

Mr. Spear's report to the Local Government Board upon the prevalence of diphtheria and croup in the registration sub-district of Pontypridd, and upon the sanitary condition and administration of the sanitary areas therein contained.

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**Mr. Spear's Report to the Local Government Board
upon the Prevalence of Diphtheria and Croup in the
Registration Sub-district of Pontypridd, and upon the
Sanitary Condition and Administration of the Sanitary
Areas therein contained.**

GEORGE BUCHANAN,
Medical Department,
February 14th, 1890.

This sub-district covers an area of 32,401 acres and contains a population that was, according to the enumeration of 1881, 30,250, and is now estimated at 39,700 persons. On the north, it extends across the mountainous region lying between the Rhonda-fach river on the west and the Taff on the east, and there includes such parts of the populous villages as stand on the left bank of the one stream and on the right bank of the other. In the centre it is intersected by the Taff, which thence, southward, forms its western, while the Rhymney river forms its eastern boundary. Where the Taff river crosses there is the confluence of the Rhonda; and here the important town of Pontypridd (only part of which, however, is within the Registration Sub-district), is situated. Southward, the population is more scattered, but still there are important villages—Caerphilly amongst others—and certain small centres of population engaged in mining and other works.

Parts of four sanitary districts are comprised within the Pontypridd Registration Sub-district; and one of these—the Pontypridd Rural District—employs five separate Medical Officers of Health. The parts of the rural district contained within the Registration Sub-district are served by three of these five Officers.

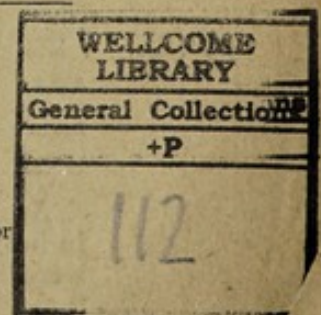
The sanitary districts in question, their population, and the Medical Officers of Health appointed to them, are as follows:—

Districts.	Total population.		Population within Pontypridd Registration Sub-district.		Medical Officer of Health.	Salary.
	Census, 1881.	Estimated.	Census, 1881.	Estimated.		
Ystradyfodwg Urban - -	55,632	88,000	5,425	6,000	J. R. James -	- 150 <i>l.</i>
Pontypridd Urban - -	12,317	16,250	7,478	8,400	Howard Davies	- 25 <i>l.</i>
Mountain Ash Urban - -	10,295	16,000	8,566	14,000	E. P. Evans -	- 55 <i>l.</i>
<i>Pontypridd Rural</i> - -	<i>17,363</i>	<i>20,000</i>	<i>9,171</i>	<i>11,300</i>	[<i>H. N. Davies</i> - <i>5<i>l.</i></i>] [<i>D. W. Davies</i> - <i>15<i>l.</i></i>] [<i>J. Jenkins</i> - <i>11<i>l.</i> 5<i>s.</i></i>] [<i>W. W. Leigh</i> - <i>10<i>l.</i></i>] [<i>J. Llewellyn</i> - <i>11<i>l.</i> 5<i>s.</i></i>]	
Sub-divisions of Pontypridd Rural Sanitary District within Pontypridd Registration Sub-district.						
Central (Pontypridd) - -	750	2,500	500	2,300	J. Jenkins.	
Llanfalon - - - -	2,660	2,800	2,660	2,800	W. W. Leigh.	
Caerphilly - - - -	6,011	6,200	6,011	6,200	J. Llewellyn.	

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1890.



The mortality from diphtheria, croup, &c., in the several sanitary divisions of the Registration Sub-district during recent years, is shown below:—

Year.	Ystradyfedwg Urban (part of). Population (estimated) 6,000.			Mountain Ash Urban (part of). Population (estimated) 14,000.			Pontypridd Urban (part of). Population (estimated) 8,400.			Pontypridd Rural.						
										Cilfynydd (in Pontypridd Division). Population (estimated) 2,000.			Llanfabon Division. Population (estimated) 2,800.		Caerphilly Division. Population (estimated) 6,200.	
	Diphtheria.	Croup.	Laryngitis and Pharyngitis.	Diphtheria.	Croup.	Laryngitis and Pharyngitis.	Diphtheria.	Croup.	Laryngitis and Pharyngitis.	Diphtheria.	Croup.	Laryngitis and Pharyngitis.	Diphtheria.	Croup.	Diphtheria.	Croup.
1885	—	1	2	—	1	1	—	2	1	—	—	—	—	—	1	—
1886	1	2	1	—	7	1	1	1	2	—	1	—	—	1	—	2
1887	—	2	1	—	2	—	1	2	1	—	—	—	—	—	1	2
1888	—	2	—	—	2	—	—	4	1	7	2	1	—	2	1	—
1889, first half	—	2	—	—	2	1	—	2	1	3	—	—	2	1	—	—
Total	1	9	4	—	14	3	2	11	6	10	3	1	2	4	3	4

THE PONTYPRIDD RURAL SANITARY DISTRICT.

Recent epidemic prevalence of diphtheria has been confined to Cilfynydd, a new mining village about two miles from the town of Pontypridd in the Pontypridd division of the Rural Sanitary district. Here a death was registered as from "pharyngitis, convulsions" in January 1888. The sufferer, a girl aged 8½ years, is said to have had white patches on the tonsils, external swelling about the neck, high fever and delirium. The medical man who saw the child now regards the attack as one of diphtheria. The origin of the infection had not been ascertained.

A family living two doors off, friends and frequent visitors of the deceased child's family, was infected early in February. There a child, aged 2, died on the 7th of that month from what was registered as "croup," and subsequently the remaining members of the household, consisting of four adults and two children, suffered from "diphtheritic" attacks.

From this time, for about 16 months (until June 1889), the disease was never long absent from the village, although it spread slowly, and with short intervals of apparent quiescence. The number of well authenticated family invasions, and of individual cases, during the several months of this prevalence, are given below. There were, however, in addition to these recognised attacks of diphtheria, many cases of more or less severe sore throat, and several of these, there is reason to believe, were due to diphtheritic infection. The master of the board school gives me the names of children of 11 families who were absent from school during the months November 1888—February 1889, suffering from severe sore throat, and, as he believes, from diphtheria, whose cases, for want of certain information as to the exact nature of the illness, are not included in the list appended.

	Total.	1888.												1889.				
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	January.	February.	March.	April.	May.
Families invaded.	21	1	1	4	—	—	—	1	—	1	—	6	4	—	1	—	—	2
Attacks	44	1	4	4	1	—	1	4	1	1	—	13	10	1	1	—	—	2
Deaths	13	1	1	—	—	—	—	1	—	—	—	2	4	—	1	—	—	2

As to the age of those attacked, with only one exception the first sufferer in infected families above recorded was a child. Four of these first sufferers were aged from 1 to 2; seven from 3 to 5; six from 6 to 8; and three from 9 to 11. I was not able to ascertain the origin of the first case; as to subsequent ones, there were abundant opportunities for the spread of this disease



by personal contagion, for no precautions whatever were taken or attempted to be taken to prevent its extension. The disease spread amongst relatives and acquaintances; amongst children who visited at infected houses and amongst school-fellows. The sanitary condition of the village, also, was such as is often found associated with continued prevalence and recurring outbreaks of diphtheria. I could find no evidence of the conveyance of infection by water or milk or other food supply.

Cilfynydd is, as I have said, a new mining village, with a population that has grown within the last four years from a couple of hundred at most, to over 2,000. The houses are built in rows and terraces half way up a steep hill-side, and the soil is chiefly clay and the disintegrated sand-stone of the subjacent rock.

At the bottom of the slope on which the houses stand a canal passes, and on the other side of the canal, some 500 or 600 yards from the village, and in a fairly broad and open valley, there are fields which form a prolongation of the Merthyr sewage farm, and upon which sewage is occasionally applied.

There is no regular sewer system at Cilfynydd. Most of the 370 houses (or thereabouts), have slop-water drains which ultimately discharge into a highway drain and thence into the canal; or, where this method is not available, the sewage runs over adjacent unoccupied land, or into the streets or back lanes; occasionally into the privy cesspools. The back lanes have the appearance of quagmires, and the yard space about dwellings is often sewage sodden.

Cess-pit privies, and cesspools receiving the discharge of closets, are in general use. When full, they overflow into the back lanes; and, in times of storm, water from the hill side causes them to overflow, and the contents have been known at such times to be washed into the very houses. In attempting to remedy this state of things the useless and mischievous device has in many cases been resorted to of connecting the pit by an overflow pipe with the slop-water or highway drain. As is well known, overflow pipes of this sort soon become choked; though they allow sufficient matter to pass to render the imperfect and unventilated slop-water or highway drains excessively foul.

Since February 1889 the Authority have contracted for the removal of ashes and house refuse, and the work is done, with some exceptions, fairly well. The emptying of cesspools and privy-pits is left to owners or occupiers, and in the case of the majority of the houses the work seems never yet to have been performed.

The houses of Cilfynydd all have through ventilation, but as the ground at the rear of most of the rows and terraces rises abruptly, some confinement of air, dampness, and (in the present circumstances of drainage, &c.) considerable befoulment of the soil immediately about the houses, result. The practice of taking lodgers is general, and there is considerable overcrowding.

The Authority have possessed building byelaws since 1877, but those relating to drainage and privy construction have in Cilfynydd been habitually infringed. I am informed that houses have often been occupied before they could be considered in any way fit for occupation.

The late Inspector of Nuisances has from time to time reported to the Authority upon the state of Cilfynydd, and a deputation of ratepayers waited upon the Authority in January 1889, in order to bring its condition under notice. To this must be attributed the action of the Authority in providing for the removal of house refuse. The drainage of cesspools was, as I have said, an attempt towards improvement, though ill-advised.

The Medical Officer of Health, Mr. Jenkins, whose action and advice in this rapidly-growing and much afflicted district might have been of the utmost value to the Sanitary Authority and to the inhabitants, has been completely unmindful of his duties. He had, in fact, made no inspection of the district nor any inquiry as to the outbreak of diphtheria, so that I found him ignorant, in all matters of detail, of the sanitary circumstances of the locality or of the conditions under which diphtheria had spread. He admitted that until the beginning of 1889, when the annual report for 1888 had to be written, he had not perused the mortality returns of the previous year (sent him monthly by the district registrar); and that he had not accordingly known until then how prevalent and fatal diphtheria had been in his district. Long before that the fact of the outbreak had been common knowledge in the whole

neighbourhood. Still, no action of any sort followed even then. He states that he thought inspection of the district and inquiry into outbreaks of disease were "mere matters of form," and while the inhabitants of his district were suffering grievously for the want of proper sanitation, he rested contentedly under this idea. So complete has been the deprivation of the inhabitants of Cilfynydd of skilled supervision on the part of a Medical Officer of Health, that the Inspector of Nuisances, Mr. Evans, who has now resigned, was positively unable to inform me in which of the Medical Officer of Health's districts of the Union the village was situated. Two or three years ago he wrote twice, so he tells me, to Mr. Jenkins asking him for advice and assistance concerning the sanitary condition of the place, but, receiving no reply, and finding the official description of boundaries did not actually show the village to be in Mr. Jenkins' district, he endeavoured to act as best he could by himself.

After inquiring with me into this outbreak of diphtheria, Mr. Jenkins promised to report fully to the Sanitary Authority upon it, and upon the sanitary needs of Cilfynydd. My instructions were to get the Medical Officers of Health if possible to do their own proper work, and I waited some weeks for this report, and then saw Mr. Jenkins again. He then informed me that he had decided to resign his office.

In the Llanfabon division of the Rural Sanitary District two deaths were registered from croup in 1888, and two from diphtheria, and one from croup, in the first half of 1889. The two deaths from "croup" in 1888 occurred in the same house at Greig, one in April and the other in the following month. The sufferers were young children who had never attended school, being aged respectively 3 years and 17 months. The Medical Officer of Health knew of no other cases of sore throat in the neighbourhood at this period. He reported the drainage of the house and locality to be at the time unsatisfactory and the source of nuisance.

In January 1889 diphtheria broke out in a row of cottages at Penteryn, half a mile from Greig, the first sufferer being a school child attending the Greig school. The sanitary condition of the row was most unsatisfactory; the drains of the then infected (and adjoining) houses emptied at the time into the privy cess-pits and were choked, the cess-pits not having been emptied for some two years. The gully openings into the drains were untrapped and were close by the house doors. At the time of my visit these drains had been made to discharge on to the surface of a field close by, but the sewage there was not properly disposed of and was creating a foul pool. The drain openings were still untrapped and the stench from them greatly complained of. Water was only obtainable at some little distance, and then from a surface spring that was said to fail in summer. Diphtheria spread from the first infected house to the adjoining one. There five of the inmates suffered; and, later, in the third house of the row, a case of severe sore throat, probably diphtheria, occurred. I heard also of a casual visitor, coming from a distance to the first infected house, suffering afterwards with symptoms of diphtheria. In all, connected with this little outbreak, there were, it appears, nine cases in four families, and one death.

Typhoid fever made its appearance in this same row some five years ago. Five cases of this disease then occurred and one death. The owners had, I was informed, raised the rent of the cottages after carrying out the trivial and wholly insufficient drainage improvements that were made after the last outbreak of disease: improvements, such as they were, that had required much perseverance from the Medical Officer of Health to obtain.

The other death from diphtheria in this division occurred in May 1889, in the village of Nelson. The sufferer was a child and attended the Nelson Infant School, but had been away from home for two or three days during the week preceding her illness. Except for a slight attack, from which the child's mother afterwards suffered, no other case of diphtheria in or about the village appears to have occurred.

Nelson is the most important of the villages in this division of the sanitary district. The drainage arrangements and the methods of excrement disposal are unsatisfactory; large accumulations of excrement in foul cess-pit privies are common, and there is much soakage of foul matters into the soil. A scheme for the supply of water to the village is under the con-

sideration of the Authority. At present water is derived from wells, and surface "runners" or pistils, liable to contamination. The removal of ashes and house refuse is undertaken by the Authority.

In the Caerphilly division of the Rural Sanitary District there were during the four years 1885-88 three deaths registered from diphtheria and four from croup. One death from diphtheria occurred in the village of Nantygarrw in 1885, one from diphtheria and one from croup in the village of Caerphilly in 1887, one from croup in 1887 at Taff's Well, and one from diphtheria in 1888 at the adjoining village of Walnut Tree Junction.

It will be seen from this that recognised diphtheria has not been very prevalent in this district. Dr. Thomas, who practises at Caerphilly, and acts as deputy to the Medical Officer of Health, informs me, however, that acute follicular tonsillitis is very common, especially in the village of Caerphilly, and he thus describes the symptoms in these cases. The patient complains of headache, pain in the back and limbs, and rigors. The temperature is found to be high; one or both tonsils swollen and inflamed and presenting points of exudation or covered with a catarrhal secretion, which is, however, never fibrinous or leathery; the sub-maxillary glands are rarely enlarged; occasionally albuminuria is present during the febrile stage. The fever generally subsides rapidly, and no form of paralysis has been noticed as supervening. These cases often occur in groups and are multiple in families. While regarding them as distinct from diphtheria, Dr. Thomas is strongly of opinion that they are associated with foul effluvia, and, especially, has remarked their occurrence in houses exposed to emanations from untrapped drains.

Another circumstance requiring remark in connexion with this district is the somewhat increased prevalence of late of typhoid fever. In each of the four years, 1884-87, a single death was registered from this disease; in 1888 there were four such deaths, and in the first half of 1889 two. I saw, with Dr. Thomas, cases of this disease in various stages, in four different families at the time of my visit; one in the village of Caerphilly and the others in the neighbourhood.

The village of Caerphilly stands at the foot of an extensive range of hills, one small streamlet bisecting it and another skirting its eastern boundary. Some few years ago a main pipe sewer was laid, which serves the greater part of the village, and which empties into one of the streamlets at the bottom of the village street. The sewer is inadequately ventilated by a few small pipe ventilators, and by a few untrapped roadside gullies. The private drains, even in the case of new houses (and in their case in contravention of byelaws) are unprovided with special means of ventilation; and occasionally rough untrapped gullies are situated close by the doors and windows of houses. A considerable amount of sewage still finds its way into the rivulet crossing the centre of the village and causes there a nuisance.

Some of the houses of the village have no privy accommodation of any sort, others have the old-fashioned privy pit, which is often neglected and the source of much nuisance; others again, and these perhaps the majority, have closets connected with the public sewer, but as no flushing apparatus is provided, their condition is often very unsatisfactory. There are a few pail closets in use. The removal of ashes and house refuse is provided for by the Authority.

Some of the older houses are damp and ill-ventilated. The common lodging-house was, I found, in addition to these defects, overcrowded.

A general water supply, obtained from hill-side springs, was provided by the Authority some eight years ago, and this is commonly in use. A certain number of the inhabitants still resort, however, to a "spout," or spring, in a neighbouring field.

At Nantygarrw, Taff's Well, and Tongwinlas, and in many of the isolated rows and cottages of this division of the district, the means of drainage and the closet accommodation are insufficient or defective. At Nantygarrw a drain, discharging into the river, has been provided, but it serves only a part of the hamlet; it is unventilated, and such gully openings as exist are in a dilapidated state. Some of the houses here have no privy accommodation, and that provided for others is of the rudest and most objectionable sort. Certain of the dwellings are scarcely fit for habitation, from dampness and want of proper ventilation. At Taff's Well as much of the sewage as gets away from the houses finds its way into the river, and causes there in summer, it is said, a nuisance. There are houses in this village, also, without drains and without privy accommodation. At Mountain Side and at Pontypandy—small isolated collections of cottages near Caerphilly where typhoid fever existed at the time of my visit—I found much excremental nuisance, and, in the former place, a water supply liable to pollution.

The larger villages above mentioned likewise require attention in respect of their water supplies. At Nantygarrw the people have to go a long distance to a roadside spout, unless, as sometimes happens, they resort to the polluted river. At Tongwinlas similar difficulty is experienced; at Taff's Well, surface wells, sunk in a contaminated soil, are in use.

[The Llantrissant and Cymmer divisions of the Rural Sanitary District are not within the Registration Sub-district with which this inquiry is mainly concerned. I conferred, however, with the Medical Officers of Health, and visited certain of the villages in this part of the district.

The Sanitary Authority (of the Pontypridd Rural District) have provided a sewer for parts of the village of Llantrissant, and two standpipes for the supply of water to that village. They have recently also provided a water supply for Cross Inn. The removal of house refuse from populous parts of the Llantrissant division is undertaken by the Authority.

Beyond this, much action in the direction already indicated for other divisions of the district is evidently needed. The standpipes for Llantrissant are insufficient for the supply of the whole village, and the local wells in use are liable to pollution. The public sewer there is practically unventilated, two or three 4-inch shafts only being provided. The private drainage is most defective. Old stone drains are largely in use; gullies are dilapidated; drains in some cases pass beneath houses, and there are in some cases direct connexions with the public sewer within houses. Privy pits that are the source of much nuisance exist here and in many other places, and where pail closets have been introduced the emptying is left to occupiers and is accordingly neglected. At Beadow, a little hamlet of some 30 houses, near Llantrissant, the inhabitants have to go nearly half a mile to obtain their drinking water. There is much accumulation of refuse in this village also.

At Gilfach Goch, in the Cymmer Division, a serious outbreak of enteric fever in 1886 was attributed by the Medical Officer of Health to a defective water supply, bad drainage, and imperfect cleansing of pail closets. The defective water supply and drainage of this place has since been the subject of correspondence between the Board and the Sanitary Authority, but no action has followed.]

In none of the divisions is there a properly organised method of administering sanitary affairs, or of ensuring that the many and various conditions injurious to health are brought in detail to the knowledge of the Sanitary Authority. The Medical Officers of Health never attend the meetings of the Sanitary Authority, and their representations are confined to their annual reports. Copies of these documents are before the Board. Except as regards the reports from the Caerphilly district, they have each, on one or more occasions, formed the subject of remonstrance from the Board, on account of the paucity of the information they contain. Systematic inspections, which the Board regard as of so great importance, are not made. There is little official communication between the Medical Officers of Health and the Inspector of Nuisances, and no joint inspection. There are practically no means of dealing with infectious disease other than the Medical Officers of Health might prescribe as private practitioners. Except for occasional report by the Inspector of Nuisances, individual conditions injurious to health are not, as I have said, brought before the Sanitary Authority; byelaws are not fully enforced—neither the byelaws regulating building, nor those for the prevention of nuisances, nor those that relate to the keeping of animals, or to lodging-houses. Dairies and cowsheds are not registered or regulated; the business of slaughtering is not regulated; the keeping of lodgers in houses other than common lodging-houses is subject to practically no restriction.

What is wanted in this rural district is one Medical Officer of Health, whose salary should repay the expenditure of time and labour in sanitary organisation and supervision, and who should have under his direction an efficient staff of Inspectors of Nuisances. At present the single Inspector of Nuisances is engaged also as surveyor, engineer, superintendent of the scavenging contractors, and collector of water rates in districts where the Sanitary Authority have the water supply under their own control. The

Officer who has just resigned evidently found the duties altogether beyond his capacity for discharging them. No record worth speaking of was kept of his work as an Inspector of Nuisances. The district has an area of more than 100 square miles, and contains in each division important and populous localities. The population, too, is constantly increasing; and the opening out of new collieries in the district will soon result in building operations on a still more extensive scale.

The Sanitary Authority should organise without delay an adequate sanitary department. The health of the district in future, as well as in present times, depends upon the efficiency of the present Authority and their staff.

THE PONTYPRIDD URBAN SANITARY DISTRICT.

About half the population of this district, it is estimated, is within the Pontypridd Registration Sub-district. In this division four deaths were registered from croup in 1888, and one from laryngitis; and in the first half of 1889 two from croup and one from laryngitis. I inquired into the circumstances of these cases, and found that certain of them had been associated with others of severe sore throat; they had appeared, too, under conditions resulting in much excremental contamination of soil and air.

I found also that Pontypridd had suffered considerably from time to time from enteric fever. In 1886 seven deaths were registered from this cause in the whole urban district. In 1888 six deaths were so registered; and in August 1889 a serious outbreak of this disease occurred. Within a month some 90 cases came under the notice of the Medical Officer of Health. This last outbreak was clearly traced to the use for drinking purposes of a certain local spring. The more scattered cases had been attributed by the Medical Officer of Health to imperfect drainage arrangements.

The sanitary condition of the district is described in a report of the Medical Officer of Health, now under consideration of the Board. My own inspection allows me to confirm in every particular the statements therein set forth. The conditions to which the Authority's attention is specially needed are the following:—

1. The use of old rubble sewers, permitting of much deposit, unventilated, and discharging into the river bed so as to cause a nuisance.
2. The use of private drains of similar defective construction, and often with untrapped openings in close proximity to doors and windows of houses.
3. The dilapidated and often sewage-sodden condition of the yard space about dwellings.
4. The prevalence of excremental nuisances arising from the use of privy cesspits; of unflushed, and occasionally untrapped, privies communicating with the public sewers, and in other cases of dilapidated and neglected pail closets.
5. The occupation of houses that from dampness, dilapidation, want of proper room-ventilation, and from the condition of their surroundings are unfit for habitation.
6. The occasional use of water from local sources of questionable purity. The necessity of securing, as far as possible, a constant service of water by the public mains.
7. The further regulation of lodging-houses, of slaughter-houses, of dairies and milkshops, and of the keeping of animals.
8. The necessity of greater care in the selection of places for the deposit, by the scavenging contractors, of house refuse.
9. The provision of means for isolating the early cases of epidemic or spreading disease.
10. The necessity of further provision for frequent inspection for sanitary purposes of the district.
11. A stricter enforcement of byelaws relating to drainage and the ventilation of small rooms.*

The Authority are now engaged, in combination with neighbouring authorities of the valley, in main outfall sewerage works; it is to be hoped that the

* At Pencombe Hill, where much building is going on, I found in new houses private drains, even those passing beneath houses, constructed without provision for ventilation; waterclosets without flushing apparatus; and small bedrooms without fireplaces and without special means of ventilation. This latter omission was said, however, to be exceptional.

work of re-construction of tributary sewers and private drains will soon follow. The provisions of the Infectious Disease (Notification) Act, 1889, have just been adopted, but to obtain real control over these diseases, it will be necessary that means of isolating early cases shall be provided. As the Medical Officer of Health points out, isolation in the cottages of the district is practically impossible.

THE MOUNTAIN ASH URBAN SANITARY DISTRICT.

The greater part of this district is within the Pontypridd Registration Sub-district. In 1888 two deaths were registered from croup, and in the first half of 1889 there were two deaths from croup and one from laryngitis. I could not hear of any case of recognised diphtheria.

The water supply of this district has been improved in certain respects since my report on the typhoid fever epidemic of 1887, although it cannot be affirmed with any certainty that all defects in mains and service pipes, such as may on occasion result in the contamination of the water during its distribution, have been discovered and rectified. So far as examination of the pipes has been carried out, defects were found to be more numerous than was previously suspected.

The sewerage of the chief villages (in the Aberdare valley) has been completed for some years, and the tributary and private drains, with certain exceptions, appear to be in fair condition. As the water supply comes to be improved, the Authority should do their utmost to secure the provision of flushing apparatus for the closets of cottage property. At present these are nearly all connected with the sewers, but proper means of flushing are wanting.

In another valley, some three miles from Mountain Ash proper, a village (Ynysybul) has sprung up of late years; it has a population already estimated at 2,600, and as railway communication has just been provided and new pits are to be opened out, it will no doubt rapidly increase. The means of drainage have hitherto been very primitive and the source of nuisance. The Authority have now placed a scheme for the main sewerage of the village before the Board; but it will be necessary also to give much attention to the reconstruction of private drains and tributary sewers before a satisfactory state of things is established. A water supply has just been provided. Evidently much supervision is required to secure proper compliance with building byelaws.

In my previous report on the Mountain Ash district, already referred to, I spoke of the house accommodation as needing much attention, of the rooms being very small, and the bedrooms (crowded together at the top of a narrow, unventilated staircase) often without fireplace or special means of ventilation; and I referred to the necessity of regulating the almost universal practice of taking lodgers into these small and ill-ventilated habitations. I do not find that any material improvement has been effected in this direction.

There is, however, an immediate prospect of one long-felt want in the district being supplied. A plot of land has been presented to the Authority by Lord Aberdare as a site for an infectious disease hospital; and plans of the building proposed to be erected have been submitted to the Board.

YSTRADYFODWG URBAN SANITARY DISTRICT.

Of this district, which has a total estimated population of 88,000, only a small part (a population of less than 6,000) lies within the area of the Pontypridd Registration Sub-district. In this small division there has been no recent recognised case of diphtheria. Two deaths from "croup" were, however, registered in 1888, and two in the first six months of 1889. These cases did not appear to be associated, and I found no evidence to warrant the conclusion that they had been due to diphtheritic infection.

At Treherbert, in another registration division of this sanitary district, a small epidemic of diphtheria occurred in 1888. Between the middle of May and the middle of August 15 cases, 6 of them fatal, occurred in 11 families, occupying closely adjacent houses. The Medical Officer of Health was able to trace the first case to the importation of infection from another district. The disease, he says, spread in a locality where grave nuisances at the time existed from defective sewerage.

In this larger division of the urban district 11 deaths were registered from croup and one from diphtheria during the first six months of 1889. The Medical Officer of Health had not found reason to regard the cases of so-called "croup" as diphtheritic. He undertook, however, to give this matter his special attention.

The Ystradfyfodwg Sanitary Authority have combined with the Pontypridd Authority in a scheme of main outfall sewerage for their district; and its execution is now in progress. At present the tributary sewers discharge into the streams, or on the banks of the streams, which traverse the district, and on either side of which the several component villages are situated.

The street sewers constructed of late years in this sanitary district are of socketed pipes with proper gradient, and are ventilated by open man-holes. Many sewers of defective construction, however, exist, and the private drains are often defective, being unventilated and the gullies being occasionally untrapped. Water-closets have of late been generally provided, but many privy cess-pits remain, and there are some pail closets that are not properly managed and which become in consequence a nuisance. Many of the water-closets have no flushing apparatus. House refuse is removed at frequent intervals by the Authority.

The paving, metalling, and channelling of private streets and the making of back lanes require to be carried on with greater activity.

The water supply is from two main sources and from one or two small subsidiary ones. The Ystrad Company's supply, upon which about a third of the district depends, has been greatly complained of both on account of the turbidity of the water and from serious deficiency in quantity. The greater part of the remainder of the district (including all that within the Pontypridd Registration Sub-district) is supplied from the Pontypridd Water Company's Works. This supply is subject from one cause and another to frequent intermissions, and the pressure is said to be at certain times and places inadequate.

As in neighbouring districts, the practice of taking lodgers is a very general one, although the houses are small and the rooms often poorly ventilated. It is a practice that should be placed under suitable regulations.

The nucleus of a very fair system of sanitary administration has been established in this district. The Medical Officer of Health takes the general superintendence and direction of the sanitary department. The Surveyor acts as Chief Inspector of Nuisances, and there are three assistant inspectors to whom districts are allotted. The Medical Officer of Health frequently inspects the district with these officers, and receives reports from the assistant inspectors, as to their several divisions, at bi-weekly intervals. A small hospital has recently been constructed. It is adapted, however, to the reception of only one infectious disease at one time, and has hitherto only been used for small-pox.

(Signed) JOHN SPEAR.

January 1890.

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