib.*, 8100.

Inspection that meat undergoes which is exported from the Colony, *Ib.*, 8084-91; it is carried out by veterinary surgeons, *Ib.*, 8106-11.

Conditions as to inspection in other colonies, *Ib.*, 8127-9.

Provisions of the Stock Diseases Act, *Ib.*, 8142-8.

WALES:

Difficulties attending purchase of cattle, and thoroughly examining them, at fairs, markets, and sales in, *Hopkin*, 7322, 7416.

WARRANTY:

Required of farmers, by Isle of Man Butchers' Association, *Field*, 349; and will be in St. Helens, *Cooper*, 3136.

Difficulties in obtaining, *Field*, 442.

If demanded might serve as a protection to butcher, *Chalmers*, 3637; and throw loss on the farmer, *Niven*, 3802; *Green*, 3971-4; *Newsholme*, 4224; *Ackers*, 4738-9.

Effect of, would not necessarily be to increase price of animals, *Ib.*, 4829; but would rather decrease selling value to farmer, *Smith*, 4951-2, 5037-40.

Has not been demanded in Midland Counties, *Ib.*, 4950; except in case of horses, *Ib.*, 5025-36.

Advantages of giving a warranty in the case of pedigree stock, *Ib.*, 5044-54.

A warranty extending over eight days might be inserted in any new Act, as is done in Sale of Goods Act, *Hunting*, 7280.

WEST HARTLEPOOL:

Severity of meat inspection in, *Wiley*, 4383, 4404-6.

All animals for slaughter must be sent to public slaughter-house, where a definite system of inspection takes place; and only when disease is generalised are whole carcasses condemned, *Gourley*, 4553.

Number of tuberculous carcasses condemned in, *Wiley*, 4386, 4496; *Gourley*, 4554-6.

A committee of butchers and a sub-committee of the corporation see every carcass that is condemned, *Gourley*, 4557.

Insurance society among butchers in, to protect themselves against loss from condemnations for tuberculosis, *Wiley*, 4384-93, 4457-63.

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