

Report on the establishment of public abattoirs / by Charles A. Cameron.

Contributors

Cameron, Charles A.
University of Glasgow. Library

Publication/Creation

Dublin : Joseph Dollard, 14, Dame Street, 1867.

Persistent URL

<https://wellcomecollection.org/works/kbshrh44>

Provider

University of Glasgow

License and attribution

This material has been provided by This material has been provided by The University of Glasgow Library. The original may be consulted at The University of Glasgow Library. where the originals may be consulted. This work has been identified as being free of known restrictions under copyright law, including all related and neighbouring rights and is being made available under the Creative Commons, Public Domain Mark.

You can copy, modify, distribute and perform the work, even for commercial purposes, without asking permission.



Wellcome Collection
183 Euston Road
London NW1 2BE UK
T +44 (0)20 7611 8722
E library@wellcomecollection.org
<https://wellcomecollection.org>

*Professor - Woodall with the
author's Compliments*

REPORT



ON THE

ESTABLISHMENT OF

PUBLIC ABATTOIRS,

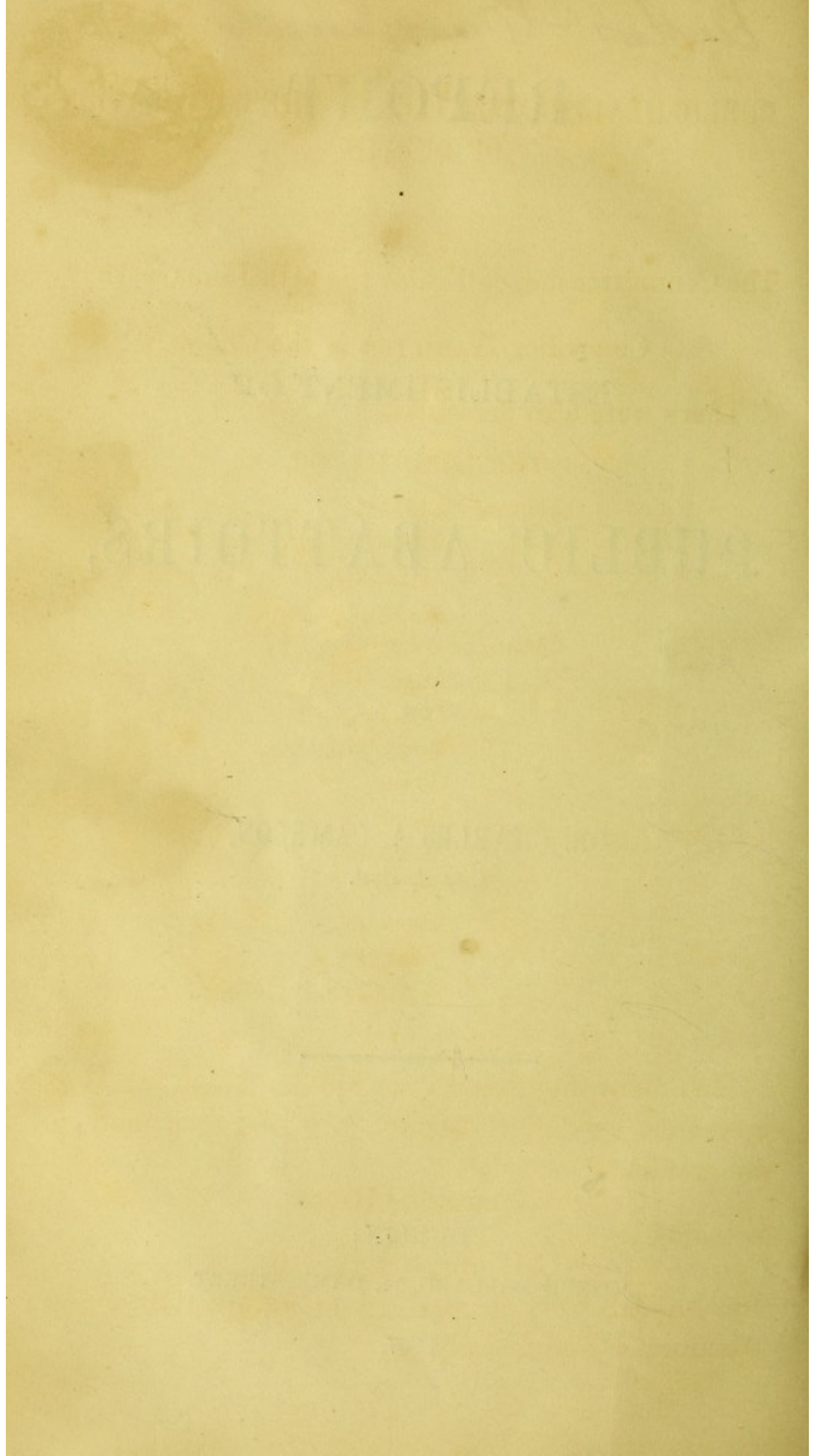
BY

DR. CHARLES A. CAMERON,
City Analyst.

DUBLIN:

JOSEPH DOLLARD, 14, DAME STREET.

1867.



PUBLIC HEALTH COMMITTEE OF THE CORPORATION OF DUBLIN.

The Committee met on Friday the 11th January, 1867.

Councillor HAMILTON in the Chair.

There were also present—

THE LORD MAYOR,
Alderman TARPEY,
„ REYNOLDS, J.P.,
„ M'CANN,
„ MANNING,
Councillor BYRNE,
„ LONG, M.D.,
„ CARROLL, M.D.,
„ RYAN, M.D.,
„ SYKES,
„ DRAPER,
„ MAGRATH,
„ DEVITT,
„ LEONARD,
„ NORWOOD,
„ WHELAN.

The following Report on Public Abattoirs, was presented by Dr. CAMERON, City Analyst, and on the motion of

Councillor BYRNE,
seconded by

Alderman REYNOLDS,
was ordered to be printed for the information of the Members of the Council.

THE COMMITTEE OF THE
OF THE

REPORT
OF THE

COMMISSIONERS

OF THE

OF THE

THE

THE

THE

THE

THE

THE

REPORT
ON
PUBLIC ABATTOIRS,
BY
CHARLES A. CAMERON, M.D.,
CITY ANALYST.

AGREEABLY to the directions given to me by the Public Health Committee, I have the honour to submit to them a report on the desirability of establishing public abattoirs in this city.

SANITARY STATE OF DUBLIN.

The vital statistics collected by the Registrar-General show that the average duration of human life is much longer in rural districts than in large towns. The deaths registered in Ireland during the year 1865 afforded a ratio of 1 in every 61·9, or 16·2 per 1,000 of the population, according to the census of 1861. Excluding the city of Dublin, and the Registration districts containing each a town of more than

5,000 inhabitants in 1861, the rate would be reduced to 1 in every 70·3, or 14·2 per 1,000 of the population. The number of deaths registered in the city of Dublin during the same period equalled a ratio of 1 in every 36·6, or 27·3 per 1,000 of the population. These returns exhibit the startling fact that the average duration of human life is just twice as long in the country as in Dublin. There may be errors in the returns from the rural districts—such as the occasional neglect to register deaths—but making every allowance for such omissions, it is quite evident that country people live much longer, and presumably enjoy better health, than the citizens of Dublin.

This high mortality in towns as compared with the country is not the result of any marked difference in the quality of the food used by the urban and rural populations ; it is due chiefly to the following causes. 1. Imperfect sewerage ; 2. Vitiating air—the result of deficient ventilation and of great density of population ; 3. Partial exclusion of direct sunlight ; 4. Impure water ; 5. Noxious gases, vapors, and other volatile matters emitted from gas-works, manufactories, bone boiling places, tan-yards, slaughter-houses, &c.,

A great proportion of the deaths occurring in cities belong to the class of diseases termed *zymotic*. These disorders are not the results of natural delicacy of constitution, but are preventible by hygienic means. The object of public hygiene, so far as towns are con-

cerned, is to lower the death rate when it is excessive to a normal standard. In the city of Dublin a larger percentage of the population perish annually than in the county of Dublin. The city must, therefore, be regarded as an unhealthy place, until the death-rate in it becomes as low as that in the county. This desirable consummation is practically impossible; for where 1-20th of the whole population of Ireland, with its area of 20,000,000 acres, is concentrated on 10,000 acres, it is impossible that the citizens could enjoy a salubrity equal to that of the plains of Kildare or the mountains of Wicklow. 300,000 pairs of human lungs, and the smoke and vapors from 40,000 chimneys, vitiate the atmosphere to an extent that no system of ventilation could altogether obviate.

But although a real *rus in urbe* is practically unattainable, yet nothing is more certain than the feasibility of improving the sanitary condition of Dublin to such an extent as to render it nearly as healthy a place of residence as the open country. The completion of the sewerage system, including the purification of the river, would alone sensibly lower the mortality in the city and suburbs. An abundant supply of purer water than we now possess would have the same effect, though, perhaps, not to the same extent. Greater cleanliness in the abodes of the poor, and the better scavenging of the streets, would also tend much to improve the public health. In order to accomplish these improvements, the expenditure of large sums of money

is indispensable : in some instances—for example, in improved scavenging—there would be no return for the outlay other than an increased longevity of the people and the diminution of disease ; on the other hand, there are certain sanitary improvements which, if effected, would not eventually prove pecuniary losses, but, on the contrary, most probably would afford very profitable results. In this latter class of sanitary improvements may be placed the plan of providing healthful and decent domestic accommodation for the poorer classes now being carried out by the Dublin Industrial Tenements Company. Another of these paying improvements, as we may term them, would be the establishment of public abattoirs in lieu of the numerous ill-kept slaughter-houses which stud the city. I regard these private slaughter-houses as being amongst the greatest nuisances which demand immediate abolition ; and I believe that the establishment of public abattoirs in their stead could be carried out without ultimate loss to the Corporation.

Dublin really requires every sanitary improvement, that is practicable, to be carried out speedily ; for it is by no means a healthy city, notwithstanding the natural advantages of its site. London, despite its enormous population of more than 3,000,000 souls, has a much lower death-rate, and of late years is much less ravaged by epidemic diseases. The deaths from cholera registered in the Dublin Registration District since the present outbreak, July 27th, 1866, to this

date (29th December), were 1,184, equal to 37·7 per 10,000 of the population in 1861. Of this number 918 occurred in the city of Dublin, equal to 36 per 10,000 of the population. Of the 918 persons, however, who died in the city, 54 had been admitted to hospital from without the municipal boundary. If this number be deducted, the rate would become 33·9 per 10,000.

In the London Registration District, the deaths from this disease, during the 23 weeks ending 1st December, were equal to 18·3 per 10,000 of the estimated population. In certain London districts the rate was only 9·2; in east London it amounted to 64·3 per 10,000 inhabitants. Thus it will be seen that Dublin suffered from cholera to an extent nearly 100 per cent. greater than London,—a fact which must be attributed to the better sanitary condition of the latter city. Indeed, on scrutinizing the returns closely, I find that the virulence of the disease in various districts of London, was in proportion to the defective state of the sewerage, water, and other requisites for the preservation of health. In the west district, containing a population of more than half a million, the number of deaths from cholera was under 150. When the sanitary condition of London was far more defective than it is at present, the cholera at each visitation carried off from 10,000 to 27,000 victims.

“In London,” says the English Registrar-General, “cholera has not only been less fatal than it was in previous epidemics, but its

fatality has been reduced almost to insignificance in several of the districts by the mere force of hygienic science, before which the destroyer has retreated step by step ; never, however losing an opportunity of asserting its full power wherever negligence or ignorance presented an opening, either in England or in the cities of the Continent of Europe."

EFFECT OF SLAUGHTER-HOUSES UPON THE PUBLIC HEALTH.

And now, regarding the existence of slaughter-houses as one of the many causes which render Dublin a comparatively unhealthy place of abode, and one in which zymotic diseases find a suitable nidus, I shall point out the full extent of the evils resulting from these pest places, and their obvious remedy.

There are within the municipal boundaries of Dublin 132 licensed slaughter-houses. All of them are not in actual use at present, 37 of them being closed or devoted to other purposes ; but as their licences are attached to the premises, they may be used for their original purpose at any time their owners please. These houses and their yards are, as a rule, very badly kept ; they are, with hardly an exception, roughly paved, instead of being flagged. Most of them are washed after a fashion daily, but owing to the inequalities of the surface of their floors and pavement, they are never in a really thoroughly clean condition. The ejesta from the viscera of the slaughtered animals possesses a most offensive odor, and this objectionable refuse is only removed (it is

admitted) once in twenty-four hours ; but there is good reason to believe that in some of the yards this disagreeably odorous stuff is allowed to remain for two or three days before removal—and in all of them from Saturday till Monday. A portion of the blood which flows from the animals finds its way from the slaughter-houses into the yards, and lodges in the fissures and holes, where it speedily putrefies, and evolves an extremely offensive odor. The atmosphere of these places is, in fact, redolent of the odors of putrid blood and excrements.

I regard the vapors and purulent organic particles which are given off from decaying animal and vegetable substances as being more injurious to the public health than are the gases that are evolved from chemical works. There is no evidence to prove that sulphurous acid, hydrochloric acid, or chlorine—which are the principal gaseous matters that escape from chemical works—ever produce zymotic diseases. On the contrary, two of these gases are extensively employed for the disinfection of polluted air, and for disease prevention and arrestation. Even sulphuretted hydrogen gas, which is so largely evolved from gas works, I believe to be harmless, when compared with the emanations from fetid sewers and putrid animal matter. Purely mineral gases and vapors do not act so injuriously on animals as miasma do ; and, therefore, when it is decided to prevent the pollution of the atmosphere of towns, the first attempt should

be directed against those places whence foul organic effluviæ issue, next against the gas works, and lastly the chemical works should be assailed.

ABATTOIRS, SOURCES OF PROFIT.

The evil arising out of the existence of 132 slaughter-houses within an area of 3,807 acres, and, for the greater part, situated in densely crowded localities, must be very great ; but it is one which admits of an easy remedy. To remove the gas and chemical works from the city would be a costly operation ; but to substitute public abattoirs for the filthy private shambles would be a reformation which a moderate outlay could accomplish. The success which has attended the establishment of public abattoirs in Edinburgh (a city containing a population less by 60,000 than Dublin) shows that similar establishments, if properly managed, could be made a source of income to the Corporation of Dublin. Fourteen years ago all the private slaughter-houses in Edinburgh were compulsorily closed by the authorities, and convenient and well-constructed abattoirs erected in their stead, at a cost of £22,163 0s. 7d., including parliamentary and all other incidental expenses. The first year these abattoirs were opened the revenue derived from them exceeded the expenditure in relation to them by several hundred pounds ; and every year since 1852, not only are they kept in good order, well managed,

and the interest on the sunk capital regularly paid out of the receipts derived from them, but there still remains an annual balance in favour of the abattoirs, which is expended in repaying the capital. From 1852 till the end of the financial year 1864-5, the capital has been reduced from £22,163 0s. 7d. to £12,335 1s. 8d., as shown by the following figures :—

REVENUE AND EXPENDITURE OF THE CORPORATION OF EDINBURGH
ON ACCOUNT OF THE SLAUGHTER-HOUSES, UNDER THE ACT 13TH
AND 14TH VICTORIA, CAP. 70, FOR THE TEN YEARS ENDED AT
1ST AUGUST, 1865.

				Averages of Ten Years, ending 1865		
I. REVENUE (REALISED).				£	s.	d.
1. Rents of Booths	...	...	...	322	0	0
2. Statutory Dues—						
1. From Fleshers renting Booths	..			718	12	11
2. From Fleshers not renting Booths	..			147	18	1
3. On carcases brought from the country...				39	12	8
		Statutory Dues	...	906	3	8
3. Dues on Hides, Skins, and Tallow ...	...			15	8	9
4. Proceeds of the Sale of Manure, &c.			...			
1. Manure—						
1. Rough Manure	...	..		443	8	3
2. Liquid Manure	...	..		10	11	7
		For Manure	..	453	19	10
2. Blood	...	...	..	300	19	3
3. Ferns, &c.—						
1. Sheep and Lamb Gut	...	...		196	17	0
2. Cow and Bullock Gut	...	...		54	3	1
3. Bar Ends	...	...	...	59	11	5

				Averages of Ten Years, ending 1865		
				£	s.	d.
4.	Pig Gut	...	...	7	2	10
5.	Bonus of £30 per annum	...	...	9	0	0
For Fearn's, &c.				326	14	4
4.	Hoofs and Spurs—	...	...	109	5	9
1.	Hoofs	...	...	2	16	11
2.	Spurs	...	...	
For Hoofs, &c.				112	2	8
5.	Refuse of Triperies, &c.—	...	...	220	18	10
1.	Tallow	...	...	7	9	10
2.	Hoof Parings	...	...	29	0	1
3.	Other Refuse	...	...	
For Tallow, &c.				257	8	9
Proceeds of Manure, &c., sold				1451	4	10
5.	Rents and Produce of Triperies	...	...	139	10	8
6.	Miscellaneous Rents	...	...	7	6	10
7.	Fines for Contravening the Regulations	...	...	3	5	10
8.	For Copies of the Accounts sold by the Super- intendent	...	...	0	1	2
9.	Interest on Bank Account	...	...	29	0	9
10.	Interest on deferred Payments for Manure, &c.	...	...	1	19	7
Revenue				2876	2	1
II. EXPENDITURE.						
1.	Expenses of Collection, Management, and Re- pairs—					
1.	Allowance to the City's Proper Revenue for Management	...	...	100	0	0
2.	Superintendents' Salaries	...	...	114	19	3
3.	Wages and allowances to Gatekeepers and Collectors	...	...	120	14	3
4.	Wages to Cleaners and other Labourers	...	...	237	14	11
5.	Wages to Night Watchman	...	...	36	2	10
6.	Repairs in Mason, Wright, and Smith	...	...	

				Averages of Ten Years, ending 1865		
				£	s.	d.
	Work, &c.	...	...	179	18	7
7.	Furnishings—					
	1. Straw	...	...	133	4	8
	2. Water	...	...	59	7	11
	3. Coals	...	...	65	17	6
	4. Gas	...	...	57	6	1
	5. Other Furnishings	...	...	32	6	10
			Furnishings	348	3	0
8.	Rent for gateway to the Manure Depot on the Canal	...	...	6	10	0
9.	Insurance	...	...	11	15	6
10.	Printing, Advertising, and Stationery	...	...	32	4	11
11.	Taxes—					
	1. Property and Income Tax	...	...	63	14	5
	2. Poor Rates	...	...	36	13	3
	3. Police, Prisons, and Registration Assessments	...	...	42	12	5
			Taxes	143	0	1
12.	Fue Duty, less Property Tax	...	...	126	5	7
13.	Expense of Procuring Loans	...	...	8	17	2
14.	Incidental Expenses	...	...	18	16	5
			Expenses of Management, &c.	1485	2	6
2.	Annuity in terms of the 12th Section of the Act, less Income Tax, applied thus:—					
	1. Interest on Loans, less Income Tax	...	...	645	6	7
	2. Interest on Advances for Compensation, under Section 25th, less Income Tax	...	...	0	14	7
	3. In repayment of these Advances	...	...	31	3	3
	4. In repayment of Loans	...	...	766	9	10
			Annuity	1443	14	3
			Expenditure	2928	16	9
			Revenue, as above	2876	2	1
			Excess of Revenue beyond Expenditure in certain years (average for ten)	52	14	8

In the year ended 1st August, 1866, the debt on the abattoirs was reduced by £999 11s.

These figures conclusively prove that after a few years more the Corporation of Edinburgh will find these abattoirs actual sources of revenue instead of expenditure. In Glasgow, Birmingham, and other cities similar structures have been erected, and have been found most advantageous to the interest of all classes, not excepting the butchers. The abattoirs of Paris are very large, and they are constructed on the most perfect plans. Those at Grenelle and Montmartre are worthy of even a tourist's notice. At every time, night or day, the atmosphere in these places is so free from odors as not to offend the olfactory nerves of even the most fastidious persons. The blood and excrementitious matters are removed from the animals and the shambles with the utmost rapidity; and unlimited supplies of water, through ventilation, and the incessant use of the broom, are characteristics of these unpretentious but most useful public establishments.

The public abattoirs of London are neither so large nor so well constructed as one would expect to find in the richest city of the world. There are two at Islington, close to the new cattle market. They are, however, tolerably lofty buildings, and pretty well ventilated; they are flagged, and are supplied with abundance of water. These abattoirs appear to have been erected with but little cost; and although incomparably su-

perior to the slaughter-houses of Dublin, they are greatly inferior to the abattoirs of Edinburgh and Paris.

ABATTOIRS URGENTLY REQUIRED IN DUBLIN.

The Corporation of Dublin have power to establish abattoirs ; and whenever they exercise this right they would then be enabled, if they so pleased, to close all the private slaughter-houses. The city engineer is, of course, the best authority as to the proper site and size of such buildings ; but I would venture to suggest that one, at least, of them should be erected as close as possible to the new cattle market. Indeed, I think that one abattoir would be quite sufficient for the city. The new cattle market is within two miles of nearly every butcher in Dublin ; and as the animals slaughtered in an abattoir should be conveyed to the butchers' stalls in covered carts, the difference of half a mile, or even of a mile, in the carriage of the carcases would be a matter of no importance.

The cost of abattoirs affording sufficient accomodation for all the butchers in Dublin need not exceed £15,000. 2,000 were used up in Parliamentary expenses in the case of the Edinburgh abattoirs ; but no such expenditure is necessary on the part of the Dublin Corporation, who have already the power to act. The number of butchers within the municipal boundaries, as shown in Thom's Almanack for 1867,

is 178. There are many others whose names do not appear in the list of victuallers,* and it is probable that a few butchers in the suburbs might be induced to make use of well appointed abattoirs. Probably very nearly three hundred butchers would willingly or unwillingly use the abattoirs ; and if each paid on the average £7 per annum rent, the revenue from that source would amount to £2,100 per annum. Of this, 4 per cent. paid in interest on the outlay would leave 1,500 to defray the cost of management. These are, of course very crude estimates ; but judging by the profitable results which have followed the establishment of abattoirs in England and Scotland, there is every reason to believe that these desirable public conveniences, if introduced into Dublin, would prove equally satisfactory in a monetary sense—leaving the sanitary aspects of the question entirely out of view.

The number of animals slaughtered in Dublin might afford data for estimating the revenue derivable from the abattoirs : but although returns are supposed to be sent in weekly from the proprietors of the slaughter-houses, they often neglect to do so ; and it is doubtful whether or not those sent in are accurate. We may, however, be certain that the number slaughtered is under-stated, and probably by a third ; and making this qualification, the following return may be of some use in enabling one to estimate the probable

* In Thom's Directory for 1864 the number of Victuallers is set down at 307.

extent of Revenue :—

Returns of Oxen, Sheep, and Swine slaughtered in
Dublin during the year 1866.

Bulls and Bullocks	...	..	...	2,202
Cows	...	..	...	4,838
Heifers	..	...	...	8,808
Calves	...	...	...	2,112
Sheep	...	...	...	49,721
Lambs	...	...	...	8,490
Swine	...	...	...	52,702
Total,				128,873

Now, if we assume that a charge of one shilling be made for slaughtering and dressing a bullock, cow, or heifer, and 6d. for the similar treatment of a calf, sheep, lamb, or pig—then, the revenue from this source would be as follows :—

For slaughtering oxen	...	...	£792	8	0
Ditto lambs, sheep, and calves	...	...	1,498	1	6
Ditto pigs	...	...	1,385	1	0
Total,			£3,675	10	6

The greater number of the pigs referred to in the above returns are slaughtered in large and well-managed slaughter-houses ; and should these establishments remain undisturbed, which is the most likely case, the revenue would be less than the above estimate by perhaps a thousand pounds—but it would still amount to the respectable figure of £2,675 10s.

Were the abattoirs entirely managed by the Corporation—that is, the slaughtering conducted by persons in their employment—the question arises, would their income, as above stated, pay all expenses and a reasonable interest on the capital sunk in buildings? My opinion is in the affirmative. I was informed at the Islington abattoir, that three men and a boy could kill and dress thirty oxen in the day. At this rate, about thirty men and boys would be a sufficient number to slaughter and prepare a number of animals (except the pigs) equal to that stated to have been killed in 1865 in the private slaughter-houses. As the present report is, strictly speaking, merely a suggestive one, I do not guarantee the exactitude of the financial statements which I have given. It might be found desirable to charge more than a shilling for killing an ox, and less than sixpence for slaughtering a lamb; but I thought it better to hypothecate a scale of fees, which, at all events, would show the probable amount of income derivable from the proposed abattoirs in the event of their being entirely managed by the Corporation.

DISEASED MEAT.

Amongst the benefits which the establishment of public abattoirs confer upon the public, not the least is the facility which they afford for the inspection of meat, with the view of preventing it from being sold,

when unfit for human food. There are two inspectors of meat in this city—Messrs. Nunan and Webb—who, from personal experience, I can affirm to be very active and intelligent officers, most zealous and regular in the discharge of their important duties. It is not, therefore, for the purpose of undervaluing in the slightest degree these officers' services that I assert that it is impossible they could detect under the present system a tithe of the diseased meat which is offered for sale in Dublin. Each of them would require the eyes of Argus to see daily, or rather hourly, into all the 132 slaughter-houses, and the hands of Briareus to seize upon the unsound meat in the 300 butcher's stalls. They do all in their power to check the abominable practice of palming off unsound meat upon the people; and were it not for their exertions and those of the police, the evil would be much greater than it is. Still, there is every reason to believe that a very large quantity of unwholesome meat escapes detection, and is consumed, not only by the poorer classes—to whom, however, it is chiefly sold—but even by the middle and upper classes of society. Were there public abattoirs in Dublin, and all the private slaughter-houses closed, it would be much more difficult than it is at present to slaughter diseased animals, or to dispose of their flesh. There would be a proper inspection daily, or more frequently of the animals before and after death; and when it became generally known that they were subjected to

this scrutiny, but few attempts would be made to bring diseased animals into the city.

That I do not exaggerate in stating that an immense quantity of diseased meat is sold in this city, I need but refer to the following facts :—During the year ended the 26th December, 1866, the clerks of the market seized nearly 20,000 pounds weight of diseased meat, which was afterwards either buried or sent to the Zoological Gardens. Of this quantity about 10,000 pounds weight were submitted to me for my opinion, by the Lord Mayor's directions, and I examined it chemically, microscopically, and anatomically. It must, however, be borne in mind that the greater part of this diseased meat was seized during the latter half of the year, when increased attention was directed to the matter, and the special aid of the police authorities obtained. And here I may mention that the police commissioners have given (at, as I believe, the suggestion of Professor Ferguson, who has devoted great attention to the subject,) the most efficient aid in the prevention of the sale of diseased meat. They have even gone so far in this direction as to appoint four detective constables to watch the markets and slaughter-houses in the neighbourhood of Moore-street. Two of these constables watch by night, and two by day, and they devote themselves wholly to this pursuit. They have detected several persons in the act of conveying dying or diseased animals, and portions of diseased meat, into these markets and

slaughter-houses; but they are chiefly useful for what I may term their preventive functions. They keep so close a watch on the movements of persons in this locality that it is difficult to convey obviously diseased animals throughout it without detection. Of course, if the private slaughter-houses were abolished there would be no occasion for these detectives, or at least for so many of them; because the ordinary police would prevent animals from passing through the streets, except when on their way to the public abattoirs. The following return of the particulars of the cases of seizure of diseased meat during last year has been furnished to me by the clerks of the market :—

DETAILED ACCOUNT OF THE MEAT SEIZED BY THE RIGHT HON. THE
LORD MAYOR DURING THE YEAR 1866.

Jan.	15.	A carcase of beef sent to Gardens.
Feb.	8.	Do. of a bullock, do.
March	19.	Two sheep (buried).
	27.	Two sheep sent to the Gardens.
April	6.	The greater portion of a sheep, do.
	14.	A carcase of mutton, do.
May	7.	A carcase of beef, do.
	19.	A carcase of mutton, do.
June		Several small pieces of beef and mutton.
July	2.	Two quarters of beef.
	11.	Two quarters and several small pieces of beef and bacon
Aug.	2.	The carcasses of two pigs.
		A carcase of beef (buried)

Aug.	3.	Two carcasses of beef to the Gardens.	
„	17.	A carcase and two pieces beef, ditto.	
„	14.	A piece of veal (destroyed).	
„	31.	Two carcasses of beef to Gardens.	
Sept.	8.	A carcase of beef,	do.
„	11.	A veal calf,	do.
Oct.	15.	A carcase of beef,	do.
„	16.	A carcase of beef,	do.
„	19.	Two quarters of beef (destroyed).	
„	31.	A carcase of beef to the Gardens.	
Nov.	3.	A carcase of beef (destroyed)	
„	14.	A carcase and two quarters beef to Gardens	
„	19.	A carcase of beef,	do.
„	22.	A carcase of beef,	do.
Dec.	15.	A carcase of beef,	do.
„	19.	A carcase of beef,	do.
„	22.	A carcase of beef,	do.
„	26.	The carcasses of two pigs (destroyed).	

That eminent veterinarian, Professor Gamgee, states that 2·2 per cent. of the pigs (5,427 in number) which he examined in Ireland, were in a highly diseased state; and he further affirms, that the sanitary condition of a large proportion of our live stock is far from satisfactory.

The principal diseases of the animals used as food which the meat inspector should look for are the following :—

In the ox—

1. Infectious and Sporadic pleuro-pneumonia, or lung disease.
2. Murrain, or foot and mouth disease.
3. The different forms of anthrax.

4. Puerperal, or milk fever.
5. Parasitic diseases.
6. Dropsical affections.
7. Anæmia, or wasting of the tissues.

In the sheep—

1. Braxy.
2. Black quarter.
3. Parasitic diseases, such as the *rot* and the *sturdy*.

In the pig—

1. Fevers.
2. Measles, and other parasitic diseases, of which that produced by the *trichina spiralis* renders the flesh intensely poisonous to man.

Some of these diseases are not always ascertainable during the life of the animal ; but after death their effects are recognizable by the aid of the microscope, and by the obvious lesions and abnormal appearances which they produce.

It has been my practice when called upon by the Lord Mayor to examine animals suspected to be diseased to advise his lordship to condemn those whose flesh presented an abnormal appearance. I went further, and suggested to him to condemn the flesh of animals suffering from pleuro-pneumonia, although the meat presented to the eye all the characteristics of good beef. A few months ago I advised the Lord Mayor to condemn the carcasses of two fine oxen whose lungs I found exhibiting all the symptoms of

infectious pleuro-pneumonia ; but the owners having obtained the opinion of some medical men to the effect that those animals' flesh was quite wholesome, his lordship decided not to confiscate them until he had further evidence to enable him to form an opinion on the subject, upon which he would act in future cases. Shortly after this occurrence I examined another ox, and found its lungs in a still more diseased condition, a large portion of them being solidified, and the cells of the other portion containing purulent matter in large quantities. Acting upon my recommendation, which was supported by Dr. Ryan, Dr. Carroll, and Dr. Long, the medical members of the Public Health Committee, and also by our able Medical Officer of Health, Dr. Mapother, the Lord Mayor decided to send this animal to the Zoological Gardens, notwithstanding the fact of its flesh presenting a healthy appearance. Since this event, his Lordship has condemned all cases of pleuro-pneumonia, in which *pus* was present.

IS THE FLESH OF DISEASED ANIMALS WHOLESOME?

Whether or not the flesh of animals that have been killed whilst in a state of disease is wholesome is a *questio vexatio* ; but the great majority of medical men and physiologists consider that it is. Whatever doubt there may be on this point, surely the public ought to get the benefit of it. When some of the greatest

scientific men of the day consider that the flesh of animals that are suffering from pleuro-pneumonia and other inflammatory diseases is unwholesome, it is certainly unfair to the consumers to ask them to eat this kind of meat, because if they did not the producers would sustain heavy losses. When any one purchases beef or mutton, is it not under the impression that they are parts of animals that had no disease when slaughtered? Were a butcher to label his goods, "real pleuro-pneumonia beef," "braxy mutton," or "trichiniferous pork," who would think of dealing with him! Yet the cry is raised by interested persons that to deny the wholesome qualities of the flesh of animals suffering from infectious lung distemper is wrong, because it would injure the stock feeders! There are a great many cases on record which prove that the flesh of diseased animals is unwholesome, though its injurious effects may not always be at once noticed. Menschel states that 44 persons were afflicted with anthrax after eating the flesh of oxen affected with carbuncular fever. Boils and anthrax are common enough in this country, and may sometimes be the result of eating diseased meat. Dr. Kesteven, in the *Medical Times* for March 5, 1864, mentions a case where 12 persons were affected with choleraic symptoms after the use of pork not obviously diseased. At Newtownards, County of Down, several persons died after eating veal in which no poisonous matter of any kind could be detected. Dr. Keith,

of Aberdeen, states that two persons died in that city in consequence of eating the flesh of an animal that had quarter-evil. * A great number of persons have lately perished in Germany and in England from a disease produced by eating pork containing a small parasite, termed *Trichina spiralis*. In Iceland a large portion of the population suffer from a parasitic disease traceable to the use of the flesh of sheep and cattle in which flukes abound. In Belgium, the flesh of animals that had carbuncular fevers is condemned by the authorities, evidence having been given before the Academy of Medicine that it produced disease in man. Dr. Parkes, in his recent great work on hygiene, states that the cases of disease in man produced by the use of the flesh of diseased animals are increasing every day.

One of the greatest authorities on the subject of diseased meat is, unquestionably, Dr. Letheby, the Medical Officer of Health and Chemical Analyst for London. I am indebted to him for the following information :

“The rule which I have made for the guidance of the city inspectors of meat and markets are as follow :—The inspectors are to seize and condemn, as unfit for human food, the flesh of—

“1st. Animals infected with parasitic diseases.

“2nd. Animals slaughtered while suffering from acute inflammatory diseases.

“3rd. Animals slaughtered at the time of bringing forth their young.

"4th. Animals emaciated by chronic or lingering disease.

"5th. Animals that have died from accident or disease ; and

"6th, All meat in a high state of putrefaction.

" These rules have been acted on in the city of London for many years, and we seize and condemn about two tons of meat ever week.

" The Inspectors are practical men ; they have been butchers' and are well acquainted with the quality and conditions of meat ; but in all flagrant cases, and in all cases of dispute, the meat is shown to me, and I advise the necessary proceedings to be taken ; first before a justice, and afterwards, on reporting the matter to the court, in a more severe legal manner.

" We have had a large number of convictions, and have hardly ever failed in our prosecutions.

" My experience, therefore, of all the details of this question is very large ; and I am persuaded from the mischief which I have again and again seen as the consequence of eating meat affected in either of the ways already described, that our rules are most salutary, and are not all too severe.

" In the particular case referred to by you, I have known meat from an animal affected with *pleuro-pneumonia* to cause the severest disorder of those who partook of it. In one instance, where the side of a cow so affected was made into sausages, it made 60 persons out of 65 who ate it seriously ill ; and I may add, that whatever be the theoretical opinion of others on this subject, or even the opinion founded on very limited observation that people have eaten such flesh with impunity, I have no hesitation in saying, from a large experience, that all such meat should be condemned as dangerous to the public health.

" It may well be that good cooking renders much of the danger harmless—but who would permit measly pork or trichina flesh, or even measles-like flesh with the cysticercus of veal or beef, to be sold as food, because cooking *may* render it harmless ! It is so also with the other forms of diseased meat ; and he would be a careless public officer who permitted it to be sold without restrictions.

“ I am glad that the authorities of Dublin are entertaining the question of having public slaughter-houses ; for it is only in this way that the meat sold as food can be properly inspected, and that the nuisances of private slaughter-houses, with their attendant evils of fat-melting, tripe-dressing, and gut-spinning, can be abated. There are such public slaughter-houses, or abattoirs in Edinburgh, and they answer admirably.”

It must be borne in mind that Dr. Letheby's labors in this respect are confined to that small portion of the metropolis called the *City* of London proper, the resident population of which is not one-half of that of Dublin.

Dr. Littlejohn, the Medical Officer of Health of Edinburgh, who has devoted a great deal of his attention to the study of the diseases of the domesticated animals, most kindly furnished me with the following valuable information :—

“ 1. That in Edinburgh the inspection of meat is placed under myself and four inspectors, who are skilled parties. Two are stationed at our public slaughter-houses.

“ 2nd. The diseases chiefly met with, and for which meat is condemned, are pleuro-pneumonia and murrain.

“ The principal disease is undoubtedly pleuro-pneumonia, which is condemned only when the flesh is affected. In the early stage, with slight exudation, and where the flesh cut in sections presents a normal appearance, the meat is passed. Much depends, however, on the condition of the animal ; and should that be at all indifferent, the animal would be condemned, if it showed any signs of ‘pleura.’

“ 3. The butchers are compelled to use the abattoirs, as no private killing booths are allowed in the city.

"We have had occasionally difficulties with the butchers, who considered that the inspection of meat was conducted in too strict a way, and resistance has been offered. Appeal has been made to the court of the magistrates, who have listened to evidence *pro* and *con.*, and in almost every case the inspectors have been supported. The chief difficulty that has arisen has been as to the unwholesomeness of diseased meat; and medical men have appeared for the defence, maintaining that the flesh of animals affected with 'pleura,' even in an advanced stage, was not unwholesome, and that were it to be condemned, the food supply of the poor would be interfered with.

"Now, on these points my mind has been made up for a long time. The trade is a fraudulent one. The diseased carcase is exposed for sale without the slightest hint as to its character; and further, I hold strongly the opinion that the flesh of such diseased animals is, at the best, poor nourishment, *may* cause illness, and ought to be destroyed.

"The plan followed for the purpose is to boil down the condemned carcase, and obtain from it for the benefit of the city the hide, the grease, and the bones."

My friend, Professor M'Call, Principal of the Glasgow Veterinary College, has furnished me with a valuable report on this subject, from which I select the following passages:—

"I inspected from August 21st, 1865, to July 14th, 1866; 37,693 oxen, 4,980 calves, 123,723 sheep, 12,540 lambs, 11 goats, and 11,155 pigs, as to their fitness for human food, before leaving the city slaughter-houses. Of the 37,693 oxen above enumerated, 2,050 were found to have been affected during life by the prevailing epizootic, the rinderpest, or cattle plague; and of the number so affected, 276 were condemned as unfit for human food, and buried according to the Privy Council's instructions at the Garngad Burying Ground.

"The stomachs, intestines, &c., of 1,774 animals were also condemned and buried.

"Of animals labouring under epizootic pleuro-pneumonia, epizootic aphtha (or foot and mouth disease), puerperal metritis, tuberculosis, &c., 322 have been discovered in the slaughter-houses; and of this number 81 carcasses were so seriously affected as to necessitate their condemnation and burial.

"In the dead-meat market, since the 1st February, 3,500 carcasses have been examined, and of this number 44 have been condemned and buried.

"The system of inspection adopted and carried out has been that all carcasses found in good condition were allowed at once to be taken away, while carcasses considered by the assistant inspectors doubtful or suspicious were detained by them until I made my daily round of inspection, or until I could be communicated with. No carcasses have been condemned or destroyed without careful examination and serious consideration of their condition.

"When this inspection was first commenced considerable opposition was offered to the system by the butchers and cattle salesmen; but I am glad that this apparent inclination to obstruct has considerably abated.

"That the condemnations, on the whole, were well considered may be inferred from the fact that, out of 401 carcasses condemned by me as unfit for human food, and disposed of by burial, only six were the subjects of investigation before the police courts; and in these instances the courts sustained the decisions arrived at by my assistants and myself.

"The percentage of animals labouring under other diseases than plague, and slaughtered in our slaughter-houses, has, within the last two months, been on the increase, but will not reach its maximum until the dairies are again filled up, so that the statistics I have adduced cannot be taken as the basis of a calculation representing the percentage of diseased animals removed from the dairies and slaughtered on account of being diseased.

"In previous years the death rate in the dairies of Edinburgh and Glasgow has ranged from 15 to 50 per cent.

"Even with our limited number of cattle, cases of epizootic pleuro-pneumonia and other contagious diseases are not uncommon.

"The cattle sheds bill recently passed, and now in operation, if properly wrought, will do much to lessen the number of bovine diseases; and if all cattle labouring under febrile, contagious diseases were removed to a sanatorium, and there treated, instead of being allowed to remain in the dairies, as at present, contaminating all susceptible cattle, and widening the area of contagion, the death rate would be greatly diminished, and the inducements to kill and offer the diseased carcasses as food for the public would be, to a very considerable extent, lessened. The maintenance of all cattle in dairies in a healthy state is of the utmost importance in ensuring a supply of wholesome milk—a matter of essential consequence to the whole population, but more particularly to the children.

"I am decidedly of opinion, therefore, that a strict and competent inspection, both of the cattle market and the flesh meat prepared in the slaughter-houses, should be kept up—an opinion grounded upon considerable practical experience of the subject, obtained in Edinburgh, and more recently in Glasgow.

"Regarding the parties who should act as inspectors, there cannot be a doubt the most competent are professional men."

In concluding this Report I have to express my indebtedness to my friend Dr. Burke, Medical Superintendent of the Registration of Deaths, for affording me access to the valuable statistics of his department.

102 Lower Baggot Street,
2nd January, 1867.

