

Pseudo-pneumonia in cattle. : Extract from the report on the murrain in horned cattle, the public sale of diseased animals, and the effects of the consumption of their flesh on human health ; addressed to the general board of health / by E. Headlam Greenhow, and report by J. Irvine Lupton on the effect produced on the human system by the consumption of the flesh of cattle affected with pleuro-pneumonia.

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PLEURO-PNEUMONIA IN CATTLE.

EXTRACT FROM THE REPORT

ON

MURRAIN IN HORNED CATTLE,
THE PUBLIC SALE OF DISEASED ANIMALS,
AND THE
EFFECTS OF THE CONSUMPTION OF THEIR
FLESH ON HUMAN HEALTH;

ADDRESSED TO

THE GENERAL BOARD OF HEALTH,

BY

E. HEADLAM GREENHOW, M.D.;

AND

REPORT by Mr. J. IRVINE LUPTON, F.R.C.V.S.,

ON THE

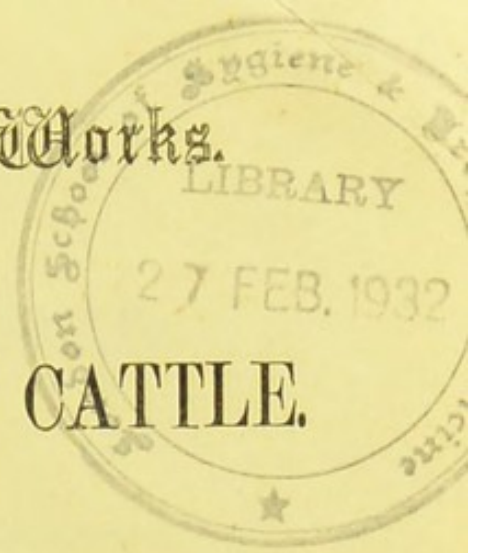
EFFECT PRODUCED ON THE HUMAN SYSTEM BY THE
CONSUMPTION OF THE FLESH OF CATTLE
AFFECTED WITH PLEURO-PNEUMONIA.

*(Printed by Order of the Special Purposes and Sanitary Committee,
4th May, 1880.)*

[No. 953A]



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Metropolitan Board of Works.

SPRING GARDENS,

July, 1880.

IN the former Report which I submitted to the Special Purposes and Sanitary Committee, giving extracts from various authorities as to the fitness of the flesh of cattle for food which had been affected with pleuro-pneumonia, I stated that the earliest notice that I had been able to trace on the subject was contained in the 5th Report of the Medical Officer of Health to the Privy Council for the year 1862.

I have, however, since ascertained that, in consequence of a serious outbreak of disease amongst the cows kept in the Parish of Paddington in 1856 and the sale of their flesh for human food, the General Board of Health instructed E. Headlam Greenhow, M.D. (Licentiate of the Royal College of Physicians, Lecturer on Public Health at St. Thomas's Hospital, &c.), to investigate the matter, and afterwards to ascertain whether similar diseases had prevailed in other parts of the Metropolis.

Dr. Greenhow appears to have taken considerable trouble to thoroughly investigate the subject, and personally to have inspected a number of cowsheds in different parts of the Metropolis, and also to have had placed at his disposal a large amount of information from France, Germany, Prussia, &c., and the result was embodied in a Report dated 24th April, 1857, to the Board of Trade.

I have obtained a copy of Dr. Greenhow's Report, and submit the following extracts as bearing most directly on the question now under the consideration of the Committee, viz., the fitness of the flesh for food of cattle which have suffered from pleuro-pneumonia—

Extract from the Report (1857) on Murrain in Horned Cattle, the Public Sale of Diseased Animals, and the effects of the consumption of their flesh on Human Health, addressed to the General Board of Health, by E. HEADLAM GREENHOW, M.D.

* * * *

In reference to the allegation that diseased cattle are slaughtered, and their flesh sold for human food, I was instructed to collect evidence, both

as to the extent of the practice adverted to, and as to any effects on human health which might have been observed to follow the consumption of such meat.

* * * *

The inquiry entrusted to me was thus of a two-fold character, its first and most important object being the investigation of a matter which both for the already recited reasons and on account of the possible relations between the causes of disease in cattle and in the human subject, was of intimate interest to the public health. Secondly to this, the inquiry was important under an economical and agricultural aspect, supposing the murrain at present prevailing on the Continent to be both contagious and different from the disease recently existing in London. The possible introduction of a new murrain from abroad into the herds of this country was evidently a question of great importance alike to the consumer and producer of meat.

* * * *

As already observed, veterinary practitioners are rarely consulted in London for the diseases of cattle, the most usual treatment being to slaughter the animals for food as soon as they manifest unequivocal signs of illness.

* * * *

According to information obtained from Germany, chalybeate medicines, and particularly the sulphate of iron given to the extent of half an ounce in the day, are the only remedies which have there been attended with any success. There too, as here, it is however most usual to slaughter the animals for human food on the first appearance of disease.

* * * *

Steppe murrain was introduced into Germany and France between 1795 and 1798, by means of cattle brought from Hungary to supply the Austrian army, then in arms against the French. It was again introduced into Western Europe in the train of the allied armies in 1813, entered France with them in 1814, and continued to devastate the herds of that country until 1816. According to several French authorities, quoted by Lévy (*Traité d'Hygiène*), numbers of the diseased animals were killed for the food both of the armies and of the inhabitants.

* * * *

The sale of diseased animals to be used for human food.

I have already mentioned the custom prevalent, among cow-keepers and other owners of cattle, of sending diseased animals to market. This custom is, however, by no means peculiar either to the Metropolis or to the United Kingdom, for it is common also on the Continent to sell animals that are attacked by pulmonary murrain. Animals in good condition are usually sent to market as soon as they manifest any appearance of illness, and before the disease has materially lessened their value. The cow-keepers I saw did not hesitate at once to admit this practice, and there is no doubt that a large number of animals suffering from pulmonary murrain are habitually sold to be slaughtered for human food. Probably a small number only of those sold in the live cattle market are in an advanced stage of disease, animals having even one lung solidified, and the corresponding pleura distended with fluid, being unable to walk to market or bear the fatigue of a long journey from the country. The Inspectors of the Metropolitan Live Cattle Market, and of the slaughter-houses and markets in the City of London, say they do

not feel justified in seizing animals suffering from an early stage of lung disease, or in preventing the sale of meat because the animal from which it was procured had had that disease, provided the flesh looks healthy. Mr. Fisher, Inspector of meat and slaughter-houses for the City of London, who is probably as competent as anyone to speak on the subject, says that much of the meat from animals that have had pulmonary disease is of first-rate quality. This assertion is quite consistent with the experience of medical men, who do not find the fleshy parts of bodies materially affected by a brief acute illness.

* * * *

At a later period of the disease, when emaciation has taken place, and especially if anasarca (general dropsy) has supervened as a consequence of the pulmonary affection, the animals are seized if taken to market, or, if privately slaughtered, the meat is seized when exposed for sale.

* * * *

Although by far the largest number of diseased oxen that are sent to the Metropolitan Cattle Market are the subjects of pulmonary murrain, there can be no doubt but there are likewise some which have other diseases. I have heard of abscesses being found in the lungs of slaughtered cattle, and occasionally, but less frequently, in other parts of the carcass.

* * * *

Much diseased meat is also sold because of the absence of a definite understanding as to what ought to be condemned. It is, for example, by no means understood that animals suffering from pulmonary murrain are on that account unfit for food. They are therefore permitted to be sold in the live cattle market, unless the disease be in an advanced stage, and the sale of their flesh in the shops is not interfered with so long as it looks fair and good.

* * * *

The effects on human health of consuming the flesh of diseased animals.

I have been unable to ascertain that eating the flesh of animals that have suffered from pulmonary murrain produces any injurious consequences on human health. As, however, animals suffering from other diseases are also sent to the shambles, it is necessary to refer more generally to the subject of diseased meat. Much difference of opinion exists among medical men as to the effects of eating the flesh of diseased animals. Some deny the production of any injurious result from its consumption; others assert that the use of diseased meat is unwholesome, and frequently attended with most injurious consequences. A third party say that no bad consequences follow the use of such food, if thoroughly cooked. Perhaps this discrepancy of opinion is partly caused by different forms of disease being referred to, for although the flesh of animals that have suffered from disease may often be innocent and even wholesome, it is nevertheless possible that meat from animals that have had certain diseases may be injurious.

* * * *

The sale of inferior and diseased meat in low neighbourhoods, and at a lower price than good meat is known to fetch, bears a somewhat different aspect, as the low price charged for the article at once bespeaks its inferior quality. Upon the whole, perhaps, whilst our knowledge of this subject remains so limited and indefinite, it is not requisite to prevent the sale of meat from animals in an early stage of such diseases as are

usually met with among the horned cattle of England, the sale of the diseased organs themselves being of course excepted.

* * * *

In a report on unwholesome meat, published by the Association of Metropolitan Officers of Health, it is said "there can be no doubt but that the use of diseased meat may be a specific cause of illness." This remark is strictly true, in the sense in which it appears to have been used, as applied to the production of entozoa in the human subject, from eating the flesh of animals which contain the germs of these parasites. It is also said in the same report that "instances have come under the notice of Dr. Gibbon, Dr. Challice, and other members of the Committee, of symptoms of poisoning arising from the use of unsound meat partially cooked." It is further reported by the same Committee that Dr. Druitt has seen several instances of illness from eating the meat of the overfed cattle that are commonly killed at Christmas. I found, however, on inquiry of these gentlemen that they were unable to furnish me with any specific facts on the subject.

* * * *

In a letter to Dr. Hermann Weber, in reply to inquiries suggested by myself for my present investigation, Dr. Heusinger of Marburg, says that he considers the flesh of all diseased animals to be unwholesome, especially when eaten underdone. Dr. Heusinger is a great authority on such subjects, and the author of a most elaborate and excellent work on Milzbrand (Carbuncular murrain, or black pox). M. Payen, a recent French writer on food, says it is proved by experience that the flesh of diseased animals even when they have suffered from contagious complaints, may be consumed by man or animals without producing any toxic or deleterious effect. Baron Liebig says that the poisonous matter of the contagious fever of cattle (*typhus contagiosus ruminantium*), which is but another name for steppe murrain or Rinderpest, loses its power of contagion in the stomach.

Large numbers of oxen and cows, suffering from a typhous epidemic, followed the allied armies to Paris in 1814. The entire population of Paris and the suburbs, including the troops that surrounded and occupied the capital, fed upon the meat of the diseased animals for two months, without any increased amount of sickness or the production of any epidemic disease. None, even, of the animals that died were lost. M. Coze, Senr., who made extensive and precise observations upon the effect of meat derived from diseased cattle, relates that a thousand large oxen suffering from typhus were consumed by the allied and French armies, and by the inhabitants near Strasbourg in 1815. Many of the animals were slaughtered when actually at the point of death, and their flesh was consumed for food. Yet this food produced no disease, and did not even disorder the digestive organs of those who used it. Huzard, J. P. Frank, Parent-Duchatelet, and other writers, have expressed similar opinions; M. Huzard, perhaps correctly, designates the flesh of diseased animals as being meat of inferior quality, and not dangerous to health when cooked.

* * * *

Dr. Taylor, of Guy's Hospital, in his work on poisons, says that as a general principle —

We shall be justified in admitting that the flesh, as in the *pestis bovina*, must more or less, partake of the diseased state of the animal, and thus be unfitted to serve for human food.

Pestis bovina is, however, unknown in this country, and the name is often applied indifferently to *Milzbrand* or carbuncular murrain, and to *Rinderpest* or steppe murrain.

* * * *

The following extract is taken from the report on Lung Disease in Cattle by G. P. A. Hansen, Veterinary Surgeon (Flensburg), contained in the Appendix, No. 4, to Dr. Greenhow's report—

The (lung) disease is not contagious for human beings, or for any other animals, and the flesh of even diseased cattle is wholesome, the sale of such flesh being permitted by the Danish Government, if it is otherwise fit for food. Thus at Altbülk, in 1852, the flesh of 117 infected cattle was sold by auction to butchers.

Report by Mr. J. Irvine Lupton, F.R.C.V.S., on the effect produced on the human system by the consumption of the flesh of cattle affected with pleuro-pneumonia.

To the Special Purposes and Sanitary Committee of the Metropolitan Board of Works.

In accordance with a request from your Chairman, I have, during the past month, collected evidence from medical men, veterinary surgeons, butchers, and others, and have consulted various books, both home and continental, which have taken into consideration the effect likely to occur to the human system upon the consumption of meat obtained from pleuro-pneumonic cattle.

All the persons consulted have afforded me only negative evidence. They have never known an accident to have arisen consequent upon the use of pleuro-pneumonic beef as aliment for man. The published works upon this subject differ in opinion; some bearing testimony that ill effects do not follow the consumption of such meat, and others that it does. But the latter contribute no positive evidence to establish their position; they merely assert their opinions which are opposed to the use of flesh taken from pneumonic cattle as human food. They cite no case in proof of their convictions.

Certainly Dr. Littlejohn, of Edinburgh, records cases in which persons have been taken ill after eating meat, but in these instances proof even that the meat consumed came from diseased animals is wanting; and when the meat remaining from the meal was analysed no poison could be detected.

Dr. Taylor reports a fatal case consequent upon eating mutton taken from a sheep affected with sturdy, but in the analysis of the flesh no poison could be detected.

Dr. Livingstone asserts that when natives or Europeans in South Africa ate the flesh of animals affected with pleuro-pneumonia, they invariably suffered with malignant tubercle, and that even death sometimes resulted.

Mr. George Fleming contradicts Dr. Livingstone's statement by stating that the Doctor mistook the disease anthrax for pleuro-pneumonia, and Staff-Surgeon Nicholson and Assistant-Surgeon Frank inform us that when the Kaffirs ate the flesh of cattle which had been destroyed by epizootic lung disease, they experienced no after ill effects.

In my humble opinion, the flesh of diseased animals may be used as human food; and in this conclusion I am supported by many eminent medical and veterinary authorities. In the first place no satisfactory evidence has been produced in proof of the assertions that the consumption of pleuro-pneumonic meat has exerted any baneful influence upon the human system; and, on the other hand, its innocuousness has been proved beyond doubt.

M. Decroix states that during the siege of Paris the flesh of animals affected with pleuro-pneumonia, and even other diseases, was eaten with impunity.

Loiset records that during 19 consecutive years the flesh of 18,000 diseased cattle was consumed in the town of Lille, and that during such time the health of the population in no degree suffered.

Reynal considers such meat may be used without fear of accident. During 20 years the inhabitants of Paris and North France have largely consumed it, and he has never known of an objection having been even raised against its consumption.

Mr. George Fleming, who has most carefully investigated this subject, thinks that under proper supervision the flesh of pleuro-pneumonic cattle can be used as food with safety. Two important ends are doubtless thereby achieved; the public are not deprived of a portion of a most essential article of diet, and preventive and suppressive measures against contagion are greatly facilitated, and rendered much less onerous.

The opinions both for and against the consumption of pleuro-pneumonic beef are unsatisfactory, in that no positive evidence has been adduced; but neither have been able to point to a case where accident has resulted, and for this reason many eminent authorities have arrived at the conclusion that such meat may be used as aliment for man. It becomes curious to understand how, if taking the period of 50 years, during which time thousands of

diseased animals have been slaughtered and sold for food, information could have failed to be forthcoming leading to the discovery of epidemic maladies in this and continental countries.

M. Parent du Chatelet has most distinctly asserted that even the most foul and loathsome of animal foods can be eaten by the human subject with impunity, and even this extensive conclusion our negative evidence does not allow us to contradict. If in this disease, pleuro-pneumonia, a latent virus pervades the tissues of the animal so affected, it would appear that the various culinary processes have the power of destroying these poisons; and, moreover, that the natural juices of the stomach exert a wonderful protective power in neutralising their effects, or in actually destroying or decomposing their injurious combinations. The virus common to the cobra, if introduced into the stomach, has never proved fatal, yet a bite from this reptile has seldom failed to cause the recipient's death.

The Report from the Veterinary Department of the Privy Council does not cite a single case where accident has occurred upon the consumption of pleuro-pneumonic beef during the year 1879, although during the past year many hundreds of cattle affected with this disease have been slaughtered for human food. The very framing of the Contagious Diseases Animals Act, 1878, points to the fact that the authorities at this Government Department were not averse to the disposal of pleuro-pneumonic carcasses for human food. In one paragraph in the Act it is noted, "in case the amount received on sale of a carcass exceeds the amount paid for compensation the excess is to be paid to the owner." No excess could occur unless the carcass were consigned to a butcher; and this sentence, by making a provision in case the sale amount exceeds the compensation award, affords convincing proof that the Privy Council permits the sale of pleuro-pneumonic carcasses for human food.

The evidence herein collected is only of a meagre character. More important information could be obtained by a Royal Commission which might, by causing experiments to be conducted, and by the examination of scientific and practical men, bring together a mass of important facts which would throw much light upon this vexed question.

The Act, as it stands at present, allows the Local Authorities to deal with pleuro-pneumonic animals, after slaughter, according as they think desirable. What results? Lack of uniformity—one county slaughters its pleuro-pneumonic cattle and causes them to be buried, another sells them for human food. Which system is right must be left to future investigation to determine.

(Signed) JAMES IRVINE LUPTON, F.R.C.V.S.,
 July 1st, 1880. Richmond, Surrey.

Dr. Brewer having, at a recent meeting of the Committee, expressed a wish to have furnished for their information a return as to the cattle slaughtered with pleuro-pneumonia whose carcasses were sold for food, for the purpose of ascertaining what was the relative proportion of the meat from such carcasses to the total amount consumed; I have had prepared the following data for the three months ending 31st March, 1880, of the cattle slaughtered within the Metropolis—

Date.	No. of Carcasses sold.	Weight of Carcasses.		Amount received.		
		Stone.	lbs.	£	s.	d.
January, 1880 ..	26	1,365	2	176	17	5
February „ ..	45	2,613	7	346	10	8
March „ ..	36	1,917	2	228	5	3
	107	5,896	3	751	13	4

In connection with the above it may perhaps be convenient, as a question of meat supply, for the Committee to have before them the total number of cattle slaughtered in Great Britain affected with pleuro-pneumonia, and I accordingly append the following particulars as taken from the Annual Reports of the Veterinary Department of the Privy Council—

Year 1873.	No. of cattle slaughtered	..	5,061
„ 1874.	„	..	7,434
„ 1875.	„	..	5,584
„ 1876.	„	..	5,131
„ 1877.	„	..	5,223
„ 1878.	„	..	4,488
„ 1879.	„	..	4,296

J. E. WAKEFIELD,
Clerk of the Board.

