

**Report of the County Medical Officer upon the sanitary condition of the  
Goole Union (West Riding portion) / West Riding County Council Sanitary  
Committee.**

**Contributors**

West Riding of Yorkshire (England). County Council

**Publication/Creation**

1901

**Persistent URL**

<https://wellcomecollection.org/works/a2wne49y>

**License and attribution**

You have permission to make copies of this work under a Creative Commons, Attribution license.

This licence permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited. See the Legal Code for further information.

Image source should be attributed as specified in the full catalogue record. If no source is given the image should be attributed to Wellcome Collection.



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

N<sup>o</sup>. 7.

WITH MAP.



West Riding County Council.

---

**REPORT**  
OF THE  
**COUNTY MEDICAL OFFICER**  
UPON THE  
**SANITARY CONDITION**  
OF THE  
**GOOLE UNION.**  
(West Riding Portion.)

---

Printed by Order of the West Riding Sanitary Committee, 11th Feb., 1901.

1870

No. 1

THE NEW YORK PUBLIC LIBRARY

ASTOR LENOX TILDEN FOUNDATION

1870

NEW YORK: THE NEW YORK PUBLIC LIBRARY, ASTOR LENOX TILDEN FOUNDATION, 1870.



## SUMMARY OF TABLES.

		PAGE.
Table	I Area, Population, Rateable Value, &c. ...	8
"	II Growth of Population from 1801 to 1891 ...	3
"	IIA Density of Population; and Sex Distribution ...	4
"	IIB Census Tenements, 1891 ...	4
"	III Adoptive Acts, Bye-laws, &c. ...	4
"	IV Isolation, Disinfection, Burial Grounds, Public Scavenging ...	5
"	V Water Supplies and Drainage ...	7
"	VI Milk Supplies ...	9
"	VIa Cowsheds ...	10
"	VII Slaughter Houses ...	11
"	VIII Offensive Trades ...	11
"	IX Common Lodging Houses ...	11
"	X Vital Statistics, Mean Annual Rates, for five years, 1889-93 ...	12
"	Xa " " " for two decades, 1871-90 ...	12
"	XI Ages of Population in 1891; and Sex Distribution ...	12
"	XII Vital Statistics for the decade 1886-95 ...	13
"	XIIa Comparative Statistics for two decades 1871-90 ...	13
"	XIII Vaccination ...	14
"	XIV Appointment, &c., of Medical Officer of Health and Sanitary Inspector ...	14
"	XV Schools ...	15
"	XVI Sale of Food and Drugs Acts ...	16

## INDEX OF PLACES.

	PAGE.
Goole Union (General) ...	1-16
Goole Urban District ...	17-25
Goole Rural District ...	26-40
PARISHES :—Adlingfleet ...	32
Airmyn ...	28
Eastoft ...	26
Fockerby ...	27
Goole Fields ...	33
Gowdall ...	27
Haldenby ...	32
Hooke ...	31
Onsefleet ...	32
Pollington ...	29
Rawcliffe ...	33
Reedness ...	27
Snaith and Cowick ...	34
Swinefleet ...	30
Whitgift ...	29
Hull and Goole Port Sanitary Authority...	40



## GOOLE UNION.

Goole Union is not wholly within the West Riding. By excluding Luddington and Garthorpe (two small parishes in Lincolnshire) it is found that the West Riding portion—the subject of this Survey—occupies an area of 39,679 acres in the extreme eastern portion of the Riding. Upon this area a population of 23,412 were estimated to live at the census of 1891. The district is governed sanitarily by two Authorities—the Urban and Rural District Councils. There is also a Port Sanitary Authority in combination with the Port of Hull.

The form of the district is irregular. From East to West it extends for a little over sixteen miles, but is only on an average from two to four miles from North to South. The Northern boundary adjoins the Selby Union, from which it is divided by the River Aire, which flows eastward to join the Ouse at Airmyn, when the latter in a circuitous route separates the Union from the East Riding as far as its confluence with the River Trent. The eastern boundary is formed by the disused and almost obliterated channel of the old River Don. On the South it adjoins the Thorne Union, with the exception of a small portion on the right, which is bounded by the old River Don, and a smaller portion on the left by the River Went. It is limited on the western side by the Pontefract Union. The district is flat, and lies below the 75 feet contour line. The greatest altitude is about 50 feet in the Pollington district, and the lowest is three feet in Adlingfleet parish. In Goole Urban the highest point is twenty feet, and the lowest about eight feet above sea level. Taking the maximum point in each of the fifteen parishes in the Rural District, the mean reaches to twenty-one feet, and the minimum likewise to a little over eight feet above sea level. Much of the land is therefore below tidal waters, and so the river banks become an important feature, without which each of the districts would be partially submerged. The embankment of the river is said to have greatly improved in the reign of Edward III., 550 years ago, and finished along with drainage works in the 17th century by Vermuyden, who also diverted the River Don from its course along the eastern boundary of the Union to the new channel from the New Bridge to Goole. A second diversion of the Don, which opened into the River Aire at Snaith, has also become silted up, so that on three occasions the course of this river has been altered. The district is intersected by dykes or soak drains for the purpose of draining away the surface water, with outlets into the rivers by means of cloughs and tidal valves. There are also warping drains which have been constructed to utilise the muddy sediment of the tidal waters upon the land. These works of drainage and embanking have altered the physical features of the district. Not only have they been successful in reclaiming and making the once wide waste into valuable land, but they have together been effectual in eradicating the ague which now lingers only in the memory of the oldest inhabitants. History records that fever or ague was rife in the early part of the century.

In this locality, forming the southern portion of the extensive plain of the vale of York, the tidal rivers, namely, the Ouse, Wharfe, Derwent, Aire, Don, and Trent meet and form the estuary of the River Humber. It is therefore not surprising to learn that the Goole Union occupies part of four different watersheds:—1st, the Aire; 2nd, the Don; and 3rd, to a smaller extent, the Ouse; and 4th, the Trent. All these rivers are in a more or less polluted condition as they flow past this locality, and they bear ample testimony to the fallacious idea that "streams and rivers seem to be the cheapest scavengers and removers of waste solids."

Dr. Mitchell Wilson, in 1889, in a report upon the non-tidal Aire, with which I agree, says, "It would be very difficult to say what amount of bodily discomfort is suffered by many who are never seriously ill, through living in an atmosphere in which offensive effluvia are so often noticeable, but it may be reasonably argued from the close association of many forms of disease with the inhaling of the concentrated air from sewers and house drains, that there must be a similar, although less intense, action resulting from the diluted but still offensive smell." Though the apparent pollution is not at times so marked as up stream, and nearer to the large industrial polluting centres, still complaints of dwellers near the banks of the tidal Aire were frequently heard, and instances of actual sickness and vomiting referred to. The offensive emanations from this river are said to be much increased after heavy rainfall in the West of the Riding, which appears to bring down more rapidly the offensive matters previously deposited higher up. The foul condition of the Aire and the other tributaries of the Ouse has no doubt caused the destruction and disappearance of salmon and other fishes.

There is another matter worthy of note, namely, the removal of river sand for the purpose of mixing with lime for use in house building. Unless the sand is well washed, such material can scarcely come under the requirements of the building by-laws, which insist upon the sole use of clean sharp sand.



The district is well provided with communication by land, rail, and water, though some villages in the eastern portion are remote from such conveniences. The roadways are invariably made of macadam, and are generally satisfactory in condition. The chief railways are a branch of the Lancashire and Yorkshire, which terminates at Goole, and the North Eastern, which connects Goole with the West Riding on the one side and Hull on the other. The Hull and Barnsley Railway passes through Gowdall parish in the extreme west. The Knottingley and Goole Canal is an important and much-used waterway. Each parish has been so formed that some portion of its borders abuts on a waterway, though now three have lost this by the diversion of the River Don.

Geologically, Goole Union rests upon the red sandstones of the triassic formation. They are soft and friable, and consist of the Bunter and Keuper sandstones which here and there appear on the surface as at Snaith and Pollington, but are elsewhere covered by a mantle of alluvium. The general arrangement downwards of the alluvial strata which together form the post tertiary beds is as follows:—(1) warp, (2) peat and forest bed, (3) sand, (4) laminated clay, (5) gravel, (6) boulder clay.

#### METEOROLOGY, RAINFALL, AND WET DAYS.

Year.	Swinefleet—Mr. G. Harrison.		Goole—Mr. Grayburn.	
	Depth of rain in inches.	Days on which .01 or more fell.	Depth of rain in inches.	Days on which .01 or more fell.
1899	25.2	133	21.4	155
1898	23.5	126	19.6	137
1897	26.0	140	21.6	180
1896	26.0	140	22.5	168
1895	30.4	113	25.4	151
1894	27.6	139	23.8	175
1893	21.1	101	17.4	144
1892	26.6	?	22.2	156

In the above table the rainfall during the eight years 1892-99 is given from two observers. At Swinefleet it would appear from these figures that the rainfall exceeds that at Goole Town, but the rainy days number less. In this locality the mean total rainfall is much below the average of the Riding. Seldom does it exceed 26 inches, whereas over the county an average of 30 inches has been recorded. This low rainfall, together with the difficulty of obtaining pure water from wells, increases the trouble in providing and maintaining an adequate supply of pure water.

The inhabitants belong chiefly to the class of manual workers. In Goole town shipping and its adjuncts are the chief sources of employment. The importance and growth of the shipping may be gathered from the fact that in 1888 the total number of arrivals of vessels was 2,258 with a tonnage of 530,508, against 2,641 arrivals in 1899 with a tonnage of 853,440. This large increase has occurred chiefly in foreign trade, as it would appear that the coastwise traffic has declined. In the rural parts agriculture maintains the people. The chief crops are potatoes, peas, turnips, and some cereals. Cauliflowers, beetroot, artichokes, and strawberries are now grown, and would appear to be increasingly so. Stock raising and butter making are commoner than milk production for human consumption. Flax mills once prospered, but have now disappeared, with the exception of a few old structures, which form a picturesque feature in the landscape. The district has some very interesting species of flora, some of which are confined to this area. It is not well wooded, though in the neighbourhood of villages there are usually some trees, few of them, however, of very vigorous growth. This, to some extent, may be accounted for by the strong winds which blow over this district. This and the scarcity of tree life, with the comparative absence of walls and hedgerows in the division of fields, tends to monotony. It has, therefore, been well described "as a level tract, interesting by reason of its unbroken flatness and its fertility."



TABLE I.—AREA, POPULATION, RATEABLE VALUE, ETC.

	Area in Acres.	1891 Census Figures.		Density of Population, 1891.		Rate- able Value 1900. £	Elevation (in feet) above Sea Level.		Drainage Area.	Industries.
		Popu- lation.	Inhab. Houses.	Persons per House.	Persons per Acre.		Max.	Min.		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
<b>Urban District:—</b>										
Goole	1441	15416	3057	5.04	10.7	67894	20.1	8.3	Ouse	Shipping, Shipbuilding, Chemical Works
<b>Rural Parishes:—</b>										
Adlingfleet	1848	211	51	4.14	0.11	1524	18.0	3.0	Trent	Agriculture
Airmyn	3961	539	99	5.44	0.14	9259	15.9	7.3	Aire, Ouse	"
Eastoft	1828	101	14	7.21	0.08	1470	14.4	5.5	Trent	"
Fockerby	853	82	17	4.82	0.10	902	14.2	8.4	Trent	"
Goole Fields	4160	311	55	5.65	0.07	5433	21.2	4.3	Ouse	"
Gowdall	1210	237	51	4.65	0.20	2266	28.0	22.0	Aire	"
Haldenby	1476	80	10	8.00	0.05	1592	17.3	4.2	Trent	"
Hooke	984	560	134	4.18	0.57	1605	16.9	9.7	Ouse	"
Ousefleet	2885	243	45	5.40	0.08	2162	15.0	3.6	Ouse, Trent	"
Pollington	1947	387	97	3.99	0.20	4064	50.0	17.0	Went, Aire	"
Rawcliffe	4512	1730	427	4.05	0.38	14190	18.4	7.6	Aire	"
Reedness	3083	473	115	4.11	0.15	3463	16.0	3.5	Ouse	"
Snaith and Cowick	6018	1596	386	4.13	0.27	13721	33.0	8.0	Aire, Ouse	"
Swinefleet	2472	1160	281	4.13	0.47	4489	14.1	4.9	Ouse	"
Whitgift	1501	286	69	4.14	0.19	1782	17.0	4.2	Ouse, Trent	"
<i>Total of Rural Parishes.</i>	<i>38238</i>	<i>7996</i>	<i>1851</i>	<i>4.32</i>	<i>0.21</i>	<i>67922</i>				
<b>Goole Union</b> (West Riding portion)	39679	23412	4908	4.77	0.59	135816				

From the above table it can be elicited that though the Urban District has a population density on an average of 11 persons to the acre, yet the house density of five persons is less than in five of the Rural Parishes, but the average of the latter is only 4.3. While the area of the Rural District is twenty-six times larger, it has only half the population of the Urban District, and as regards rateable value both are nearly equal. In only two of the parishes are there less than 1000 acres.

TABLE II.—GROWTH OF POPULATION IN NINE DECADES, 1801—1891.

	PRE- SENT AREA. — Acres.	POPULATION.									
		1801	1811	1821	1831	1841	1851	1861	1871	1881	1891
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
<b>Urban District:—</b>											
Goole	1441								7700	10418	15416
<b>Rural Parishes:—</b>		542	696	813	2321	4071	5119	6437			
Goole Fields	4160								—	277	311
Hooke	984								520	507	560
Adlingfleet	1848	203	223	256	218	199	226	225	266	195	211
Airmyn	3961	391	451	570	567	593	561	557	534	478	539
Eastoft	1828	78	79	88	82	82	90	90	89	77	101
Fockerby	853	84	86	106	103	92	107	108	88	81	82
Gowdall	1210	218	227	243	260	237	229	223	220	203	237
Haldenby	1476	72	73	81	75	75	64	57	86	91	80
Ousefleet	2885	207	223	253	243	228	227	233	215	210	243
Pollington	1947	378	429	483	482	585	495	501	467	397	387
Rawcliffe	4512	920	1143	1496	1450	1523	1552	1630	1646	1650	1790
Reedness	3083	520	561	683	644	633	663	601	576	494	473
Snaith and Cowick	6018	1397	1399	1739	1813	1737	1759	1763	1863	1730	1596
Swinefleet	2472	632	770	956	1055	1145	1152	1149	1319	1233	1160
Whitgift	1501	263	290	310	310	347	352	315	326	362	286
<b>Goole Union</b> (West Riding portion)	39679	5905	6650	8077	9623	11547	12596	13889	15915	18403	23412



The foregoing table is interesting because it illustrates the wave of rise and fall in the population. From the opening of the century till 1821, an increase in the Union generally is recorded, then in half-a-dozen parishes a decrease began, in three others this was not observed until 1841, and in two not till 1871. In one Parish only (Rawcliffe) has there been any notable increase of population.

The Urban District formed from portions of three Parishes has, during the 20 years 1871-91, doubled its people.

**TABLE IIa.--DENSITY OF POPULATION, &c. (West Riding portion of Goole Union).**

Census.	HOUSES.		POPULATION.			Persons per Inhabited House.
	Inhabited.	Uninhabited.	Males.	Females.	Total.	
1871	3414	237	7861	8054	15915	4.7
1881	3930	387	9208	9195	18403	4.7
1891	4908	384	11713	11699	23412	4.8

The large number of uninhabited houses is noticeable, and yet the condition of some of those now occupied would warrant a further increase. The alteration of the proportion of sexes since 1871, is due, to some extent, to the increase in shipping.

**TABLE IIb.--HOUSES, ROOMS, AND OCCUPANTS.**

This Table relates to the whole of the Goole Union including parts of Lincolnshire.

Size of Tenement.	Number of Tenements occupied respectively by												Total.		Percentage.		
	1 person	2 persons	3 persons	4 persons	5 persons	6 persons	7 persons	8 persons	9 persons	10 persons	11 persons	12 or more persons	Goole Union.	England and Wales.			
1 Room ..	18	12	2	1	—	1	—	—	—	—	—	—	34	0.6	4.7		
2 Rooms..	58	87	64	38	25	13	5	7	—	—	—	—	297	5.7	11.4		
3 Rooms..	41	87	114	81	68	53	39	26	14	3	—	—	526	10.0	13.3		
4 Rooms .	70	267	260	249	185	140	102	66	28	17	2	2	1388	26.5	23.9		
Number of Tenements with less than five rooms													...	...	2245	42.8	53.3
Number of Tenements with five or more rooms													...	...	2995	57.2	46.7
Total Number of Tenements													...	...	5240	100.0	100.0

Though the census figures in the above table show a comparison favourable to Goole Union, the large percentage of the population living in three-roomed houses is much higher than in the neighbouring district of Thorne, whereas the dwellers in four-roomed houses are less. The fact that 637 persons are living in 82 houses of only three rooms each indicates more or less overcrowding.

**TABLE III.—DATES OF FORMATION OF THE SANITARY DISTRICT, AND ADOPTION OF ACTS, BYE-LAWS AND REGULATIONS.**

	Date of Formation.	Adoptive Acts in Force.		Bye-Laws, with Date of Adoption							Regulations under Dairies, Cowsheds, and Milkshops Orders.
		Infectious Disease Prevention Act, 1900	Public Health Acts Amendment Act, 1902	New Streets and Buildings	Cleaning of Footways & Pavements	Prevention of Nuisances	Common Lodging Houses	Slaughter Houses	Offensive Trades	Other Matters	
I. Goole ...	1875	Yes	Yes	1877	1877	1877	1877	1877	—	—	1887
II. Goole Rural ...	1872	—	—	—	—	—	1883	—	—	—	1887
III. Goole and Hull Port Sanitary Authority	1887	—	—	—	—	—	—	—	—	—	—

\* In the Goole Rural District bye-laws relating to New Streets and Buildings have been framed in regard to the following parishes:—Airmyn, Goole Fields, and Hooke (1888), and Rawcliffe, Swinefleet, and Snaith with Cowick (1883).



It is apparent from Table III. that the Urban District has taken advantage of the provisions in the two adoptive Acts of 1890, but the Rural District has not. With regards to the bye-laws, New Buildings and Common Lodging Houses only are regulated in the Rural, and the wording is the same for these items in the Urban District. In the latter bye-laws are in force for regulating several of the more important items in sanitary administrations, as may be seen from Table III., but the date of their adoption (1877) shows them to be somewhat antiquated. On several occasions the Medical Officer of Health has urged the Urban Sanitary Authority to revise them, in order to facilitate and simplify the work of the officials.

The following headings include the more conspicuous provisions which are missing from the bye-laws, or which are inadequately enforced :—

1. *New Streets and Buildings.*

Definition of "new building."—By-Law 39.

Enforcement of By-law 21 with regard to 200 square feet of open space free of erections.

Enforcement where necessary of layer of concrete on site of new buildings.

Carrying away of rainwater properly.

2. *Nuisances.*

Enforcement of proper receptacles for dung, &c.

3. *Common Lodging Houses.*

Separation of married couples from other lodgers.

Cleansing of yard and curtilage.

Emptying filth receptacles before 10 a.m.

Requirement of single beds for single men.

Necessity of placard showing number of rooms and maximum number of lodgers.

Placard to hang in each room.

4. *Slaughter Houses.*

Schedules for licensing and registration.

Necessity for provision of water supply.

Provision of regular limewashing, and for non-absorbent walls and floors in good repair.

5. *Offensive Trades.* No Bye-laws.

Bye-laws ought to be framed under Sec. 23 of the Public Health Acts Amendment Act 1890, as these would prove very serviceable.

**TABLE IV**—ISOLATION, DISINFECTION, BURIAL GROUNDS, PUBLIC SCAVENGING, BATHS AND WASHHOUSES.

	Isolation Hospital.	Disinfecting Apparatus.	Ambulance.	Burial Grounds.	Public Scavenging.	Destructor.	Baths and Wash-houses.	Public Mortuary.
<b>Goole Urban</b> ...	Hospital rented from the Guardians	None	Brougham, one-horse	Cemetery ...	Contract	None	None	Yes
<b>Goole Rural</b> ...				Churchyard ...	None	"	"	None
Adlingfleet ...				Churchyard ...	"	"	"	"
Airmyn ...				Churchyard ...	"	"	"	"
Eastoft ...				—	"	"	"	"
Fockerby ...				—	"	"	"	"
Goole Fields ...				—	"	"	"	"
Gowdall ...				—	"	"	"	"
Haldenby ...				—	"	"	"	"
Hooke ...				Churchyard ...	"	"	"	"
Ousefleet ...				—	"	"	"	"
Pollington ...				Churchyard ...	"	"	"	"
Rawcliffe ...				Churchyard ...	"	"	"	"
Reedness ...				—	"	"	"	"
Snaith and Cowick ...				Churchyard, Snaith and E. Cowick	Contract	"	"	"
Swinefleet ...				Churchyard ...	Contract	"	"	"
Whitgift ...				Churchyard ...	None	"	"	"



The measures adopted for the prevention and restriction of infectious disease are as follows:—

1. *Hospitals.*—The Local Board of Goole, in 1875, made arrangements with the Guardians for the treatment of non-pauper patients in the Workhouse Hospital, situate in the town of Goole, and in 1876 it was transferred to the Local Board who undertook the treatment of pauper patients on terms. Since that time the Local Board and their successors, the Urban District Council, have made arrangements with the Goole Rural District Council, and with the Hull and Goole Port Sanitary Authority, to deal with cases of infectious diseases from their respective areas on terms.

The Isolation Hospital is centrally situated in Goole on an area of less than one acre. As just explained it was formally a workhouse hospital, but is now rented from the Guardians, who however at any time might terminate the present arrangements. It is of two storeys, and comprises two portions; (1), a permanent part built of brick and stone, which is divided into eight wards, but under one continuous roof. These wards are capable of accommodating some forty patients. (2), a new temporary structure of galvanised iron, erected for the staff and administration. The Medical Officer of Health acts as superintendent and has full control, but medical men are permitted to treat their own cases.

The absence at Goole of any prejudice against the hospital is however an excellent testimonial to the efficiency and popularity of its administration.

The Smallpox Hospital is a temporary building of galvanised iron, colored blue, and accommodates twenty patients. The site comprises eleven acres, and is well isolated on the right bank of the Dutch River. There is a small administrative block, with caretakers' rooms. There is much need for the improvement of the ventilation in this part, and this is necessary having regard to the use of gas for all the cooking. The pavilion is made up of two wards of ten beds each with the ordinary accessories. The approach road in its present condition is absolutely dangerous, and the wooden bridge over the ditch at the entrance to the hospital is positively unsafe to cross with a horse and ambulance.

In 1892 the cholera scare resulted in the appointment of a special sub-committee who sat daily for three months. In 1893 a hospital ship was provided by the Port Sanitary Authority for cholera patients, should any cases arise, but was not used. In 1898 this vessel was utilized for the isolation of smallpox patients. It has since been disposed of, and the Port Sanitary Authority has now made arrangements whereby six beds are reserved for their use in the Isolation and Smallpox Hospital.

2. *Ambulance.*—A one-horse brougham ambulance has been provided for the removal of fever patients. There is no vehicle provided for disinfected clothing, nor has a special ambulance been as yet provided for smallpox cases.

3. *Disinfecting Apparatus.*—No steam disinfecter has been provided, but Dr. Wilson has for many years drawn the attention of the Sanitary Authority to the urgent need of such an apparatus. How the officials have managed without one it is difficult to imagine. Only by excessive labor and careful vigilance can mischief have been averted. Not only is boiling and fuming laborious and out of date for such an institution, but it would be well nigh impossible to cope with the extra work caused by an epidemic. Half measures are costly, and this deficiency cannot but discount to a great extent the other good work of isolation. It is more economical in the end to prevent than to chase an epidemic.

4. *House Disinfection* is done by exposing all articles which cannot be boiled to the action of sulphur fumes. None of the infected bedding is removed from the house for disinfection in a proper apparatus. The method of fumigating houses by burning sulphur has been used from time immemorial, but it has its drawbacks, and is not so reliable as one would wish. Although sulphur fumigation is not so efficacious as some other gaseous disinfectants, it has this one strong advantage in its favour, that the pungent and disagreeable smell of it causes the room to get thoroughly ventilated and flushed out with fresh air before it can be again occupied. Fresh air is undoubtedly nature's great disinfectant. The direct action of sunlight is also an efficient disinfectant, as has been shown by experiment which proved that the exposure of certain germs to direct sunlight for an hour or two caused complete arrest of their development.

5. *Shelter* for those who must necessarily leave home during the process of fumigation. This has not yet been provided.

6. *Disinfectants* are distributed gratis from the Health Office, and soap is provided to the poor, which, though not a disinfectant, produces cleanliness if properly used.

7. *Placards* intimating the measures of prevention and restrictions of various infectious diseases are distributed.

8. The Circulating Libraries and Schools are acquainted of the existence of infectious disease in a household.



TABLE V.—WATER SUPPLY

(1)	Centre of Population.	Approximate number of Inhabited Houses, 1900.	Approximate Population, 1900.	Water Supplies.		Sewerage.	
				Public.	Other.	System.	Kind.
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Goole Urban	Goole	3580	17,900	Goole Urban District Council	Wells	Yes	Pipe and Brick
Goole Rural—							
ADLINGFLEET	Adlingfleet	40	166	None	Wells and Rainwater	None	Ditch
	<i>Rest of District</i>	11	45	"	"	"	"
AIRMYN	Airmyn	74	403	Yes	Wells	"	
	<i>Rest of District</i>	25	136	None	"	"	
EASTOFT	Eastoft	9	65	"	Wells and Rainwater	"	
	<i>Rest of District</i>	5	36	"	"	"	
FOCKERBY	Fockerby	14	68	"	"	"	Pipe and Ditch
	<i>Rest of District</i>	3	14	"	"	"	—
GOOLE FIELDS	(No Village)	60	300	"	"	"	—
GOWDALL	Gowdall	48	223	"	"	"	Pipe and Ditch
	<i>Rest of District</i>	3	14	"	"	"	—
HALDENBY	No Village	10	80	"	"	"	—
HOOKE	Hooke	137	573	"	"	"	Pipe and Ditch
	<i>Rest of District</i>	4	17	"	"	"	—
OUSEFLEET	Ousefleet	31	167	"	"	"	—
	<i>Rest of District</i>	14	76	"	"	"	—
POLLINGTON	Pollington	90	359	"	"	"	Pipe and Ditch
	<i>Rest of District</i>	7	28	"	"	"	—
RAWCLIFFE	Rawcliffe	291	1179	"	Wells, Rain-water and River Aire	Yes	Pipe
	Rawcliffe Bridge	174	705	"	Wells and Rainwater	"	"
	Station Lane	23	93	"	"	"	"
	<i>Rest of District</i>	25	101	"	"	None	—
REEDNESS	Reedness	92	378	"	"	"	—
	<i>Rest of District</i>	16	66	"	"	"	—
SNATH AND COWICK	Snaith	240	991	"	"	"	Pipe and Brick
	East Cowick	57	235	"	"	"	Pipe
	West Cowick	104	430	"	"	"	"
	<i>Rest of District</i>	44	182	"	"	"	—
SWINEFLEET	Swinefleet	316	1305	"	Wells, Rain-water, and River	"	Pipe and Rubble
	<i>Rest of District</i>	13	54	"	Wells and Rainwater	"	
WHITGIFT	Whitgift	65	269	"	"	"	
	<i>Rest of District</i>	4	17	"	"	"	

## AND DRAINAGE.

[illegible]



TABLE VI.—MILK SUPPLIES.

		Number of—			Regulations	Registration	Inspection
		Dairies.	Cowsheds.	Milkshops.			
Goole Urban	...	—	8	25	1887	Yes	Yes
Goole Rural	...	—	59	?	?	Yes	Yes

The Cowsheds in the Rural District are distributed as follows:—Adlingfleet 1, Airmyn 14, Hooke 10, Rawcliffe 9, Reedness 1, Snaith-with-Cowick 16, Swinefleet 8.

**MILK SUPPLY.**—There are about 33 milkshops and cowsheds in Goole, but most of the milk consumed in the town is imported from the neighbourhood of Hooke and Airmyn in the Rural District. The defects commonly found during inspection of the Goole cowsheds were inadequate lighting and ventilation, with the flooring so unevenly and irregularly laid as to render difficult, if not impossible, the proper cleansing and flushing away of the liquid sewage. Many of them fall short of what healthy structures should be. In this locality bedding is scantily provided, if at all, in some shippens. Absence of grooming means dirty cowhides, especially on the hind quarters. Under these circumstances one can find an easy explanation of the deposit so frequently found in the bottom of the milk basin. Precautions are taken to preserve the purity of our public water supplies, which are equally requisite in the case of milk, because of its proneness to take up and spread infection. For many years unfavourable remarks have been made by the Medical Officer of Health regarding the existing conditions. Not only are the shippens often objectionable, but the surroundings are uncleanly and the situation sometimes undesirable. Seldom is a proper midden provided for the manure, which in the majority of instances is simply thrown on the surface, or into a hole in the adjacent ground, sometimes against the wall of the shippen.

It might be noted here that sanitary requirements are as imperative in old as in new structures.—See Article 8 of the Dairies, Cowsheds, and Milkshops Order, 1885, which reads as follows:—

*“It shall not be lawful for any person following the trade of cow-keeper or dairyman to occupy as a Dairy or Cowshed any building, whether so occupied at the commencement of this Order or not, if and as long as the lighting, ventilation, air space, cleansing, drainage and water supply thereof are not such as are necessary and proper for the health and good condition of the cattle therein, or the cleanliness of milk vessels, and protection of the milk.”*

The following table (VIa) will illustrate the present condition of some cowsheds not selected, but taken promiscuously during inspection in the Urban and Rural District—and though the regulations under the Order are very general, their conditions are not fulfilled. There is no reference in them to cubic space.

This omission may account for the great variation in the cubic space allotted to each animal in the cowsheds of both districts. No cowshed should contain less than 600 cubic feet per cow. The insertion of glass tiles in the roof in addition to the usual trellis window is a great improvement. In many of the cowsheds there is no water for flushing, and the pump is invariably in suspicious proximity to the foldyard. If we except the properly covered foldyards which exist here and there, it is rare to find a middenstead. The untidy and straggling manure heaps, with surroundings often impassable, cannot promote the health of animals living in their neighbourhood. The head walk is generally absent from the cowshed and in a fair proportion of cases the food is kept within the cowshed. The regulations insist on such a flooring as will facilitate the cleansing, and the removal of liquids but very few of the cowsheds can be said to meet this requirement. With flags and cobbles, it is impossible to thoroughly cleanse unless they are laid properly on and in cement; in other words, the floor like the walls should be made of impervious materials. Particulars were noted of many other premises, but the 18 examples set out on the following table will suffice to give some idea of the conditions of cowsheds in the Urban and Rural Districts of Goole.



TABLE No. VIa.—ANALYSIS OF COWSHEDS.

Goole  
Urban—

Cow-shed.	Number of Animals	Cubic Space per Cow.	Ventilation.	Lighting.	Water.	Flooring and Drainage.	Middenstead.	Head-walk.	Food Store.	Remarks.
1	6	697	No permanent ventilation. Trelis windows, 576 sq. in. None	Four glass tiles in roof. Two windows, 24 in. by 9 in. each None	Pump	Brick floor, concrete channel, drainage unsatisfactory	Open	None	In cowshed	Yard foul
2	5	507			Town's	Very bad brick floor and bad drainage	"	"	Outside	Foul yard. Wooden premises entirely unsuitable
3	17	409			"				In cowshed	"
4	7	401	166 sq. in. of permanent ventilation. Trelis window, 440 sq. in. Two trelis windows. Roof ventilator blocked	11 Glass tiles in roof, and the trelis windows	"	Open, pointed bricks, good cement channel, drainage to gully outside	Open, wood sides, which abut on wood floor	"	Outside	Pigs kept within 9 ft., and place stinks
5	5	851		Two permanent lights	Pump	Good flag floor and channel, drains to fold yard	Fold yard	"	Separate	Surroundings rty, premises want lime-washing
6	4	496	Three permanent openings, each 9 in. by 3 in.	Two glass tiles in roof	Town's	Rough brick floor, drains to fold yard	Fold yard	"	"	Yard unsatisfactory
Goole Rural										
1	4	463	Two grates, 9 in. by 9 in. One grate, 15 in. by 15 in.	Four roof glass tiles	Pump	Open, pointed bricks, no channel, gully inside	Foul; open; 20 ft. away	"	"	Yard very foul
2	2	448	Trelis window, three openings	Window, 10 in. by 5 in.	"	Cobble flooring, drainage to untrapped gully inside	Open; unsatisfactory	"	"	Yard filthy
3	3	563	Three openings, 6 in. by 3 in. Trelis windows	Window, 2 ft. 6 in. by 8 in.	"	Brick floor	"	"	"	Fairly good
4	10	783	Trelis, openings over head	Windows	Village	Brick, set in lime, concrete channel	Hole in the ground	"	In cowshed	Unsatisfactory yard
5	6	531	14 openings, 6 in. by 3 in.	Four glass tiles in roof, also trelis window	"	Brick, gully outside	"	"	Separate	"
6	6	380	Nine openings, 8 in. by 14 in.	Trelis windows	Pump	Rough, loose flags, channel with wooden bottom	Close to cowshed	"	"	"
7	6	279	Two trelis windows, and one opening, 6 in. by 3 in.	Trelis window	"	Brick and cobble	6 ft. from door	"	"	Pigs adjoining
8	5	391	Trelis window	Window	In fold yard	Cobble and brick	Fold yard	"	"	Fairly good surroundings
9	6	529	Five tubes, 2 in., hole, 6 in. by 6 in. Two trelis windows	Two windows	"	Rough brick	Open	"	"	Yard fair
10	6	606	Five openings, 4 in. by 4 in.	Six glass roof tiles	"	Cobbles	"	"	"	Yard filthy
11	5	506	Six openings, 2 in. tubes. Two trelis windows	Two windows and two glass roof tiles	"	Brick, with defective channel	"	"	"	Fairly good yard
12	4	584	Four air bricks. Two gratings. Raised ridge tile	Eight glass tiles in roof. One window, 15 in. by 9 in.	"	Concrete	5 Yards from shed	"	"	"



**TABLE VII.—SLAUGHTER HOUSES.**

		Number.	Bye-Laws.	Registration.	Inspection.
Goole Urban	...	3	1877	Yes	Yes
Goole Rural—					
Hooke	...	1	None	Yes	Yes
Rawcliffe	...	4	"	"	"
Snaith and Cowick	...	4	"	"	"
Swinefleet	...	3	"	"	"

**SLAUGHTER HOUSES.**—There are three in Goole, conducted under by-laws framed in 1877. They are regularly inspected. One of them has given rise to complaints: the door opens on the street, and the publicity given to the operations within is not calculated to benefit young minds. In 1896 the Urban District Council rented the Aire and Calder Navigation slaughter-house adjoining the docks, and afterwards considerably improved its sanitary condition. The number of animals slaughtered there shows that it is largely taken advantage of. In 1899, the numbers were 864 cattle, 1,432 sheep, 1,960 pigs, and 25 calves. The advantages of such a place must be obvious, and the day is not far distant, it is to be hoped, when private slaughter-houses will be obliterated.

In Goole Rural there are 12, and none of them can be regarded as fulfilling the requirements of the model Bye-laws. This cannot be expected when there are no Bye-laws in force to regulate the trade. The common defects are want of impervious flooring and walls, water supply, and proper arrangements for disposal of offal and garbage.

**TABLE VIII.—OFFENSIVE TRADES.**

		Number and Description.	Bye-Laws.	Inspection.
Goole Urban	...	2 Tripe Boilers	None	Yes
"	...	1 Gut Scraper	"	"
Goole Rural	...	None	"	—

In the absence of Bye-laws, the officials are at a great disadvantage in insisting on proper conditions under which it is expected such trades should be conducted. The model Bye-laws insist upon (1) walls and flooring to be non-absorbent, (2) the rendering innocuous of all vapours emitted, (3) the drainage to be good and efficient, (4) the washing of the floor and walls four times at least in every year with hot lime wash, (5) the daily removal of all filth. Such should be the standard in Goole. In one place the stable ventilates partially into the tripery. Gut scraping is also carried on under the same roof. In neither is the flooring, drainage, or cleanliness in accordance with the above requirements.

**TABLE IX.—COMMON LODGING HOUSES.**

		Number.	Bye-Laws.	Registration.	Inspection.
Goole Urban	...	5	1877	Yes	Yes
Goole Rural—					
Snaith and Cowick	...	2	1883	Yes	Yes
Swinefleet	...	1	1883	"	"

**COMMON LODGING HOUSES,** in Goole, at present number five. They are registered, and inspected. The bye-laws were framed in 1883. I fully agree with the opinions of the Medical Officer of Health that none of them are really satisfactory, and certainly not habitations such as to improve the notions of hygiene in the occupants. In one instance, the surroundings are insanitary—one should say disgraceful—and totally unsuited for the purpose. The scullery does not invite cleanliness, and the privy midden is so constructed that it is inhuman to expect any scavenger to enter it for emptying and cleansing. In another the lodgers have to pass through the bedrooms on each floor to reach the higher storeys, and this irrespective of the sexes occupying each flat. Most large towns have provided Model Lodging Houses, and in Goole it appears the Council might wisely consider this.



In the Rural District there are three common lodginghouses. In Snaith the work is carried on as well as the conditions and arrangements of the building will allow. The bedding was clean and tidy, but double beds were provided, which are supposed to be occupied by single persons, and overcrowding at times was admitted. At Swinefleet, tenants were ignorant of the necessity of any certificate, or exhibition of bye-laws, or placard intimating the occupants to each room, or of having a public notice outside the building.

**TABLE X.**—MEAN ANNUAL RATES, PER 1,000 LIVING, DURING THE FIVE YEARS 1894—98.

	Birth Rate.	Death Rate.	Death Rate from				Infant Mor- tality.
			Zymotic Diseases.	Phthisis.	Respiratory Diseases.	Injuries.	
Goole Urban ...	31.6	15.9	2.2	1.1	2.6	0.7	159
„ Rural ...	31.6	16.4	1.4	0.7	2.8	0.5	153
England and Wales	29.8	17.5	2.6	1.4	3.1	0.6	152

In each of the columns of the above Table a comparison with England and Wales is not at all unfavourable to the districts under review, except in the case of infantile mortality, where a slight excess is noticeable. With regard to the birth-rate, although the quinquennial average happens to be the same for both the urban and the rural district, a more detailed examination of the rates shows that there has been a marked decline in the urban death-rate and a small increase in the rural. During the early years of the present decade, Goole Urban recorded a birth-rate of 39 per thousand of the population, while during the two years, 1898 and 1899, it was less than 29. Notwithstanding this fall, the birth-rate of Goole and Goole Rural exceeds that of England and Wales. Equally favourable is the comparison of the crude death-rates. In the urban district the improvement in the death-rate has been continuous, but in the rural district it has been subject to fluctuations.

**TABLE Xa.**—In the following Table a comparison is made of the rates prevailing in the Goole Union during two intercensal periods. The improvement in the death-rate and the decrease in the birth-rate is apparent during the twenty years dealt with. The latter may depend to some extent on the diminished marriage rate.

(These Figures are for the entire Union, including Parts of Lincolnshire.)

PERIOD.	ANNUAL RATES PER 1,000 LIVING.			Per 1,000 Births. — Infantile Mortality.
	Deaths.	Births.	Marriages.	
1871—1880 ...	21.39	36.47	15.67	166
1881—1890 ...	18.24	35.00	14.59	140

**TABLE XI.**—SEX AND AGE-DISTRIBUTION OF POPULATION, PER CENT.

LOCALITY.	SEX.		AGES.				
	Male.	Female.	0-5	5-15	15-25	25-65	Over 65
England and Wales ...	48.5	51.5	12.3	22.8	19.3	40.9	4.7
West Riding ...	48.7	51.3	12.0	22.7	20.0	41.6	3.7
Goole Urban ...	50.6	49.4	14.8	24.1	18.5	39.5	3.1
Goole Rural <sup>a</sup> ...	49.0	51.0	12.1	23.0	18.8	39.1	7.0

<sup>a</sup> Goole Rural District before alteration, and including parts of Lincolnshire.

It would appear from the above Table that in the Goole Urban District the males exceed the females in number, whereas the reverse is true of the country generally, the West Riding, and the Goole Rural District. With regard to age distribution, the Table reveals the fact that the ratio of the inhabitants under fifteen years of age is greater than is usual. Another conspicuous feature of the Table is the large proportion of inhabitants over 65 years of age in the rural district. It should be borne in mind, however, that the above figures are ratios and not absolute numbers, and it is therefore possible that the excessive proportion of people at both extremes of life may be simply accounted for by the migration of the young adults.



**TABLE XII.**—The following figures are compiled from the Registrar General's Returns for the 10 years 1889-98. They relate to the whole of the Goole Union, separate data not being obtainable for the West Riding portion alone.

The percentage of illegitimate births in the Goole Union is slightly higher than in the West Riding as a whole. The death tolls from measles, whooping cough, and diarrhoea—three ailments considered by the people as trivial—are worthy of note in the following Table:—

<i>Mean Population 25,959.</i>					
<i>Births 8,913, of which 423, or 4·7 per cent., were illegitimate.</i>				Annual Birth Rate	... 34·3
No data as to sex ... ..					
<i>Deaths 4,590, of which 2,343 were males and 2,247 females</i> ...				Annual Death Rate	... 17·7
				Male	... 18·0
<i>Ages at Death.</i> No data; hence <i>infant mortality</i> cannot be stated here, but see Table X. and Xa.				Female	... 17·3
<i>Deaths in Public Institutions.</i> There were 343 or 7·5 per cent., in the Workhouse and Fever Hospital.					
<i>Deaths from particular causes.</i>					
Small Pox	...	5	591	Zymotic Death Rate	... 2·28
Measles	...	101			
Scarlet Fever	...	46			
Diphtheria	...	51			
Whooping Cough	...	118			
Typhus	...	—			
Enteric (Typhoid) Fever	...	50			
Simple Continued Fever	...	1			
Diarrhoea	...	219			
Cancer	...	179		Cancer	Death Rate, 0·69
Phthisis	...	287		Phthisis	" 1·11
Diseases of Respiratory System	...	795		Respiratory	" 3·06
Diseases of Circulatory System	...	391		Heart Disease, &c.	" 1·51
Diseases of Nervous System	...	667		Nervous Diseases	" 2·57
Violence	...	231		Violence	" 0·89
<i>Inquests</i> ...	350				

**TABLE XIIIa.**—COMPARATIVE ANALYSIS OF DEATH CAUSES IN TWO DECADES.

This Table compares the principal causes of death in two ten-yearly periods, and shows that though there has been a decrease in the general death-rate, certain of the diseases claimed a larger number of victims in the second period than in the first, *e.g.*, measles, whooping cough, cancer, and diseases of the nervous and digestive systems.

Goole Union.*	Ten Years. 1871-80.	Ten Years. 1881-90.		Ten Years. 1871-80	Ten Years. 1881-90	
MEAN POPULATION	... 18,414	21,975				
<i>Annual Death-rates per 1,000:—</i>						
ALL CAUSES	... 21·39	18·24				
Small-pox	... 0·04	0·01				
Measles	... 0·32	0·40				
Scarlet Fever	... 1·23	0·38				
Diphtheria	... 0·13	0·06				
Whooping Cough	... 0·40	0·46				
Typhus	... 0·03	0·00				
Enteric Fever	... 0·41	0·24				
Simple Continued Fever	... 0·07	0·03				
Puerperal Fever	... 0·07	0·10				
Diarrhoea and Dysentery	... 1·52	0·81				
Cholera Nostras	... 0·03	0·00				
			Cancer	... 0·56	0·60	
			Scrophula	... 0·12	?	
			Tabes Mesenterica	... 0·46	0·25	
			Phthisis	... 1·50	1·31	
			Hydrocephalus	... 0·37	?	
			Diseases of	Nervous System	2·66	2·77
				Circulatory	... 1·36	1·48
				Respiratory	... 3·16	2·94
				Digestive	... 0·96	1·10
				Urinary	... 0·42	0·31
			Generative	... 0·06	0·04	
			Childbirth	... 0·08	0·08	
			Suicide	... 0·06	} 0·95	
			Other Violence	... 1·04		
			Other causes	... 4·33		3·60

\* This Table also relates to the whole of the Goole Union, including the parts in Lincolnshire.

**TABLE XIII.—VACCINATION.**

Percentage of Children born in year stated, and reckoned as "unvaccinated," because not accounted for as "successfully vaccinated," "insusceptible of vaccination," "had smallpox," or "died unvaccinated."

Year.	Goole Union.*	West Riding.	England and Wales.
1887	2.1	9.6	7.1
1888	3.1	12.2	8.5
1889	5.2	15.0	9.9
1890	4.4	16.6	11.3
1891	4.8	17.5	13.4
1892	7.3	17.3	14.9
1893	6.9	18.2	11.7
1894	12.0	20.8	19.2
1895	11.9	20.5	20.5
1896	8.7	21.9	22.9

\* The entire Goole Union, including the Lincolnshire portion.

So far as the above vaccination figures go, they show that the Goole Union is in a much more favourable position to withstand small pox than is the West Riding generally; and when more recent figures are obtainable they will, it is thought, show a still further improvement in the defensive condition of the Union in this respect.

**TABLE XIV.**

DISTRICT.	MEDICAL OFFICER OF HEALTH.							
	NAME AND QUALIFICATIONS.		Term of Appointment.	Date of First Appointment.	SALARY.		Repayment by County Council.	Annual Report Printed.
Goole Urban ...	J. Mitchell Wilson, M.D., D.P.H.		Seven Years	1892	£	s. d.	Yes	Yes
Goole Rural ...	Do.	do. do. ...	"	"	84	0 0	"	"

DISTRICT.	SANITARY INSPECTOR.							
	NAME, &c.	Term of Appointment.	Date of First Appointment.	SALARY.		Repayment by County Council.	Other Duties.	TOTAL SALARY.
				£	s. d.			£ s. d.
Goole Urban ...	W. H. Ellis	Annual	1890	95	0 0	Yes	Canal Boats	100 0 0
Goole Rural ...	E. C. B. Tudor	"	1873	120	0 0	Yes	(Building D.C.M. Petroleum	150 0 0

The Rural District Council employ the Highways Surveyor as Canal Boats' Inspector at a salary of seven guineas per annum.



TABLE XV.—SCHOOLS.

In the following Table, B. stands for boys. G. for girls. I. for Infants, and M. for mixed.

District.	Name of School.		Date of Erection	Certified Accommodation	Average Attendance.	Ventilation.	Closet Accommodation.	Water Supply.	Drainage.	Cloak Room
<b>Goole Urban</b>	Board, Alexandra Street	B. G. I.	1875	1397	1134	Good	Trough	Yes	Good	Good
"	Board, Boothferry Road	B. G. I.	1894	930	804	Good	Trough	Yes	Good	Good
"	" Old Goole	M. & I.	1878	785	553	Fair	Box	Yes	Waste Dis. but not trapped	Good
	National, Old Goole	M. & I.	1864	200	154	I. Unsatisfactory M. Fair	C.P.M.	Pump	No Lavatory	Unsatisfactory
"	" St. John's	B. G. I.	1844	549	360	Unsatisfactory	Trough	Yes	Good, but no Lavatory for Infants	Fair, but badly lighted
"	Roman Catholic ...	B. G. I.	1869	336	207	Unsatisfactory	Box	Yes	Good	Good
<b>Goole Rural</b>										
Adlingfleet	Board	M. & I.	1878	48	21	Unsatisfactory	C.P.M.	None	No lavatory	Unsatisfactory
Airmyn ...	National	M. & I.	1834	124	52	Unsatisfactory	C.P.M. and O.P.M.	None	No lavatory	Fair
Eastoft ...	National	M. & I.	—	123	89	Unsatisfactory	C.P.M.	Pump	Waste untrapped	Fair
Fockerby ...	—	—	—	—	—	—	—	—	—	—
Goole Fields	—	—	—	—	—	—	—	—	—	—
Gowdall ...	—	—	—	—	—	—	—	—	—	—
Haldenby ...	—	—	—	—	—	—	—	—	—	—
Hooke ...	National	M. & I.	1844 <small>Extended 1889</small>	159	101	New part good Old unsatisfactory	Box	None	No lavatory	Good
Ousefleet ...	Endowed	M. & I.	1875	90	36	Unsatisfactory	C.P.M. unsatisfactory	None	No lavatory	Poor
Pollington...	National	M. & I.	1854	129	110	Unsatisfactory	C.P.M.	Pump	No lavatory	Unsatisfactory
Rawcliffe ...	Rawcliffe Board	M. & I.	1878	235	174	Unsatisfactory	C.P.M.	None	Unsatisfactory	Fair
"	Rawcliffe Bridge Board	M. & I.	1877	234	143	Unsatisfactory	C.P.M.	Pump	Unsatisfactory	Fair
Reedness ...	Board	M. & I.	1879	120	82	Unsatisfactory	C.P.M.	Rain-water	Satisfactory	Unsatisfactory
Snaith and Cowick	Snaith National	M. & I.	1878	177	121	Good	C.P.M.	None	No lavatory	Fair
"	" Wesleyan	M. & I.	1848	251	107	Windows only	Cesspits	Pump	No lavatory	Good
"	Cowick National	M. & I.	1850	157	79	New good Old unsatisfactory	Cesspits	None	Unsatisfactory	Poor
Swinefleet...	Board	M. & I.	1876	291	217	New good Old unsatisfactory	Box	Rain-water	No lavatory	Fair
Whitgift ...	—	—	—	—	—	—	—	—	—	—

The importance of the thorough ventilation of schoolrooms cannot be over-estimated. With a large number of pupils in a single room the atmosphere soon becomes contaminated by exhalations from the lungs and skin. To compensate for the lack of proper ventilation, teachers have recourse to opening the windows, which is often as bad as the defect it is intended to correct; but it is the commoner custom to close all apertures in cold weather. Then a two-fold injury follows. First, the unhealthfulness and injuriousness from sitting in a warm contaminated atmosphere, causing relaxation and debility; second, on leaving the school the child is apt to catch cold, probably sore throat, which under insanitary conditions may favour the propagation of diphtheria and like ailments. Again, in country districts it is no uncommon experience for some of the children to walk several miles to school. When the weather is wet and the roads muddy they are compelled to enter their classes with cold feet and damp clothing, and remain there in that chilly uncomfortable condition. For this reason better accommodation should be provided in the way of cloak rooms or reception rooms, where it would not be unreasonable to ask for a special locker for each child in which a pair of dry stockings or extra bit of clothing might be kept.



It is the duty of a Sanitary Authority to inspect public elementary schools, and to exercise sanitary supervision over them. Sec. 91-94 provides the legal method for improvement. In Goole a special Medical Officer has been appointed by the School Board. In several other districts in the Riding the local Medical Officer of Health is appointed to carry out these duties which are as follows:—

#### DUTIES OF MEDICAL OFFICER OF SCHOOL BOARD.

1. To examine, when required by the Board or any of its Committees, children who are said to be physically unfit to attend school, and to make out certificates.
2. To examine Candidates for Pupil Teachership, and Pupil Teachers, if necessary, and to make out the Certificates required by the Board of Education.
3. To visit and report in writing, when required by the Board or any of its Committees, on any employé who is absent from duty on account of illness.
4. To examine and report on cases of Blind or Deaf children, and children committed to Truant and Industrial Schools, when required, and to make out Certificates.
5. To visit the homes and certify on cases where children should be excluded on account of Contagious and Infectious Diseases.
6. To examine and certify as to children to be dealt with under the Elementary Education (Defective and Epileptic Children) Act, 1899.

#### TABLE XVI.—SALE OF FOOD AND DRUGS ACTS.

The following table shows the number of samples purchased under the Act by the County Council Inspector in these districts during the seven years, 1894—1900. It also affords a comparison with the West Riding as a whole.

Period of Seven Years, 1894-1900.	Goole Urban District.	Goole Rural District.	West Riding as a whole.
Total Samples Analysed ...	159	118	15,170
Percentage found Adulterated	4.4	18.6	6.3
Percentage reported Inferior ...	25.8	8.5	5.7
Percentage reported Genuine...	69.8	72.9	88.0

The above results are curious, inasmuch as the percentage of positive adulteration revealed in the Rural District is several times greater than in the Urban District, while the position is reversed with respect to articles classed as "doubtful or inferior." Grouping together the adulterated and the inferior it will be seen (1) that the Goole Urban District occupies a worse position than the Rural, (2) that in both districts there is much to be done to bring the standard of purity, in food supplies, up to that which prevails in the West Riding generally.



## GOOLE URBAN.

The Urban District of Goole covers an area of 1,441 acres, on the right bank of the River Ouse in the neighbourhood of the confluence of the Dutch River, which is the artificial channel conveying the water of the Don into the Ouse at Goole. The town stands really on reclaimed marshlands, and the river is shut out by embankments. On the north is the village of Hooke, on the west Airmyrn, and on the south is the parish called Goole Fields. A reference to Table I. reveals the fact that Goole as a town is of recent formation and growth; at the beginning of this century it was only a small hamlet. In 1826, the construction of the Aire and Calder Canal and Docks brought about the large increase of population. In 1829 it was constituted a port for foreign trade. In 1839 gas was introduced by a private Company, and in 1883 waterworks were established. Both these undertakings are now owned by the Urban Council.

Goole is the only seaport in the West Riding. It has an increasing foreign trade, while its coastwise traffic is also extensive, so that it is now a port of considerable magnitude and importance. Prior to 1875 the town was situate in parts of three separate parishes, but in that year a Local Board of Health was established and a defined area assigned to the town, so that, there being no definite district which coincided with the town, it has been difficult to compile vital statistics antecedent to 1875. It has been computed, however, that in 1861 the population of Goole Town numbered 5,850, and in 1871 7,680, equal to an increase of 31 per cent. in the ten years. The census figures of 1891 show the population to have been 15,417, so that during the 20 years 1871-91 the urban population had doubled itself. In considering the population of a town like Goole, it is always necessary to bear in mind, however, the variations on account of the floating element in the population.

The position of Goole is central in the Union, and is therefore a convenient market town. Its connection with the populous districts of the West Riding renders it highly suitable not only as a landing port for goods, but also for the export of coal, &c. It is 25½ miles west-by-south from Hull, and 49 miles from the sea. By rail it is 18 miles from Pontefract and 27 from Wakefield.

In 1876 a Market Hall was built by a Company, but is now owned by the Urban District Council. The Cemetery is situated in Hooke Road, about three-quarters of a mile from the town. A public mortuary is provided in the centre of the town, and this is in the hands of the Sanitary Authority, as it ought to be, but it is not yet the custom to remove those persons dying from infectious disease. A Cottage Hospital and also a Sailors' Institute have been provided.

The condition of domestic premises in Goole reflects in an unusually marked manner the social conditions and habits of the tenants. As regards dwellings, an inspection of the town reveals the existence of three areas. First, the district situated on the right bank of the Dutch River, which was really the nucleus of the town, and forms the oldest part of it. Second, the portion embraced between the Dutch River and the railway. This contains much property, in which are to be noticed many of the sanitary evils referred to in this report. The third portion lies to the west of the railway. Here the building of houses has rapidly extended in recent years, owing probably not so much to the immigration of strangers as to the removal of tenants from insanitary and less convenient parts, where, as a consequence, there are now many houses untenanted and fast falling into disrepair. During my inspection I counted over 300 empty houses. These areas, therefore, indicate very well the development of the town of Goole, and, as one would expect, the general condition of habitations, from the old and perishing, the old improved, to the modern. In George Street, Cooper Street, Doyle Street, &c., there are many back-to-back houses. In Back Ouse Street there are several houses in which the kitchen, *i.e.* the living room, is only about 6 feet high. In Jackson's Yard there are several houses which are damp, dark, and unfit for habitation. Of course, much of the trouble of to day has arisen from the fact that in the early history of the Sanitary Authority sanitation did not grow with the people, but such an argument cannot be an excuse for inaction now. In some houses in course of erection a very unsatisfactory mixture of tar and lime was being used for a damp course, and the surface of the ground was left untouched without the intervention of any impervious material such as concrete, which is required by the bye-laws in force in the district where declared necessary. As house construction involves more as regards the public health than any other one thing in the sphere of sanitation, the enforcement of bye-laws is absolutely necessary to establish sound property, so as to prevent its decadence into slums in the future. Of course, it would be unreasonable in the older parts of the town to judge of the houses by modern standards. The danger to health arising from the absence of proper damp proof courses and proper spouting for the conveyance of rain water from the roof of the house is very important.



The houses in Goole are generally arranged on the sides of streets except in some of the older parts where there are many confined courts around which the houses are erected at the original ground level, which is sometimes six or seven feet lower than the present street level. The effect of this is to form what have been termed "oblong wells," in which privies and outhouses are built. In some other parts also the houses are closely crowded together with scanty backyards, which minimise the facilities for the circulation of air, not only round the exterior of the houses, but afford little opportunity for its circulation within them to carry away the emanations arising from domestic uncleanness, from unpaved filthy surfaces, and large privy middens which exist too commonly in the neighbourhood of such houses. Adequate open space at the rear of domestic buildings is now universally regarded as an essential condition for a healthy dwelling. The bye-laws include a regulation for securing this, yet we find many instances where this open air space is reduced by the erection of hen pens, and other wooden structures such as stores, cart sheds, stables, and piggeries. The local medical officer has drawn attention to this subject on several occasions, but practically all these structures have been erected without plans having been submitted to the Sanitary Authority. Decisive action is necessary to restore the proper air space. The policy of "let sleeping dogs lie" will only aggravate the difficulty in the future. It is no argument that because A has infringed the by-laws B should be permitted to do the same, yet such ideas were heard several times during the inspection. One shrinks from interfering with a man's hobby, but when the public health is jeopardised then individual interest must give way. Similar conditions once existed in another part of the Riding. The tenants were advised to apply for allotments, or to form a combination and rent a field or two for henpens and piggeries. The latter scheme was adopted, hundreds of hens, &c., were removed to healthier surroundings, with the result that the healthy birds produced more eggs and were much less liable to disease and less dangerous to the tenants and their children. Diphtheria, it is now believed, can be propagated by infected fowls and insanitary henpens.

The roadways in Goole are generally constructed of macadam. Tar macadam, properly graded, is used in some parts, and an inspection say of Sutton Street, Sotherton Street, and Richard Cooper Street, will at a glance show the advantage of it from a sanitary point of view. Several streets have been properly prepared under the Private Street Works Act of 1892, and others are in progress. The main thoroughfares are for the most part well kept, but some of the back streets are by no means in a satisfactory or sanitary condition. The proper paving and draining of these back streets should be regarded as of special importance, because the children play there and pass out and into the houses by the back-yard door, hence the aspect of tidiness in many of the front streets. The footpaths, generally, are satisfactory, except in those instances where the fall pipes discharge rain water on the surface of the footpath instead of by a proper channel to the gutter, as, for example, happens in Phoenix Street, Tennyson Street, and West Street.

Goole is provided with a public water supply which is obtained by pumping from a well near Rawcliffe Bridge. Owing, however, to the chalybeate nature of the water the quality is unsatisfactory, and frequent complaints were heard about discoloration and sediment. Several attempts have been made to remedy this by altering the depth of the well, but without much success. It therefore became necessary to consider the advisability of obtaining a new supply. Much discussion has resulted in the District Council acquiring power to sink a well at Pollington five miles from Goole, in the new red sandstone from which strata Pontefract and Selby obtain their water. The new water supply will be a real boon to the town, and it is to be hoped will be extended to surrounding localities now much in need of a adequate supply of pure and wholesome water. The Act of Parliament which authorises the new supply, also provides that the Rural Sanitary Authority can, under certain circumstances, obtain a supply for any village in their District.

It is astonishing and at the same time discouraging to find so much incredulity here and elsewhere in regard to polluted water being the cause of illness. How often one hears "I've been drinking that water all my life and I never ails owt." In the presence of much positive evidence, negative statements like that are valueless. The experiences of several villages in the Riding, during the last year, form a sad proof that though polluted water can sometimes be drunk for long periods without apparent mischief, the day of reckoning may come at any time, with the introduction of a specific organism, say of Enteric Fever. That an ample and wholesome supply of water is one of the best safeguards of public health cannot be gainsaid. Though three-fourths of the people of Goole partake of the public supply, the remainder resort to private wells. In 1875, Dr. Parsons wrote "In Old Goole few wells yield drinkable water, the top springs being contaminated with sewage and the deep springs with iron." With increasingly suspicious surroundings it is rare to find a well water entirely beyond suspicion in populous centres. This is confirmed by analysis which I have made, and the pollution will obviously increase as the area and density of the town grows.



SAMPLES TAKEN FOR ANALYSIS FROM WELLS AND FROM THE PUBLIC SUPPLY IN GOOLE.

LABORATORY REFERENCE NUMBER.	HARDNESS	CHLORIDE	ALKALI- NITY in terms of Carbonate of Soda.	SOLID MATTER.		Oxidised Nitrogen.	AMMONIA.		OXYGEN CONSUMED in Two Hours at 100° C.	REMARKS.
				Total.	Loss on Ignition.		Free.	Albuminoid		
	<i>Clark's Degrees.</i>	<i>Grains per Gallon.</i>					<i>Parts per Million.</i>			
15	17.5	4.3	26.0	54.9	7.0	nil.	0.336	0.046	2.80	Bad.
16	28.5	1.4	35.2	39.6	7.7	nil.	0.276	0.046	2.93	Bad.
17	17.5	17.9	36.0	87.5	14.0	1.05	0.024	0.052	6.72	Bad.
18	28.5	2.1	28.9	35.4	6.3	nil.	1.096	0.110	5.28	Bad.
29	30.0	1.1	37.1	41.0	4.2	nil.	0.338	0.022	3.56	Bad.
30	27.0	1.5	29.7	36.4	2.8	nil.	0.418	0.026	3.69	Bad.
31	28.5	1.3	36.0	41.0	7.3	nil.	0.188	0.016	2.68	Bad.
32	33.0	1.8	38.9	44.1	7.7	nil.	0.200	0.024	2.80	Bad.

The natural corollary to the acquisition of an ample water supply should be the speedy and harmless removal of all domestic sewage, in other words, the gradual introduction of the water carriage system, and co-incident with that the avoidance of any ponding of the sewage in the sewers by a scheme of pumping, as is done at other places on the Ouse, both above and below Goole.

The sewerage of Goole has long been a source of anxiety to the District Council, and this is not to be wondered at when one considers the low levels; and the necessity of providing tank sewers for the retention of the sewage when it cannot be discharged into the river during high water—a period ordinarily of some five hours out of the twelve, and much longer in times of flood. Such conservancy of sewage, although it may not be obvious to the casual observer, must have a prejudicial and devitalizing effect on the community. Tank sewers such as exist in Doyle Street, George Street, and East Parade, in fact in the whole area between the River and Boothferry Road must emit foul emanations, notably in summer time; besides causing a difficulty in the way of providing sufficient ventilation of the sewers.

Numerous ventilation shafts have been erected, but more are still required, and particularly in the higher parts of the town. To minimize the evil results of conserving the sewage so long in Goole, unusual care has been devoted to the flushing of the sewers by water from the Docks or the water mains, or by means of waggons. Much has been done in the reconstructing and altering of several of the more important conduits, *e.g.*, the Deemster and Hook Drains, and also in laying new sewers in Old Goole and the Dutch River areas. These works have removed many of the complaints recorded in the past reports of the Medical Officer of Health.

With reference to Sewage Disposal, all the sewers of Goole empty into the river except when tide-locked. In this matter—the question will occur to one, why should a public authority and a Sanitary Authority, too, be permitted to pollute the rivers and water courses any more than an individual to pollute the highways by littering them with filth. The former may be less obvious but nevertheless dangerous to public health. Has the Sanitary Authority any more right to destroy the fishes and poison their sources of life, than an individual to destroy his neighbour's fowls. Fishes are a nutritious form of diet, and chiefly of the working classes, therefore the efforts of the authorities to purify our rivers higher up should be seconded by all sanitary authorities, and especially those in localities where it is not unreasonable to prophesy the re-appearance of fishes if only of the coarser kinds.

As house drainage bears so important a relation to the sanitary condition of the dwelling too much attention cannot be given to the perfecting of it, and its maintenance thereafter. In many instances the advantages of proper drainage are minimised, and often nullified by the very faulty discharge of the sink wastes, not into the gully provided, but into the foundation of the dwelling. This is of frequent occurrence. In the older parts few houses possess a sink stone inside, and others have an equally bad arrangement of having only the water tap. In these cases slops are disposed of in a gully provided in the yard, or back street for common use. Many of the house drains are devoid of ventilation, or it is very improperly carried out. This is of more than ordinary significance in a place like Goole. In the newer parts, the drainage generally is more on the lines of the model bye-laws, though it must be noted that the ventilation provided does not conform to the local bye-laws.



The disposal of domestic refuse and human excreta is a problem not yet satisfactorily solved in Goole. The evils attending the privy midden in the town, such as the abominable odour, leakage of fluid contents and the intolerable nuisance of emptying and removing the contents, have all been repeatedly made the subject of discussion. With the view of obviating these conditions pails have been introduced, no doubt, with improvement generally, but many instances were observed of leakage, or the boxes standing in filthy liquid, owing to the construction of the closet and absence of proper surface drainage. This was especially noted in Back Jackson, Wetherhill, Montague, Gordon, and Jefferson Streets. Reference to my note book tells of large privy middens in Ouse Street and Richard Cooper Street, etc. Though some of these are covered the tenants show a most objectionable habit of throwing slops into them; which renders what is supposed to be a dry ashpit equally as insanitary as a privy improperly constructed.

In 1891, it is recorded that there were 2,575 pails or boxes, 220 water closets, and 884 closets with ashpits. In 1897, roundly speaking, two-thirds of the houses were supplied with boxes, and one-third with privies.

The Sanitary Authority have recognised that the more rapid the removal of excremental matter, the greater the certainty of obviating the dangers arising from it. Systematic scavenging is provided, and is carried out in a fairly satisfactory manner. During my inspection there was little cause to find fault, most of the ashpits and privies being only partially filled. It should, however, be borne in mind that though methodical scavenging does diminish the gross amount of filth, it still leaves the area of filth the same, so that unless the capacity of the receptacles is diminished the value of frequent clearance is reduced. A difficulty is arising as regards the disposal of the contents, and I fully endorse the recommendation of the Medical Officer of Health that the time has now arrived when the Sanitary Authority should consider the advisability of cremating the refuse. It appears also that the pails are not removed for cleansing at the time of emptying. A depot might be furnished for this purpose.

An exception is made with regard to pails at Enteric Fever houses. Pails for that purpose are colored red, and are provided in duplicate with a distinctive mark, *e.g.*, A and A<sup>1</sup>, B and B<sup>1</sup>. Each letter is restricted to one and the same house. The pail with its contents is removed, the latter buried and the former disinfected ready for use again.

*Back Streets and Yards.*—In this case both may be discussed together. Back street sanitation is an extremely important matter in Goole, because here perhaps more than elsewhere the people use them as the entrance to the houses, and they invariably form the playing place for the children. The insanitary condition of these places has been the subject of comment year after year, and evidence is fast accumulating to prove that, when neglected and improperly made, they are associated with infectious diseases. In Goole the present condition of many of these back streets and yards is well calculated to promote the spread from time to time of filth diseases—like sore throat, diphtheria, and enteric fever. Take the rear of Gordon, Parliament, Jackson, Byron, Argyll, South, and Ouse Streets. Several of these are in a disgraceful condition, and provide an excellent fostering ground not only for the yearly visitant diarrhoea, but also for cholera, if ever it should unfortunately be introduced.

Back yards have already been referred to in connection with dwellings. The yards are invariably in a bad condition, almost always unpaved and undrained, and therefore dirty. The insanitary condition of the back streets arise from want of proper paving, surface drainage, the absence of proper gradient or level, prepared with suitable material. During rainy weather the surfaces of these places are in a wet, sloppy, and unwholesome condition, pools of stagnant water lying in the hollows of the unpaved surfaces. Frequently this is aggravated by the keeping of fowls, which renders the yards positively dangerous to the infant population. The tenants, unthinkingly, in their attempts to improve the surface throw down the house ashes, which only causes the back yards and streets to look more unsightly.

These insanitary conditions can be dealt with by Sec. 91, sub-Section 1, of the Public Health Act, 1875, and proceedings may be taken under Section 94 against the occupiers if the nuisance arises from any act, default, or sufferance on their part. Wherever the nuisances arise from structural defects, as insufficient paving, proceedings should be taken against the owner, according to Section 27 of the Public Health Act Amendment Act. But as the back yard nuisance arises very often by default of the owner, the remedy could be more speedily and effectually obtained if Bye-laws under Section 23 of the Act of 1890 had been framed. Here it is not necessary to prove the existence of a nuisance in a case of non-compliance with notice, but to prove contravention of the Bye-law only. It is right, therefore, that the District Council should immediately frame Bye-laws under the Act of 1890.

*Fair Ground.*—Caravans arriving here are carefully inspected, and though some difficulty has arisen with regard to the provision of pails for refuse and excrement, arrangements have been made by which the promiscuous visits to the closets of neighbouring tenants will be obviated, as such a custom might give rise to trouble by the importation of infectious disease. At any rate such has been the experience elsewhere.



**OPEN SPACES.**—The Medical Officer of Health has very wisely drawn attention to the advisability of reserving such spaces in a growing town like Goole. It would appear, however, to sound somewhat farcical when the existing yards are so crowded with temporary and unwarrantable structures. It ought to be recorded that the clearance of the yard spaces has been the subject of frequent discussion. It must be disheartening to energetic officials, when, as I have heard from several tenants, self interest and politics appear to over-ride the essentials of healthy living.

**ALLOTMENTS.**—This is an important and far-reaching matter. In several parts gardens have been grouped together by private effort. Application has been made, I understand, to the Urban District Council, but without any practical result. This is a pity; because the provision of allotments might help the District Council in overcoming the present difficulty with hen pens and piggeries.

**PUBLIC BATHS** have been wisely considered, and the sanction of the Local Government Board to a loan of £6,500 indicates that Goole will soon be provided with this undoubted boon. To a visitor to a seaport town, it seems very odd to receive a negative answer from so many boys as to their swimming abilities.

**URINALS** at Public Houses are often foul smelling owing to improper construction, and the absence of any flushing arrangement. The drainage, too, is not infrequently defective. Recent researches into the causes of enteric fever compel us to consider urinals probably as dangerous as closets, and requiring similar precautions.

**STABLES.**—Several were observed in undesirable positions. In Widdop Street a stable abuts against a house; so also in Mariner Street. The latter is a wooden structure of recent erection, with no drainage and no midden, and is situated in a yard liable to flooding. Stables to be easily cleansed should have a proper floor. Attention was directed to a large shed in which horses (sometimes a score), more or less diseased or disabled, are collected every week for shipment abroad. The floor is filthy, of an absorbent nature, and with no proper drainage. The transference of horses from this shed to the ship can easily be conceived to be dangerous to the community, and to healthy animals of the locality. The filth carried from the shed by the troop of these disabled animals into the street will dry, and may then be blown about the district. Some precautions are necessary. It should not be forgotten that the erection of a stable in connection with a house comes within the definition of a building for which plans should be submitted, and to which the bye-laws apply. Seldom is there a proper receptacle provided to store the manure between the removals, which in an Urban District should be more frequent, and thereby give less offence to the eye and nose of the passer by.

**FOWLS** are almost invariably improperly kept. Of course it is difficult to keep fowls penned up in a limited space in a sanitary condition. The ground becomes saturated with droppings, and then offensive, with an effect upon the hens which is obvious even to the casual observer. North Street, Wetherhall Street, Cleveland Street, Pasture Road, Milton Street, Spencer Street, and Ouse Street provided examples of this kind. I counted 23 fowls in a space 16ft. long by 4ft. wide, while another was well described by a neighbour as a "stinking quagmire in wet weather."

**PIGGERIES** have been and are still a trouble to the officials. A particularly offensive one was noted in Widdop Street, and another in Jackson Street. The accumulation of pig manure, of offal and swill in any yard cannot be sanitary. The enticement to rats, also, renders piggeries in a populous area a nuisance to the neighbourhood. There are a number of empty sties because of the appearance of rats, so I was informed. The bye-laws make it illegal to keep any swine or deposit any dung within the distance of 30 feet from any dwelling-house. As in the model series this should read 60 feet at least.

**CANAL BOATS.**—Goole is one of the largest centres of canal traffic in the West Riding. The Urban District Council is one of the Registration Authorities under the Canal Boat Acts. In 1890 there were 696 boats entered on their register, and in 1899 the number had increased to 814. In those years, 1890-99, no less than 1474 inspections had been made, that is to say, an average of 147 per annum. The Sanitary Inspector for this work receives £5 a year. The Local Government Board Inspector, under the Canal Boat Acts, pays yearly visits to see that the provisions of those Acts are efficiently carried out.

**FOOD AND DRUGS ACTS.**—The provisions of these Acts were not utilized until recently, although the Medical Officer of Health had repeatedly urged the District Council, and especially to accept the arrangement introduced by the West Riding County Council, whereby Sanitary Authorities can have milk analysed by the Public Analyst at a cost of 6s. per sample, and all legal proceedings undertaken by the County Council free of cost. In 1898 two samples were taken by the local Inspector under those conditions. In 1899 nine samples were analysed. With regard to ordinary articles of food, the Inspector under the West Riding Sanitary Committee has paid attention to these (see Table on page 16).



The following table has been got out with the view of comparing the rates of persons attacked by enteric fever and diphtheria in Goole with the proportion for the West Riding generally. A similar comparison is also given regarding infantile mortality.

Year.	Attack-rate of ENTERIC FEVER.		Attack-rate of DIPHTHERIA.		INFANTILE MORTALITY.		
	<i>i.e.</i> Number of persons attacked per 1000 of the population.		<i>i.e.</i> Number of persons attacked per 1000 of the population.		<i>i.e.</i> Number of Deaths under 1 year per 1000 births.		
	Goole Urban.	West Riding.	Goole Urban.	West Riding.	Goole Urban.	West Riding.	England and Wales.
1899	0.56	1.29	1.55	0.62	196	152	163
1898	1.07	1.42	0.44	0.44	169	165	160
1897	0.71	1.07	0.41	0.34	167	151	156
1896	0.90	1.11	0.79	0.51	151	149	148
1895	0.77	1.14	1.76	0.42	160	163	161
1894	0.57	0.86	1.14	0.44	151	138	137
1893	1.43	1.54	0.06	0.54	187	168	159
1892	0.43	0.73	0.12	0.45	152	143	148
1891	0.51	no data	0.06	no data	144	162	149
1890	3.41	"	0.07	"	200	149	151

With regard to the incidence of enteric fever, Goole compares favourably, but in the case of diphtheria and also infantile mortality it is the reverse. As the death rate amongst infants is taken as a health test, the figures of England and Wales have been added for comparison. Only in one year 1891, was this death rate lower than in the County generally, and then consideration must be given to the abnormally high mortality of 1890, which no doubt influenced the results of the following year. The conclusion to be drawn from the tables is that Goole might be healthier.

#### GOOLE URBAN.

1 Heading.	2 Dr. H. F. Parson's reports as Medical Officer of Health for the District, 1874-7.	3 References in Annual Reports of Local Medical Officer of Health, Dr. J. Mitchell Wilson 1890-99.	4 Condition in 1900 when inspected by County Medical Officer.
1. Cleanliness of roadways and domestic pre- mises	Private streets greatly neglected and almost impassable, and a danger to health	Dirty, wet, and insanitary back streets and passages. Many have been standing nuisances for years	Back streets and passages are in a very insanitary condition and dangerous to health. See also Item 6
2. Sewering and draining	Many defective sewers, without proper ventilation or flushing apparatus. Many defective house drains and street gullies. Sewerage of town pressing and important. Public health has suffered much, and is still suffering from lack of sewers	Sewer tide-locked twice a day, and deposits accrue. Suggests pumping to obviate this, and points to benefits derived from such a course elsewhere. Many defective sewers relaid, and numerous special ventilating shafts provided, but many house drains are not ventilated. Sewers constantly flushed	General surface of town is below high water level of River Ouse, causing sewerage by gravitation to be difficult and dangerous to health. A pumping scheme is desirable. Open portion of Hooke drains very foul. Some defective house drains noted



## GOOLE URBAN, continued.

1 Heading.	2 Dr. H. F. Parson's reports as Medical Officer of Health for the District, 1874-7.	3 References in Annual Reports of Local Medical Officer of Health, Dr. J. Mitchell Wilson 1890-99.	4 Condition in 1900 when inspected by County Medical Officer.
3. Excrement removal and disposal	One of the chief requirements of Goole is the reconstruction of privies and ashpits. Box closets for new houses ill-made and leaky. Many of the ashpits large, open, wet, and foul, and in some instances too near houses	Boxes now supplied are unsuitable in almost every particular. Want of proper plan and specification upon which boxes should be made	About $\frac{3}{4}$ ths of the town on the pail system; the remainder chiefly open or covered privy middens. The pails are not uniform in size or material; many are leaky. Many closets are too near houses, and in two instances under part of the house or workroom
4. Scavenging and refuse removal	Better scavenging required	Scavenging is done by contract, with little cause for complaint. Boxes cleansed weekly and middens monthly. Disposal of refuse becoming difficult, and the Council may have to consider the provision of a destructor	Scavenging apparently well done as far as removal is concerned, but in the case of the boxes they are simply emptied, and some disinfectant scattered into them. They are not systematically removed for washing or otherwise purified
5. Water	Impure and deficient water supply, derived from wells and soft water cisterns. Engineer called in to advise Sanitary Authority. Boring at Rawcliffe and Hesk, but no steps have been taken to carry out scheme	Public supply in recent years unsatisfactory. Powers obtained in 1899 for a new supply from the sandstone beds at Pollington. Many well waters analysed with results generally unsatisfactory	Public supply unsatisfactory. Many well-waters are impure. New works are in progress at Pollington, in the Goole Rural District, from which an ample and wholesome water supply is expected
6. Dwellinghouses	Many back-to-back houses and damp cellars. By-laws not yet confirmed. New houses of the flimsiest material, and without proper air space. Four rows of houses erected on land originally laid out for two rows, giving density of 500 persons per acre. Authority taking action in regard to cellar dwellings which do not comply with 1875 Act	Many houses closed as unfit for habitation. Cases reported where air space at rear of houses has been considerably encroached upon, so that there is little if any space not covered	Large number of back-to-back houses in the older part of the town, and many houses where the yards and air space at the back are very small, with the sanitary conveniences too near. Many flagrant cases of infringement of the local bye-laws as to air space about houses
7. Abatement of nuisances	Abatement of nuisances does not proceed rapidly. Many old standing nuisances remain unabated, and notices are not attended to	Inspections in the year 1892 numbered 4894, of which 269 were abated. In 1898 there were 2120 reported and 237 abated	Many nuisances from offensive accumulations, defective pail closets and middens keeping of animals and fowls
8. Isolation Hospital	Pauper Isolation Hospital acquired from Guardians rendered good service. Small pox, enteric, and other diseases are treated there	In 1896 two new wings completed, enabling diphtheria to be treated. In 1898 a temporary small pox hospital was erected for twelve beds on a site in the Goole Rural District	The hospital for general infectious diseases is a brick building, situate in the most populous part of the town. It is two-storied, and of obsolete design. Temporary small pox hospital is of galvanised iron, in well isolated position, but with bad approach

## GOOLE URBAN; continued.

1 Heading.	2 Dr. H. F. Parson's reports as Medical Officer of Health for the District, 1874-7.	3 References in Annual Reports of Local Medical Officer of Health, Dr. J. Mitchell Wilson 1890-99.	4 Condition in 1900 when inspected by County Medical Officer.
9. Disinfecting Apparatus	—	The want of a steam disinfecting apparatus has long been felt. M.O.H. considerably disappointed that the proposal to provide one has not been carried out	No steam disinfecting apparatus at the hospital or in the town for infected material from patients' homes. Vans needed for collecting infected goods from patients' homes, and returning same after disinfection
10. Public Mortuary	—	Mortuary cleansed and repaired, and records kept of bodies deposited	Public Mortuary for accidental and non-infectious deaths. Why not for infectious cases also?
11. Adoptive Acts	—	Adopted Public Health Act Amendment Act, and the Infectious Diseases Prevention Act in 1890	Public Health Act Amendment Act, Infectious Diseases Prevention Act, and Private Streets Works Act in force
12. Bye-Laws and Regulations	In 1876, the By-Laws were not yet confirmed. This was found to be very unfortunate for the town	In 1895 a special Committee was appointed to revise the existing bye-laws, but final revision not yet completed	Bye-Laws exist for New Streets and Buildings, Common Lodging Houses, Slaughter Houses, Nuisances, and Cleansing of Footways, several of which are not properly enforced, resulting in insanitary conditions. The D. C. M. regulations are obsolete. There are no bye-laws for the offensive trades which exist in the town
13. Regulated Buildings and Trades	Certain of the slaughter houses are a nuisance. The Aire and Calder Navigation abattoir is good, but better arrangements for removal of blood and manure are required Canal Boats Act satisfactorily carried out	In 1890 there was only one good slaughter house out of seven; in 1899, only two private and also one public which were well looked after Several of the cowsheds are not in a satisfactory condition. In recent erections better surroundings have been required Common lodging houses inspected. Canal boats inspection satisfactory	Most of the cowsheds are unsatisfactory and so are the common lodging houses. The public slaughter house is near the dock coal hoists and is said to be pervaded with clouds of coal dust at times. The private slaughterhouses are too near dwellings, and the offensive trades are carried on in unsuitable premises. The canal boats are well attended to
14. Burial Grounds	—	—	The churchyard is closed, but there is a good cemetery
15. Polluted Streams, &c.	Sewage goes to river Ouse without causing the smallest appreciable difference	—	The Hooke drain was in an offensive state

In 1885, Dr. Blaxall, a Medical Inspector of the Local Government Board, made an inspection of the Urban District, and his notes are much in the same strain as those of Dr. Parsons given above.



## RECOMMENDATIONS AS TO THE GOOLE URBAN DISTRICT.

From the remarks relating to the Urban District of Goole it may be gathered that this Council recognizes the responsibility as custodian of the health of the people committed to its charge, but there is still room to perfect the conditions under which many of the inhabitants still live. The shortcomings are to be credited not to the want of indications by the officials as to what ought to be done, but to the failure of the Sanitary Authority to apply at all times the remedy ascribed for the suppression of particular nuisances.

In addition to other points noted in the text the following require special consideration:—

1. Ventilation of house drains and sewers requires to be more effectually carried out.
2. Back Streets.—The cleanliness of these passages can be secured only by rendering them as nearly as possible impervious with proper gradients, channels, and gullies to remove the rainfall and drippings from adjacent outhouses. The back yard surfaces adjacent to dwellings should be efficiently paved to facilitate the removal of surface impurities.
3. Bye-laws require revision, and the adoption of a more complete series. There are no Bye-laws in force to regulate the establishment and carrying on of offensive trades. The Bye-laws with regard to Common Lodging Houses require enforcement.
4. Cowsheds require improvement, and to deal with these premises the present regulations so inadequate should be brought up to date, and afterwards diligently exercised.
5. Obliteration of the privy middens in crowded parts should be continued, and modern appliances substituted. Periodical washing and tarring of boxes. Specification as to sizes of boxes, so as to obtain some uniformity.
6. Suppression of nuisances arising from the improper keeping of pigs and fowls, and removal of erections, particularly those which interfere with the necessary open space about dwellings.
7. Efficient means for disinfecting infected bedding and clothing should be provided.

## GOOLE RURAL.

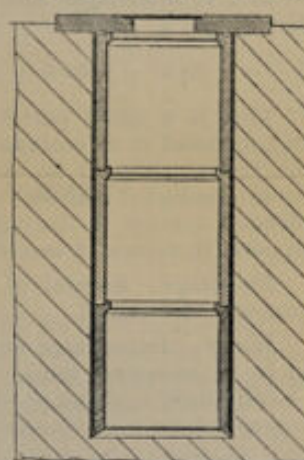
The Rural District of Goole covers an area of 38,238 acres, on which there lived at the time of the last census 7,996 persons in 1,851 houses. It comprises 15 parishes. As these have been dealt with collectively in tabular form and will be considered separately in the following pages, it is unnecessary to make any lengthy comment here, except to emphasise the importance of a good water supply. The water supply of the villages must be considered to be of an unsatisfactory character, being generally obtained from shallow wells, polluted rivers, or rainwater tubs, &c. Truly, there are difficulties, geologically and otherwise, which hinder the provision of a proper supply from local sources, but these are not insurmountable. Many of the cottagers recognise that their well waters are unfit for human consumption, and only useful for swilling purposes, yet many of the cowkeepers in the same position think the water good enough for cattle. Until a proper supply of pure and wholesome water with its adjuncts is provided there can be little inducement to the younger population to remain in these rural parts. This is therefore the question most urgently requiring to be solved in the Rural District.

Wells recently constructed have in most instances been sunk in the Tudor Method, which consists in using special stoneware tubes or pipes having their sockets turned inwards. The bottom tube has its lower edge wedge-shaped and turned outwards, the others have square joints (see sketch).

The method of sinking such a well is to dig a circular hole a few feet in depth, into which the bottom tube is inserted; then a further portion is excavated and the second tube placed endwise on the first one, the joint being made with puddled clay in preference to cement, as such joints are not so liable to break by uneven settlement. The two tubes are then sunk to the bottom, and the process is continued until the necessary depth is reached. The inner flanges are found useful for facilitating inspections and in making repairs to the pumping apparatus.

In some instances a bore hole is continued from the bottom of the well to the lower water-bearing strata; the tube portion then acts as a reservoir from which the surface water is excluded.

TUDOR TUBE WELL.



In the following pages the fifteen parishes of the Goole Rural District are considered seriatim, beyond the foregoing general remarks.

## EASTOFT.

This parish comprises an area of 1328 acres, upon which there are distributed 14 houses, sheltering altogether 100 inmates. Its boundary for half its length abuts on Lincolnshire, and, as at Fockerby, half the village appears to be in Lincolnshire. The only resemblance to a village on this side is a cluster of nine houses on the eastern border from which the parish derives its name. The light railway from Luddington to Goole is laid through this locality.

Water is procured from wells and house-roofs. A sample analysed from a well gave unsatisfactory results:—

LABORATORY REFERENCE NUMBER.	HARDNESS	CHLORINE.	ALKALI- NITY, in terms of Carbonate of Soda.	SOLID MATTER.		Oxidized Nitrogen.	AMMONIA.		OXYGEN CONSUMED in Two Hours at 100° C.	REMARKS
				Total.	Loss on Ignition.		Free.	Albuminoid		
	<i>Clark's Degrees.</i>			<i>Grains per Gallon.</i>						
2 ...	19.5	4.9	43.4	108.4	18.9	2.28	0.036	0.244	6.86	Bad

*School.* The National School accommodates 123 scholars, but the average attendance is 89. The Cloak-room measures 49 square feet, and contains only 61 pegs, arranged in a double row, with two feet between the tiers. Such an arrangement permits of much mixing of the scholars' clothing, and this is very unsatisfactory, especially in wet weather. In regard to lavatory, there is one small basin for the whole of the school, and the waste-pipe is untrapped.



## REEDNESS.

Reedness Parish covers 2,725 acres, extending as a strip across the Union from north to south. The population seems to have steadily declined since 1851.

*Dwellings.* There are at present 92 houses constituting the village, and a further 16 scattered throughout the rest of the parish. Many of them show signs of dampness, owing to defective spouting or absence of damp-proof courses and spouting. I counted nearly a dozen empty or uninhabitable houses. The majority of the houses are two-storeyed, but there are some "one-deckers," several dated about 1720. Sash windows appear to be in fashion here. In passing through the village one cannot but notice the irregularity of the building line, which is very pronounced. Outside painting is well attended to. Rents are low; 1s. 3d. and 1s. 6d. per week were noted. Several large open wet and foul privy middens were observed in the village.

*Water Supply.* In this village rain-water is generally conserved in cisterns or tanks, with an average capacity (for two houses) of 30 to 40 cubic feet. The medical officer of health has complained that a large number of houses are even without such means of storage, and consequently very great scarcity of water exists in times of drought.

*Sewerage.* A short length of sewer is provided in the main street, otherwise there is no system. It discharges into a dyke or ditch, and thence through a penstock into the River Ouse.

## FOCKERBY.

This is a small parish of 853 acres in the marshlands, and inhabited by 80 people accommodated in 17 cottages. It lies on the eastern confines of the Union, and is separated from Lincolnshire by the dried-up channel of the Old River Don. The village of Fockerby is so intermingled with the village of Garthorpe, which lies just outside the Riding, that it is a difficult matter to distinguish between them without the aid of a map. For sanitary purposes, therefore, it would seem that some rectification of boundary is here desirable.

*Dwellings.* Several of the houses are in want of spouting. £3 10s. per annum is a common house rental.

*Water.* Rain-water is mostly used for drinking purposes, because the subsoil water is said to be extremely hard. Moreover, a sample of well-water analysed by me was found to be totally unfit to drink:—

LABORATORY REFERENCE NUMBER.	HARDNESS	CHLORINE	ALKALI- NITY in terms of Carbonate of Soda.	SOLID MATTER.		Oxidized Nitrogen.	AMMONIA.		OXYGEN CONSUMED in Two Hours at 100° C.	REMARKS.
				Total.	Loss on Ignition.		Free.	Albuminoid.		
				Grains per Gallon.			Parts per Million.			
1 ...	22.5	11.9	49.7	121.8	21.0	2.35	0.480	0.316	12.21	Bad

*Sewerage.* There is a small length of sewer, but it has been laid by private owners. The sewage finds its way into ditches.

The privy contents are generally dug into the garden soil.

In one cowshed there are pigeons kept overhead, and there is very little light when the door is closed.

There is no school in the parish, so the children go across the border into Lincolnshire.

## GOWDALL.

Gowdall is a parish of 1210 acres in the north-west corner of the Union, and contains about 237 people. Altogether there are 51 houses, of which 48 form the straggling village. The number of inhabitants is little greater than at the beginning of the century, and the present condition is indicative of stagnation. Although the Lancashire and Yorkshire and the Hull and Barnsley Railways traverse the parish, there is no station.

*Dwellings.* There are several houses in bad repair, and some without eaves or down-spouts to carry away the rain. One brick house was observed to be so damp from want of attention as to be uninhabitable. In many cases the windows, which should act on the sliding principle, are now fixed so as to be useless for ventilation. The privies are well removed from the houses.



**Sewerage.** There is a short length of 6-inch sanitary pipe, to which are connected a few roadside gullies. The contents go to ditches. At the west end a few houses are drained into a ditch by a pipe drain.

**Water.** The supply is not by any means all that could be desired. There is one pump which yields a doubtful and inadequate supply, while at the west end of the village the public well has recently been provided with a pump, and affords a supply very little better. Several houses have a well on the premises, but it is usual to collect rain-water for washing, &c. In several instances drinking water is only to be had on sufferance.

SAMPLES TAKEN FOR ANALYSIS FROM WELLS IN GOWDALL, NOVEMBER, 1900.

LABORATORY REFERENCE NUMBER.	HARDNESS	CHLORINE	ALKALI- NITY in terms of Carbonate of Soda.	SOLID MATTER.		Oxidized Nitrogen.	AMMONIA.		OXYGEN CONSUMED in Two Hours at 100° C.	REMARKS.
				Total.	Loss on Ignition.		Free.	Albuminoid		
	<i>Clark's Degrees.</i>			<i>Grains per Gallon.</i>						
37 ...	26.5	5.5	9.3	53.2	9.8	1.8	0.084	0.154	5.75	Bad
38 ...	26.5	3.9	11.1	48.7	9.1	0.6	0.014	0.130	5.32	Bad

The farmers at Gowdall generally churn all their milk for butter.

The roads, I am told, are swept twice a year.

There is no school in the parish, the children having to go to Snaith.

A Mission Church, erected here in 1879, was enlarged in 1896.

### AIRMYN.

This parish covers a triangular area of nearly 4000 acres, with its apex to the south, and its northern base formed by the Rivers Aire and Ouse. On this area there are 99 houses; 74 of them, with a population of 403, go to form the village of Airmyn, while the remaining 25 houses, with 136 inmates, are scattered throughout the rest of the parish.

The village itself is prettily situated along the banks of the River Aire, from which the houses are separated by a double row of chestnut and lime trees. Close by is the ferry, which occupies so interesting a place in history. There is no public lighting. A Jubilee clock has been erected in this village.

The parish seems to have reached its highest population about the year 1841, and since then there has been a gradual decline until the decade ended 1891, in which there occurred an interruption of the fall, and an increase of some 60 people. The inhabitants are engaged chiefly in agriculture; and wages average 2/6 per day in winter and 3/- in summer, the hours of labour being 6-30 a.m. to 5 p.m. The dwellings are well repaired, and have an air of comfort, a good garden being frequently provided. Most of the houses are without sinks. There are several cottages at a rental of 1/8 per week, and land varies from 30/- to £2 per acre.

**Sewerage.** Although there is no proper sewerage in this village, the house drainage compares satisfactorily with that of rural districts. The sewage is discharged into a dyke which has its outlet through a clough into the River Ouse, near Hooke. Such sewers as exist are flushed by hand-buckets, which at any rate may satisfy public sentiment, though probably of little practical good.

The River Aire at ordinary times is here muddy and charged with silt, but in rainy weather it becomes almost black from pollutions brought from upstream. In this condition the river is said to stink badly. There has been little change during the past twenty years.

**Water.** The drinking water for the village of Airmyn is a public supply pumped from a well into a cistern by a wind-pump, or by a small oil-engine when occasion requires. From this cistern, which is found to be too small, the water is conveyed to stand-pipes on the road-side. An analysis of a sample collected on the 16th October gave satisfactory results, as follows:—

LABORATORY REFERENCE NUMBER.	HARDNESS	CHLORINE.	ALKALI- NITY, in terms of Carbonate of Soda.	SOLID MATTER.		Oxidized Nitrogen.	AMMONIA.		OXYGEN CONSUMED in Two Hours at 100 C.	REMARKS
				Total.	Loss on Ignition.		Free.	Albuminoid		
	<i>Clark's Degrees.</i>	<i>Grains per Gallon.</i>					<i>Parts per Million.</i>			
24 ...	27.0	1.1	32.3	37.1	?	nil	0.016	0.006	4.19	Satisfactory



*Milk.* In this parish there are several cowkeepers who sell milk in Goole town. Their premises are fairly satisfactory as regards ventilation and lighting, permanent openings being provided and kept so. The flooring in several instances could be improved, and better means adopted for the disposal of manure, &c.

*School.* The playground is asphalted, and looks cleanly. The ventilation of the school-room is, however, unsatisfactory, and there is no water supply or lavatory. At the date of my inspection an excellent lesson was being given on the value of flannel as a clothing compared with cotton.

*Burial Ground.* The churchyard is now nearly filled up, and it will become necessary at no distant date to consider its extension.

## WHITGIFT.

This is another long narrow strip stretching across the marshlands. The parish has an area of 1501 acres and a population of 287 living in 69 houses, which, with the exception of four, are included in the somewhat straggling village of Whitgift. During the inspection nearly two dozen were noted as unoccupied or uninhabitable. The population was greatest in 1851, but now only equals the number living at the beginning of the century. Four pounds is an average rental for a cottage without a garden. Most of them are two-storeyed but differ much in height. Several new and well-built houses have been recently erected, and these, with several that are whitewashed, counterbalance the appearance of decay.

There is no system of sewerage. The house drains discharge into the Swinefleet and Reedness land drain. In several instances cesspools have been obliterated and drains with gullies introduced. In other cases slops are thrown upon the surface of the ground.

## POLLINGTON.

Pollington is another declining parish of nearly 2,000 acres, its population being lower at the last census (387) than at any time since the enumeration of 1801. The highest population in this parish, as in Airmyn, was reached about 1841. The village of Pollington is a straggling collection of about 90 houses, including several recently erected. Some houses are dilapidated and unoccupied, among them being several "one-deckers." Many one-storeyed houses have been cleared away in recent years, but there remain several at the East end which are still occupied although unfitted for dwellings. In the attic of one house pigeons are kept, and the neighbouring tenants complain of fleas. Absence of eaves-spouts and fall pipes either at the front or back of the houses is a common defect. The windows of the older houses, though made to slide, are often found permanently fixed. There is no system of sewers, the sewage matter reaching the ditches in a variety of ways. In one road a length of pipes was put down in 1877 to obviate the nuisance from the open ditch. To this drain some of the houses are connected and the remainder discharge direct into ditches. At the West end there is a particularly offensive roadside ditch. One inn was noticed draining to a cesspool and pond, creating a nuisance.

The water is obtained from wells and roofs, and the former sources are frequently unsatisfactory as will appear from the appended analysis.

SAMPLES TAKEN FOR ANALYSIS FROM WELLS AT POLLINGTON, NOVEMBER, 1900.

LABORATORY REFERENCE NUMBER.	HARDNESS	CHLORINE	ALKALI- NITY in terms of Carbonate of Soda.	SOLID MATTER.		Oxidized Nitrogen.	AMMONIA.		OXYGEN CONSUMED in Two Hours at 100° C.	REMARKS.	
				Total.	Loss on Ignition.		Free.	Albuminoid			
				Grains per Gallon.			Parts per Million.				
33	...	21.5	11.2	8.5	114.8	13.3	7.4	0.012	0.160	6.25	Bad
34	...	34.0	14.0	6.3	159.3	18.2	13.7	0.600	0.258	7.25	Bad
35	...	36.5	14.7	14.5	137.2	19.6	11.2	3.110	0.204	5.75	Bad
36	...	12.0	3.4	4.5	31.2	4.9	1.5	0.594	0.364	7.25	Bad



This question of water supply appears to have received some attention from time to time, and it should be noted that the Goole Urban Council are obtaining their new supply by boring in this parish, and under their Water Act of 1899, they are empowered to supply water to this village, by meter, at a fixed price. The Rural Council should therefore see that this is done as soon as the supply becomes available.

The National School at Pollington is capable of improvements. The cloakroom is faulty and the ventilation is unsatisfactory. Two loose basins are provided for washing, but there is no lavatory for them and no proper drainage, the waste water being thrown upon the school-yard. The closet accommodation is a very bad type of privymidden. The school playground is irregular on the surface and slopes towards the gate, causing a puddle in wet weather and much dust in dry times. This renders it difficult to keep the school properly cleansed, a condition which was noticed on the date of inspection.

In one of the cowsheds, which came was under observation, there was little light and as little ventilation, with very defective drainage.

## SWINEFLEET.

This is not unlike the Reedness parish in configuration and extent; formerly they were united, but are now divided. Swinefleet parish extends across the Union from North to South, between Reedness and Goole Fields. It occupies about 2830 acres and its present population is put at 1,359 people living in 329 houses. The dwellings (made of hand-pressed bricks in the older cases and machine pressed in the more recent ones) are erected along the main highway following the course of the river. On the south of this road several streets, narrow ginnels or alleys, pass inland to a lower level. There is evidence of some improvement in house building, as a number of new houses of modern type are to be seen, but on the other hand there are some so defective as to be uninhabitable, and let at rentals as low as 1s. 2d. per week. The kitchen of one house was observed to communicate with the stable, and in another there was no ventilation of the bedroom or of the pantry. Many of the houses have fixed windows in the living rooms, others have defective eaves or fall-pipes, or none at all, and dampness of walls is common. Most of the houses are two-storeyed but there are several of a single storey. Over a dozen empty houses were noted. Backyards are capable of much improvement, as the old bricks and broken flags in use permit soakage around and into the foundations of the houses.

*Sewerage.* There is no sewer in the main highway. The houses on the north side of it drain direct to the River Ouse; those on the south, and the remainder of the village, are drained by pipe and brick sewers into Low Street. This sewerage is then discharged into the Tulsey Dyke, which is nothing more or less than an elongated cesspool extending the whole length of the village a little to the south. At the date of inspection bubbles of noxious gas could be observed rising to the surface of this dyke. Some houses in the village are without drainage of any kind.

The proper sewerage of this village has been continuously before the District Council for the last decade, schemes of various kinds being prepared but not carried out. At the present time the matter is understood to be in the hands of a Leeds Engineer to prepare a scheme.

With regard to water supply, Swinefleet is almost wholly dependent upon the rain which is collected from the house-roofs, etc., and the needs of the village in this respect have been prominently referred to in the local medical officer's annual reports for many years. Recently a number of new rain-water cisterns has been put down, and others more carefully protected. In new underground cisterns it is better to lay the inner course of bricks with cement than to build them with lime and then face them with cement. The top of such cisterns should be several inches above ground, and properly covered; worms and snails were discovered in some. Occasionally drinking water at Swinefleet becomes so scarce that a halfpenny a bucketful is paid for it.

Refuse and excrement is conserved in pails and privy middens, some open, some covered. Complaints were heard that the Contractor did not completely empty these places and often half a load of stinking matter was left at the bottom. This is a dangerous practice; yet the wonder is that men can be found to empty them at all, having regard to their capacity and arrangement and the nature of the contents. In several instances privy middens were noticed much too near the houses, and in one case actually abutting on a dwelling. At Taylor's row there are 14 houses to one ashpit, and nine of the houses have pail closets of a primitive character fixed in the coal houses in the yard at the rear. A number of new privies have been erected in the village, but more are needed and built on model lines. A urinal at the west end of the village was in an abominable condition.



Middens in connection with cowsheds, stables and piggeries at Swinefleet are invariably nothing more than a hole in the ground. This does not refer to farmsteads where foldyards are provided.

Piggeries are troublesome; often badly placed with no drainage, and ill-constructed. One was observed in a position only about 12 feet from a dwelling.

The Common Lodging House and its surroundings are not all that could be desired. Gossip has it that many of the labouring folks harbour lodgers if they can get them, and this happens very largely in the potato and pea seasons which bring a migratory population, chiefly Irish. In one instance we ascertained that the householder took in nightly lodgers although not registered. The danger of such practices is obvious.

There are three slaughter houses at Swinefleet, all of them too near the houses and infringing the model bye-laws. One is about to be vacated for new premises, which have not yet received the sanction of the Sanitary Authority, and which unfortunately is too near dwellings. The second slaughter house is unsuitable for its purpose, while the third is workable, but the floor should be improved and means for collecting the blood provided.

The condition of the church requires comment. Its walls and foundations are very damp resulting in a plenteous growth of fungus in the building. The spouting outside is partly choked with growing grass and the neglected condition of the graveyard affords strong evidence in favour of cremation.

The ventilation of one workshop visited was sadly defective.

The Medical Officer of Health has pointed out that the insanitary condition of Swinefleet contributes to the high death-rate that prevails in the district, and it is quite evident that the Sanitary Authority have been lax in their duty to this parish.

## HOOKE.

Hooke is now a small parish of 984 acres, supporting a population of some 590 people. It lies immediately to the north of Goole town, and occupies a position in a bend of the River Ouse, which river forms the eastern and northern boundary of the parish. There has been little increase in the population during the past thirty years, although a few new houses have been recently built. The houses now number 141, all of which, with the exception of about half a dozen, are included in the village itself. They are chiefly erected along the highway, built of brick, clean looking, well repaired, provided with good spouting, and generally with windows of the sash type. Some are rented as low as 2/4 per week inclusive. Each house has its garden, and the privies are placed well away from the dwellings.

The water supply of Hooke, like that of Goole, has been for a long time a subject of discussion. There is no public service, the supply being obtained from wells and by catching the rainfall. The latter is generally used by the inhabitants for drinking and cooking purposes. It is collected in various kinds of receptacles, *e.g.*, underground cisterns, say 5ft. by 3ft. by 3ft. for a family of five persons. Some of the inhabitants state that they have to find water "where they can." At several farms the hard well water, which is not considered fit to drink, is given to cows; at others, the cattle drink from ponds which do not appear to afford a satisfactory supply. The water supply of Hooke is therefore inadequate in quantity and in quality, as the following analyses will show.

SAMPLES TAKEN FOR ANALYSIS FROM WELLS AT HOOKE, OCTOBER, 1900.

LABORATORY REFERENCE NUMBER.	HARDNESS	CHLORINE	ALKALI- NITY in terms of Carbonate of Soda.	SOLID MATTER		Oxidized Nitrogen.	AMMONIA.		OXYGEN CONSUMED in Two Hours at 100° C.	REMARKS.
				Total.	Loss on Ignition.		Free.	Albuminoid		
	<i>Clark's Degrees</i>			<i>Grains per Gallon.</i>			<i>Parts per Million.</i>			
19 ...	6.0	0.8	1.1	6.3	1.7	trace	0.134	0.230	6.46	Bad
20 ...	8.0	0.5	2.4	5.6	1.4	trace	0.030	0.052	5.20	Fair
21 ...	47.0	36.3	69.0	249.2	20.3	4.2	8.150	0.220	7.98	Bad
22 ...	52.0	13.6	35.2	141.4	13.3	7.0	0.016	0.076	5.45	Bad
23 ...	21.5	6.7	48.2	119.7	17.5	2.4	0.026	0.156	7.47	Bad



The local medical officer has reported the necessity for a proper water supply from time to time, and so far back as 1892 the Local Government Board held an Inquiry into an application for a loan to obtain water from Goole. This was sanctioned, but the District Council appear to have shelved the matter.

There is no proper system of sewerage, although the necessity has been constantly noted by the local medical officer of health, and levels were at one time taken. In one part of the village there is a length of sewer which discharges by ditches into the Hooke land drain, and thence through the Goole sewers into the River Ouse.

Refuse disposal is effected by open or closed privy middens, with a few box closets; the contents are emptied on to land by the owners or tenants. In Water Lane some houses were noted without ashpits.

*Keeping of Animals.* Piggeries, here as elsewhere, give rise to trouble because of the extremely insanitary condition in which they are kept. Where there is any drainage it is defective, and the stinking, sickening filth is in some instances intolerable. Fowls, too, are sometimes kept under conditions dangerous to the health of the people; for example, I saw twenty-four of them kept in a pen having an area of only 144 square feet. A cow-house was noted in which a dwarf wall was the only separation from the piggery, and another was in course of erection as a lean-to against a dwelling-house gable. Generally the cubic spaces of the cow-houses is satisfactorily proportionate to the number of animals kept, but the floors and walls are not impervious.

At the school the rainwater is not collected, so there is neither water supply nor lavatory. Open fireplaces are used for heating, and are said to be adequate. The ventilation of the new part is good, hopper windows with side cheeks being fitted, but the infants' department is not satisfactorily ventilated. Box closets are in use, without any means of deodorisation by the application of ashes or dry earth. The playground has an uneven surface, causing puddles in wet weather, and dust when dry.

### ADLINGFLEET.

Adlingfleet is a long, narrow parish of 1848 acres in the Eastern part of the Union, containing a population of a little over 200 persons, living in 51 houses, of which 40 are comprised in the village which lies at the East end of the parish, bordering upon Lincolnshire. Nearly a dozen houses here are dilapidated and closed as unfit for human dwellings. Eaves and down-spouts are not unfrequently absent from the occupied houses.

Rainwater is chiefly used for drinking, and is collected in stone cisterns, galvanised iron cylinders, or other receptacles.

Of sewerage proper there is none, and the sewage passes into cesspools or ditches.

Near the church there is a privy-midden abutting upon a dwelling, and in several instances the privy-middens receive rainwater.

The church is damp, with a leaky roof. The school is without water or lavatory, and the playground is covered with gravel. The cloakroom accommodation and the ventilation of the school are also unsatisfactory.

### HALDENBY.

In this parish there are only ten dwellings, chiefly farm houses, spread over an area of 1476 acres. The census figures show that the population declined from 91 to 80 during the last decade.

### OUSEFLEET.

This parish stretches nearly across the marshlands in the Goole Union. It has an area of 2,885 acres, upon which there were living in 1891 some 240 persons in 45 houses. The village, if there can be said to be one, comprises 31 straggling dwellings, and the remaining 14 houses are widely scattered. House painting outside is well attended to. I counted half a dozen unoccupied or uninhabitable houses. The almshouses are in need of proper spouting.

The privies are generally distant from the dwellings.

*Water.* Rainwater is practically the only supply for drinking, but for swilling purposes impure well-water is available. In more than one place the opinion was expressed that "any water is good enough for the cattle." Where the rainwater is not utilized, then an absence of eaves and down-spouts is noticeable.

There is no sewerage. Some gullies drain to cesspools or ditches, but in many instances the slops are thrown upon the gardens or ground. The local medical officer of health in his report for 1896 strongly urged that sewers should be provided to abate these nuisances. An open privy-midden was observed abutting upon a kitchen.

The school is without water or lavatory, and the cloakroom accommodation and ventilation are deficient.



## GOOLE FIELDS.

This is a recently formed parish comprising 4160 acres with about 60 houses inhabited by some 300 persons. The houses are scattered over the district, and not in any collection such as to form a village. The parish occupies a central position in the Union, and a portion of its northern boundary abuts on the river Ouse. The maximum elevation is given at 21 feet and the lowest at less than 5 feet.

The water supply is obtained from wells and also from the rainfall.

As would be expected among so sparse a population there is no systematic sewerage. The house drains go to ditches, and the farm buildings drain to the foldyard or on to land.

There is no school, the children attending the Goole Schools.

## RAWCLIFFE.

Rawcliffe is a triangular-shaped parish of 4,512 acres, situate on the River Aire between Snaith and Airmyn. It is the most populous parish in the Union, and is the only one which has shown a gradual increase since the beginning of the century, until in 1891 there were 1730 persons living in 427 houses. The parish varies in altitude from  $7\frac{1}{2}$  feet above sea level to 18 $\frac{1}{2}$  feet. It is traversed by the Lancashire and Yorkshire Railway, on which is the Rawcliffe Station and by the Knottingley and Goole Canal and the Dutch River. The North Eastern Railway also crosses the parish at its southern extremity. There are three aggregations of people—Rawcliffe, Rawcliffe Bridge, and Station Lane, with populations of 1179, 705, and 93 respectively.

RAWCLIFFE VILLAGE is five miles west of Goole and three miles east of Snaith. It is lighted by gas, and a reading-room was provided in 1887. The village appears to have been much better attended to from a sanitary point of view than any other in the Union. Progress is noticeable in the erection of new houses, lending an air of activity to the village. The majority of the houses, however, are not so recent, but the praiseworthy habit of painting the outside woodwork in preparation for the annual feast gives a very cleanly appearance. It is a pity, however, that this operation has been the means of fixing so many casement sliding windows. The general neglect to provide efficient eave-spouts and proper fallpipes to the older houses must affect their healthiness. Over a dozen empty houses were noted. Several houses bear the date of 1853, and some rentals are as low as 1s. 3d. per week.

The water is derived chiefly from wells, and also from the roofs and from the River Aire. The river water, which is always muddy, is placed in tubs, and, after the sediment has deposited, the clearer liquid is skimmed off for use. The following are the analytical figures relating to certain of the water supplies of Rawcliffe :—

SAMPLES TAKEN FOR ANALYSIS FROM WELLS AT RAWCLIFFE, OCTOBER, 1900.

LABORATORY REFERENCE NUMBER.	HARDNESS	CHLORINE.	ALKALI- NITY. <i>in terms of</i> Carbonate of Soda.	SOLID MATTER.		Oxidized Nitrogen.	AMMONIA.		OXYGEN CONSUMED <i>in</i> Two Hours at 100° C.	REMARKS
				Total.	Loss on Ignition.		Free.	Albuminoid		
				<i>Grains per Gallon.</i>			<i>Parts per Million.</i>			
9 ...	25.0	2.4	23.7	30.8	5.3	nil	0.010	0.006	2.42	Good
10 ...	28.5	3.4	27.8	36.4	3.5	nil	0.066	0.036	4.80	Good
11 ...	28.0	3.1	25.6	35.8	3.8	nil	0.046	0.024	3.64	Good
12 ...	30.0	3.6	23.7	42.7	4.5	0.7	0.040	0.042	4.30	Fair
28 ...	26.5	8.0	3.7	66.5	12.6	2.1	0.024	0.360	12.93	Bad

Rawcliffe is the only village in the Goole Rural District that has been systematically sewered under a scheme approved by the Local Government Board. This was done in 1896. The sewage is discharged through a penstock into the river Aire, which is tidal at this point. There is some ventilation of the sewers.

*Farmyards.* One was observed to be particularly untidy and sloppy, and here, too, the milk cans were airing on the boundary wall of the offensive yard. Another yard is almost wholly occupied by the midden, and the cows looked uncleanly, their hind quarters being caked with filth.



There are four slaughter houses at Rawcliffe. One has a concrete floor with walls tarred to the height of five feet, with light and ventilation provided, but the drainage is unsatisfactory; and the covered midden into which the garbage is deposited is within six feet of the slaughter house door and was very foul at the time of inspection. Another of the slaughter houses abuts upon the street, and all four of them are in need of improvement.

Several other insanitary conditions were noted at Rawcliffe:—an open privy-midden abutting against a house, a sink waste pipe directly connected with the sewer, several deep, wet, and foul covered privy-middens. There was also a want of scavenging at several places, and some houses without eave spouts.

RAWCLIFFE BRIDGE is situate about a mile and a half from Rawcliffe, its increase of population has been largely due to the effect of the paper works and the sugar refinery, but the latter unfortunately has now been closed for some time. The majority of the houses are in good repair. In connection with the paper works there are 58 houses, of which 5 are empty. Ten houses known as the River Cottages and also the Canal Cottages have surroundings not satisfactory, due largely to foul smelling piggeries. There are some 20 houses troubled in this way. The 19 piggeries discharge their sewage, or rather are supposed to do so, on to gullies by an open channel. Behind the piggery walls there is much accumulation of offensive material. One block of property is unprovided with ashpits, and the tenants have to throw their refuse into the adjoining fields. There is also a wooden cowshed with corrugated iron roof requiring improvement in the matter of light and drainage. Here also a horse is kept, and the food occupies a stand between the cows and the horse, but we were told that "the milk is not sold, it is only churned into butter."

The drainage of these houses is conveyed to a cesspool overflowing into a stagnant ditch, which is said to give off very nauseous smells in summer time. The remainder of Rawcliffe Bridge was sewered in 1893-4, and the sewage is discharged into the Dutch river which is tidal. The sludge from the canal is run off into a field. Some of the streets were in a very bad condition, especially Percy Street and Foundry Street.

The water supply, derived from wells, is inadequate and unsatisfactory. Some of the well-waters are known to be bad, and are yellowish in color and at times are said to "smell." In this locality is situate the pumping station of the Goole Water Supply.

SAMPLES TAKEN FOR ANALYSIS AT RAWCLIFFE BRIDGE, OCTOBER, 1900.

LABORATORY REFERENCE NUMBER.	HARDNESS	CHLORIDE	ALKALI- NITY in terms of Carbonate of Soda.	SOLID MATTER.		Oxidized Nitrogen.	AMMONIA.		OXYGEN CONSUMED in Two Hours at 100° C.	REMARKS.
				Total.	Loss on Ignition.		Free.	Albuminoid		
				<i>Grains per Gallon.</i>				<i>Parts per Million.</i>		
25 ..	23.0	1.3	25.2	30.1	4.9	Nil	0.216	0.046	3.13	Bad.
26 ...	22.5	1.3	24.1	27.7	4.2	Nil	0.336	0.032	3.56	Bad.
27 ...	24.5	1.4	25.2	28.4	4.9	Nil	0.212	0.018	2.80	Bad.

The effluent from the paper works is now treated first in an open Ives' tank; then the overflow goes to a tank from which it is pumped into a filter press. I am informed that not only has the deleterious effluent been purified but that a pecuniary saving has been effected in recovering the waste fibre and dyes.

STATION LANE. This part of the Rawcliffe parish was sewered in 1896 and the sewers connected with those of the village of Rawcliffe. In one instance a sink waste pipe was noticed which was not disconnected. A few of the houses here are without a water supply and the occupants have to obtain it on sufferance. In one case the pump supplying eight houses was out of order, and was said to have been in that condition for some weeks. The privy-midden is the method of refuse storage adopted here.

## SNAITH-WITH-COWICK.

These two places are combined in the one parish of Snaith-and-Cowick, having a total area of 6018 acres, with a population of 1838 living in 445 houses—a notable decline during the last twenty years. The population is aggregated in three centres, viz.:—Snaith Town (991), West Cowick (430), and East Cowick (235). Beyond these there are some 182 people in the outlying parts.



**SNAITH.** The town of Snaith is the market place of this extensive parish and has a station on the Lancashire and Yorkshire Railway, seven miles west from Goole, and eight miles south of Selby. Gas is the illuminant. The history of the town dates back to the twelfth century and the parish register exists from 1537. With such a long history one naturally expects to find great variety in the dwelling-houses, and this is so at Snaith. Over a dozen houses in more or less ruinous condition are now unoccupied. Some of the houses show dates of erection about the end of the 18th century, but many are as recent as 1860 and 1870, and there are some very substantial dwellings. There are six almshouses for widows and three Bede homes for widowers. The former require attention to prevent dampness from the walls.

The absence or deficiency of eaves-spouting was noted here and there. Tiles, slate and thatch are used for roofs, which in some instances were complained of as leaky. The windows are generally of the sash type, though some sliding windows are to be noted, and some which are now permanently fixed.

The yards vary in condition according to the nature of their surface. Broken flags, improperly prepared or unprepared surfaces simply spell filth, whereas asphalt and perhaps cobbles make for cleanliness and tidiness.

The water supply of this parish has been known to be unsatisfactory for many years. It is derived chiefly from wells, but rainwater is also used where the well-water is unusually hard or bad in quality. In 1890 the Rural District Council and the Local Committee considered the question and sunk some wells, which, however, turned out to be unsatisfactory. By the Goole Water Act, 1899, a supply can be obtained for Snaith, and the Act also provides for the fixing of three fireplugs in suitable positions. The wells at present supplying the drinking water are mostly unsatisfactory, as the following figures will show:—

SAMPLES TAKEN FOR ANALYSIS FROM WELLS AT SNAITH AND COWICK, OCTOBER, 1900.

LABORATORY REFERENCE NUMBER.	HARDNESS	CHLORINE	ALKALI- NITY in Terms of Carbonate of Soda.	SOLID MATTER.		Oxidized Nitrogen.	AMMONIA.		OXYGEN CONSUMED in Two Hours at 100° C.	REMARKS.
				Total.	Loss on Ignition.		Free.	Albuminoid.		
	<i>Clark's Degrees.</i>	<i>Grains per Gallon.</i>					<i>Parts per Million.</i>			
3 ...	26.5	13.3	8.0	130.9	30.1	9.80	0.006	0.138	4.27	Bad
4 ...	32.0	6.8	9.3	121.1	31.5	9.80	0.004	0.238	6.64	Bad
5 ...	33.5	14.3	20.4	130.9	16.8	7.70	0.018	0.134	4.82	Bad
6 ...	22.5	6.3	11.9	76.3	11.2	7.00	0.004	0.067	3.94	Bad
7 ...	21.5	2.2	11.1	36.7	6.3	1.40	0.014	0.011	1.29	Fair
8 ...	18.0	3.1	2.0	44.5	7.7	1.61	0.006	0.086	3.18	Fair

The sewerage of the town of Snaith is somewhat mixed. Recently a new sewer has replaced an old brick one in Market Street. In 1896, the county medical officer reported as follows:—"The existing sewers are of mixed construction, largely due to patchwork. In some roads there are no sewers, while in others the sewers originally constructed for surface water now receive domestic sewage. Some of the sewers have been laid for many years, and probably require replacing, as they are said to contain deposits and to smell very strongly in warm weather. Little or no ventilation of these sewers has been provided. Some of the buildings drain into cesspools or catchpits, from which the overflow finds its way directly into a ditch, or indirectly by the sewers. Numerous rainfall spouts simply discharge on the surface of the highway. The sewage passes in a crude state by three outlets into the open ditch referred to, which, after coursing through fields for about two miles, discharges into the River Aire."

The receptacles for domestic refuse at Snaith are both of the open and covered kinds. Some of the former and a few of the latter are capacious and wet, and one was observed seven feet by six which emitted a sickening and horrible stench. It is surprising that the owners and tenants can expect any human being to empty such places, and even more so that they can be found to do it. Scavenging is done by contract, and it includes cleansing of the street gullies.



Piggeries are a source of trouble here. Several are badly placed against dwellings, but as a rule the distance cannot be complained of. Several styes were noted, recently constructed of boards from ham and orange boxes. The floor was made of wood, and no drainage provided. In one yard off Mill street the method of keeping pigs is simply abominable; the animals were knee deep in a pestilential liquid, there being no pretence at drainage. In such instances the presence of swine fever should not carry with it any compensation for the slaughter of the animals.

There are four slaughterhouses which are registered and subject to periodical inspection, but there are no bye-laws for their regulation. None of them are at all in unison with the requirements set forth in the Model Bye-laws, such as (1) impervious flooring and walls; (2) washing with hot lime four times yearly; (3) removal of offal, etc., within 24 hours; (4) water supply; (5) proper receptacles for garbage and filth. In one of the slaughterhouses inspected at Snaith the flags were open-jointed and broken, with pools of blood-coloured liquid standing in the hollows, although the last slaughtering was two days previously. Offal was also left in the slaughterhouse.

Urinals in connection with several of the public houses were not satisfactory, owing to the absence of means of flushing.

Common Lodging Houses number two, and for their regulation bye-laws were adopted in 1883, but in neither case was there a copy of the bye-laws exhibited in the house. They are registered and inspected, but by-law number 4, as to the separation of married couples from other lodgers, is not observed. The rooms are sometimes overcrowded, contrary to the bye-laws, and though a notice is exhibited stipulating three single beds in one room, double beds have been introduced. There is one private lodging house which is not classed as a common lodging house, and gossip has it that a number of other inhabitants take in nightly lodgers when a chance occurs. The large influx of pea pickers and potato gatherers, who cannot otherwise be properly housed, is their excuse. In one of the common lodging houses the occupier stated that sometimes he had as many as thirty persons sitting and dozing in his kitchen overnight.

The churchyard is nearly full, and there is already some talk of extension.

Schools are referred to in Table 15. It is necessary to notice here the cesspit system at the Wesleyan School, where the excreta drops into a deep pit, without any covering of ashes, and there it lies for months—on the girls' side even for a year. Putrefaction and soakage into the surrounding soil goes on all the time. The obliteration of such a system should be insisted on forthwith.

**EAST COWICK.** On the way to this village from Snaith the red sandstone is seen at the surface of the soil. Generally, the 57 houses forming this village are kept in good repair. Absence or deficiency of eaves spouts was noted here and there, with the result that dampness of the walls of houses was quite apparent. Many of the older houses have sliding windows, which are invariably immovable, owing to accumulated paint.

Though there is no system of sewers at East Cowick, there is a sewer in the Back Lane which receives the discharge from the gullies in the roadway and from several houses abutting on that lane. Several defective house drains were noted.

Some of the yards are in a very insanitary condition, unpaved and uneven, and the conditions aggravated by tubs, etc. In several instances bricks, cobbles, and bits of flags are simply thrown down to act as stepping stones through the mud.

Many of the privy middens are covered, and several new ones have recently been erected, more in accordance with modern ideas. At one place, however, an ashpit was found abutting upon a kitchen.

Fowls and pigs, here as elsewhere, are almost invariably in a filthy condition when kept penned up. In one instance the yard was occupied by a stinking fowl-pen, close by the door of a house in which there lived six children.

**Cowsheds.** In one case noticed, the shed consists of a collection of old doors, panels, box-boards, with a place for hens overhead, and horses and pigs next door. From these there is a huge collection of manure and liquid, the latter partly extending into the cowhouse. In another instance the cow stands in part of a carpenter's shop. The keeper does not purvey the milk in the usual way, but the neighbours come to fetch it. There seems to be an opinion among some cowkeepers that this system exempts them from the usual requirements as to cowsheds.

**Schools** (see Table 15). The insanitary condition of the closets and urinal at East Cowick School calls for attention. There is a vault or cesspit under the privy which receives the *feces*. This pit is supposed to be ventilated by a two-inch shaft, but the shaft is rendered useless by a large hole at the ground level, by which effluvia escapes into the urinal. The latter is surrounded, except at the entrance, by a high wall, which does not help ventilation.



On the girls' side there is no appearance of any means of emptying the cesspit. These outbuildings are without eaves-spouts. The playgrounds are uneven on the surface and not asphalted; the result is dust in dry weather and mud in wet. On the day of inspection the school floor afforded ample evidence of this unsatisfactory condition. There is no water supply to the school, and the drainage from the sink is unsatisfactory.

The graveyard at East Cowick is supposed to contain some 700 bodies, and is capable of accommodating another hundred. The soil is fine sand.

WEST COWICK, like the other small villages in these parts, occupies both sides of the principal highway. It is situate about one mile to the south-east of Snaith Station. The dwellings vary; some are well-built modern houses; others are old, thatched, and, in some instances, showing evidence of decay. A number are now empty. Two occupied houses were particularly noticed as being in a very unsatisfactory condition, one of them so damp as to be unfit for human habitation.

Sewers have been provided, and the roads, although improperly channelled, have gullies to receive the surface water. This has been done in patches at different times.

Trade effluent comes from the brewery, but it is treated by the owner. It is conveyed to a settling tank, thence to another tank of coke breeze. From thence it gravitates to a well, from which it is pumped by a wind motor on to the land.

Domestic refuse is not always deposited in the privy middens, some of which are badly placed, one being against a dwelling. The majority of them are open, deep, and often very capacious, with their consequent abomination. One abuts against houses.

Water is obtained from wells, and complaints were heard that in several instances the well-water is nasty, and yellow in colour.

*Cowsheds.* At one wooden erection hens were seen roosting on the rafters over the cows. The manure pit—a long deep trench—was full of dung and surrounded by liquid. There were no eaves-spouts to this cowshed.

The following statement displays in tabular form the opinions of several Medical Officers:—

#### GOOLE RURAL.

1. Heading.	2. Dr. H. F. Parson's, Reports as Medical Officer of Health for District, 1874-7.	3. Dr. Spears' Report to Local Government Board, 1886.	4. References in Annual Reports of Local Medical Officer of Health, Dr. Wilson, 1890-99.	5. Condition in 1900 when inspected by County Medical Officer.
1. Cleanliness of roadways and domestic premi- ses	—	Fair on the whole but Swinefleet very unsatisfac- tory	Many unsatisfactory premi- ses in Swinefleet, Raw- cliffe, Whitgift, Polling- ton, Reedness	Roads fairly good. Surroundings of the domestic pre- mises often unsa- tisfactory. Accu- mulations of filth. Want of flagging or paving of yards
2. Sewering and draining	Defective drainage at all the populous vil- lages. Sewage dis- charged to stagnant ditches. Want of proper flushing ap- paratus. House drainage defective	No systematic sew- ering. Sewage carried by vari- ous channels of ten extremely rough and dila- pidated into near- est watercourse or pool. Private drainage very pri- mitive and source of frequent nuis- ance	No systematic sewerage ex- cept at Rawcliffe. Some extension and relaying of sewers at several of the villages. Need of sewer- age at Swinefleet, Hook, Ousefleet. Defective drainage at Adlingfleet and elsewhere	At Rawcliffe only is there systematic sewerage sanc- tioned by the Local Government Board. Sewerage and drainage is absent or unsatisfactory in all other villa- ges.
3. Excrement removal and disposal	Many wet and fous privies and ashpit causing serious nuis- ances and danger to health	Midden privies sometimes slop- py and very foul and much neg- lected	Filthy closets at Swine- fleet. Pail closets at Swinefleet not satisfactory type. Ashpits, cesspits, and privy vaults pollute well waters. Better ac- commodation being pro- vided	Chiefly privy mid- den of old type, also leaky cess- pits, many ill- placed and against houses. Unsatis- factory pail closets at Swinefleet



1. Heading.	2. Dr. F. H. Parson's, Reports as Medical Officer of Health for District, 1874-7.	3. Dr. Spears' Report to Local Government Board, 1886.	4. References in Annual Reports of Local Medical Officer of Health, Dr. Wilson, 1890-99.	5. Condition in 1890 when inspected by County Medical Officer.
<b>4. Scavenging and refuse removal</b>	Want of scavenging causes nuisance. In one village scaveng- ing contract annulled against advice of Medical Officer of Health and Inspec- tor	Very unsatisfac- tory; serious filth nuisances	Neglect of scavenging causes spread of infectious disease. Public scaveng- ing at Snaith and Swine- fleet varies in efficiency	Public scavenging is by contract at Snaith and Swine- fleet, but want of scavenging was however noted there, also in sev- eral of the other parishes
<b>5. Water</b>	Water supply of popu- lous villages is bad. Some of the wells unfit for almost any purpose. Want of water much felt; in some instances people compelled to use water from the Rivers Aire & Ouse; in other cases rain- water only is avail- able	In four or five villages wells have been sunk by Sanitary Au- thority, and sup- ply improved, but in the majority, and those the most important, water is bad and scarce. Provi- sions of Public Health (Water) Act not enforced	Airmyn only has a proper supply of water. Scarcity of water in Marshland parishes and need of cis- terns for storage of rain- water. Majority of well waters analysed are im- pure. Hooke awaits water from Goole mains, as sanctioned in 1893. Cow- keepers' premises in need of pure water. Public Health (Water) Act, 1878, neglected or not sufficiently known. No certificate asked for or granted	Water supply gener- ally unsatisfactory on analysis. In Marshland par- ishes and at Hook insufficient storage exists, and many unsatisfactory ves- sels used for stor- ing rainwater for culinary purposes. Rivers Aire and Ouse still partly used for drinking purposes
<b>6. Dwellinghouses</b>	A good deal of house property unsatisfac- tory. At Swinefleet houses are crowded together as thickly as in the worst part of a town	Often unsatisfac- tory, especially in the Marshland villages. Many at Swinefleet un- fit for habitation	At Swinefleet many houses will probably have to be closed under Houses of Working Classes Act, 1890. A large number of houses in various parts of the Union closed as un- fit for habitation; others repaired and made more fit, others reported damp and unhealthy. Houses at Rawcliffe Bridge with bedrooms too small	Damp and dilapida- ted or otherwise insanitary houses in many of the parishes
<b>7. Abatement of nuisances</b>	In some villages nuis- ances abound on every side. More vi- gor should be shown in following up disre- garded notices. Pa- rochial Committees are loth to put in force legal powers	—	General sanitary surround- ings could be considerably improved, if ordinary nuis- ances were dealt with by following up notices to be served. Tenants to blame for allowing accumula- tions of filth too near dwellings. In the ten years 1890-99 there were reported 3190 nuisances of which only 2569 or 80 per cent. were abated	Room for much im- provement. 20 per cent. of nuisances not abated which confirms Dr. Par- son's and Dr. Wilson's views as to the necessity of following up no- tices to abate nuisances
<b>8. Isolation Hospital</b>	Consent of Local Gov- ernment Board ob- tained for use of Union Fever Hospi- tal for persons other than paupers. Hospi- tal transferred from Guardians to Local Board. This is insuf- ficient, should have two receiving houses, one each at Snaith and Garthorpe	—	In period 1890-97, 18 per cent. of cases notified were isolated in Hospital. Refusal to go to Hospital has caused spread of infectious diseases. Hos- pital unfortunately too far away from some of the parishes, urged Rural District Council to come to terms with Goole Urban District Council for small- pox cases but with no results	Workhouse Isola- tion Hospital Situate in the cen- tral Goole urban district. Hospitals is a two storied building under one roof with its con- sequent imperfec- tions



1. Heading.	2. Dr. F. H. Parson's, Reports as Medical Officer of Health for District, 1874-7.	3. Dr. Spears' Report to Local Government Board, 1886.	4. References in Annual Reports of Local Medical Officer of Health, Dr. Wilson, 1890-99.	5. Condition in 1890 when inspected by County Medical Officer.
9. Disinfecting Apparatus	A disinfecting appa- tus is much needed	—	No satisfactory disinfection of clothes where cases are isolated at home. This results in spread of infec- tion when children return to school. Clothing disinfected by stoving	No proper disinfect- ing apparatus even at the Hospital. A steam disinfec- tor and vans for collecting and de- livering clothing much needed for disinfecting material from houses where cases have been treated at home
10. Public Mortuary	A public mortuary in Goole is a desidera- tum	—	—	A public mortuary for infectious and other cases in the larger villages would be of great value
11. Adoptive Acts	—	—	—	Neither the Infec- tious Diseases Prevention Act nor the Public Health Acts Amendment Act have been adopted
12. Bye-Laws and Regulations	Recommendations drawn up for secur- ing healthiness of houses where by-laws can not be adopted	—	—	Bye-laws for new streets and build- ings apply to six parishes only Bye-laws for Com- mon Lodging Houses and Regulations for D.C.M. adopted Need for a full set of bye-laws applic- able to Rural Districts
13. Regulated Buildings and Trades	Slaughter-houses at Snaith are in such a state as to be a nuisance, and com- mon lodging houses are overcrowded	—	Stricter supervision re- quired for cowsheds, &c. Far too little attention to lighting, many of them dark and unhealthy; hindrance to cleanliness. Slaughter-houses require more attention Lodging houses inspected at intervals	Room for much im- provement in cow- sheds Slaughter-houses and common lodg- ing houses do not comply with public Health Acts and Bye-laws
14. Burial Grounds	The offensive ditch alongside Swinefleet churchyard should be filled up	—	—	Need for more burial accommodation for Snaith and Cowick
15. Polluted Streams, &c.	Many ditches in foul condition	—	Pollution by trade refuse at Rawcliffe Bridge abated Miles of ditches cleansed	Many ditches polluta- ted with sewage. Trade effluent at Rawcliffe Bridge is now treated



## RECOMMENDATIONS AS TO THE GOOLE RURAL DISTRICT.

Though much of the advice given by the Medical Officer of Health has been acted upon, some important points have as yet remained unheeded. To bring the rural district into a reasonable sanitary condition, action is necessary on the following items:—

1. From the many opportunities which the local supplies of water present of becoming specifically contaminated, few of the sources or the methods of storage can be regarded as permanently adequate or safe to any individual or community. The provision, therefore, of an adequate supply of pure and wholesome water should be the aim of the Rural District Council to all the populous villages.
2. Much good work has been done in the construction and reconstruction of privies. This should be continued, with a view to frequent and easier cleansing, and also the exclusion of the rainfall, by following the ideas in the Model Bye-laws. Privies in close proximity to houses should be abolished.
3. Bye-laws should be revised, and brought up to date and extended, especially to slaughter houses. There are none to regulate the establishment of offensive trades should it become necessary.
4. The efficient drainage and sewerage of those portions of the district standing in need of such provision should continue to receive the consideration of the Sanitary Authority. Certain portions, to wit, Swinefleet, Hooke, &c., call for early action in this matter.
5. All houses which, from faulty construction, want of ventilation or repair, are in such a state as to be a nuisance or injurious to health, should be closed until they are rendered fit for habitation. Such as cannot be restored should not be permitted to be occupied.
6. The suppression of pig nuisances, whether from the keeping of pigs or the accumulation of manure; also nuisances arising from the improper keeping of fowls.
7. In populous parts, yard surfaces around dwellings should be so prepared as to facilitate the removal of filth and liquids.
8. More vigorous enforcement of sanitation in cowsheds and their surroundings. Adoption of up-to-date regulations.

## HULL AND GOOLE PORT SANITARY AUTHORITY.

The Port Sanitary Authority is constituted under the provisions of the Public Health Act, 1875, as set forth in Sections 287 to 292. The Public Health (Ships) Act, 1883, amends the Act of 1875 in relation to nuisances and infectious diseases. Dr. Wright Mason, of Hull, is the Medical Officer to this Authority, and the work is ably set out in his Annual Reports, in which notice is drawn to the nationalities of the incoming vessels, the structural defects, dirty forecastles, the water supply and incidence of infectious disease, &c., on board these vessels. In 1899 the total inspections made numbered 4555. In the eight years, 1892-1899, 39 cases of small-pox were discovered, and only two years, 1894-95, were free. During the ten years, 1889 to 1899, no less than 115 cases of infectious illness were admitted into hospital from vessels arriving in port. In dealing with healthy persons from an infected vessel, a circular is sent to the Medical Officer of Health in whose district the person has given his address. Unfortunately, wrong addresses are not infrequently given to escape further supervision. In 1899, 2641 vessels, with a total tonnage of 853,440, arrived in the Port of Goole.

The foregoing remarks resolve themselves into this:—That a sound sanitary condition is the sum of cleanliness in the hygiene of the household, school and workshop; and in the individual members of the community; the provision of pure water and wholesome food; and the effectual removal of wastes, which become filth, and foster and attract disease.

Although this survey takes note of many imperfections from a sanitary standpoint, it must be remembered that under the guidance of the Medical Officer of Health (Dr. Mitchell Wilson) valuable work has been and is being accomplished. His annual reports are carefully prepared and merit very careful consideration.

The data upon which the foregoing remarks are based were obtained by personal enquiry. I have to express my thanks for the courteous aid given to us while prosecuting this inspection, by local councillors, and by the officials of the Sanitary Authorities, and, I ought to add, by many of the inhabitants.

JAMES ROBT. KAYE,  
*County Medical Officer.*

Wakefield,  
December, 1900.







# West Riding County Council.

WEST RIDING PORTIONS OF THE

## GOOLE UNION, 1900.

Map to accompany County Medical Officer's Report.

SCALE: 1 INCH TO 2 MILES.

EAST RIDING

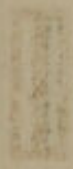


### REFERENCES.

Union Boundary	—
West Riding Boundary	- - -
Township Boundary	—
Goole Urban District	—
Rural Parishes	—
Railways	—
Light Railways	—
Canals	—

LINCOLNSHIRE





1800  
1810  
1820  
1830  
1840  
1850  
1860  
1870  
1880  
1890  
1900