

**Report to the General Board of Health on a preliminary inquiry into the sewerage, drainage, and supply of water, and the sanitary condition of the inhabitants of the parish of Arnold, in the county of Nottingham / by William Lee, Superintending Inspector.**

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15  
**PUBLIC HEALTH ACT**

(11 & 12 Vict. Cap. 63.)

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**REPORT**

TO THE

**GENERAL BOARD OF HEALTH**

ON A

**PRELIMINARY INQUIRY**

INTO THE SEWERAGE, DRAINAGE, AND SUPPLY OF  
WATER, AND THE SANITARY CONDITION  
OF THE INHABITANTS

OF THE PARISH OF

**A R N O L D,**

IN THE COUNTY OF NOTTINGHAM.

By **WILLIAM LEE, Esq., C.E.,**

SUPERINTENDING INSPECTOR.



LONDON:

PRINTED BY GEORGE E. EYRE AND WILLIAM SPOTTISWOODE,  
PRINTERS TO THE QUEEN'S MOST EXCELLENT MAJESTY.  
FOR HER MAJESTY'S STATIONERY OFFICE.

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1853.

PUBLIC HEALTH ACT  
(11 & 12 Vict. Cap. 63)

REPORT  
TO THE  
GENERAL BOARD OF HEALTH

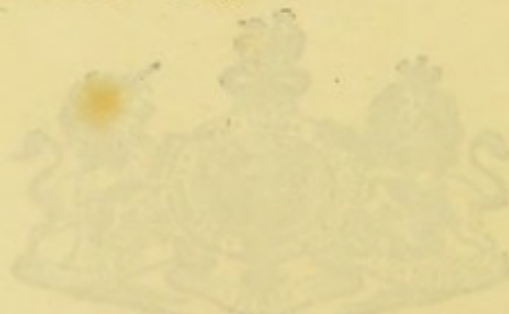
ON A  
NOTIFICATION.

THE General Board of Health hereby give notice, in terms of section 9th of the Public Health Act, that on or before the 21st day of February next, being a period of not less than one month from the date of the publication and deposit hereof, written statements may be forwarded to the Board with respect to any matter contained in or omitted from the accompanying Report on a preliminary Inquiry into the Sewerage, Drainage, and Supply of Water, and the Sanitary Condition of the Inhabitants of the Parish of ARNOLD, in the County of Nottingham ; or with respect to any amendment to be proposed therein.

By order of the Board,

C. MACAULAY, Secretary.

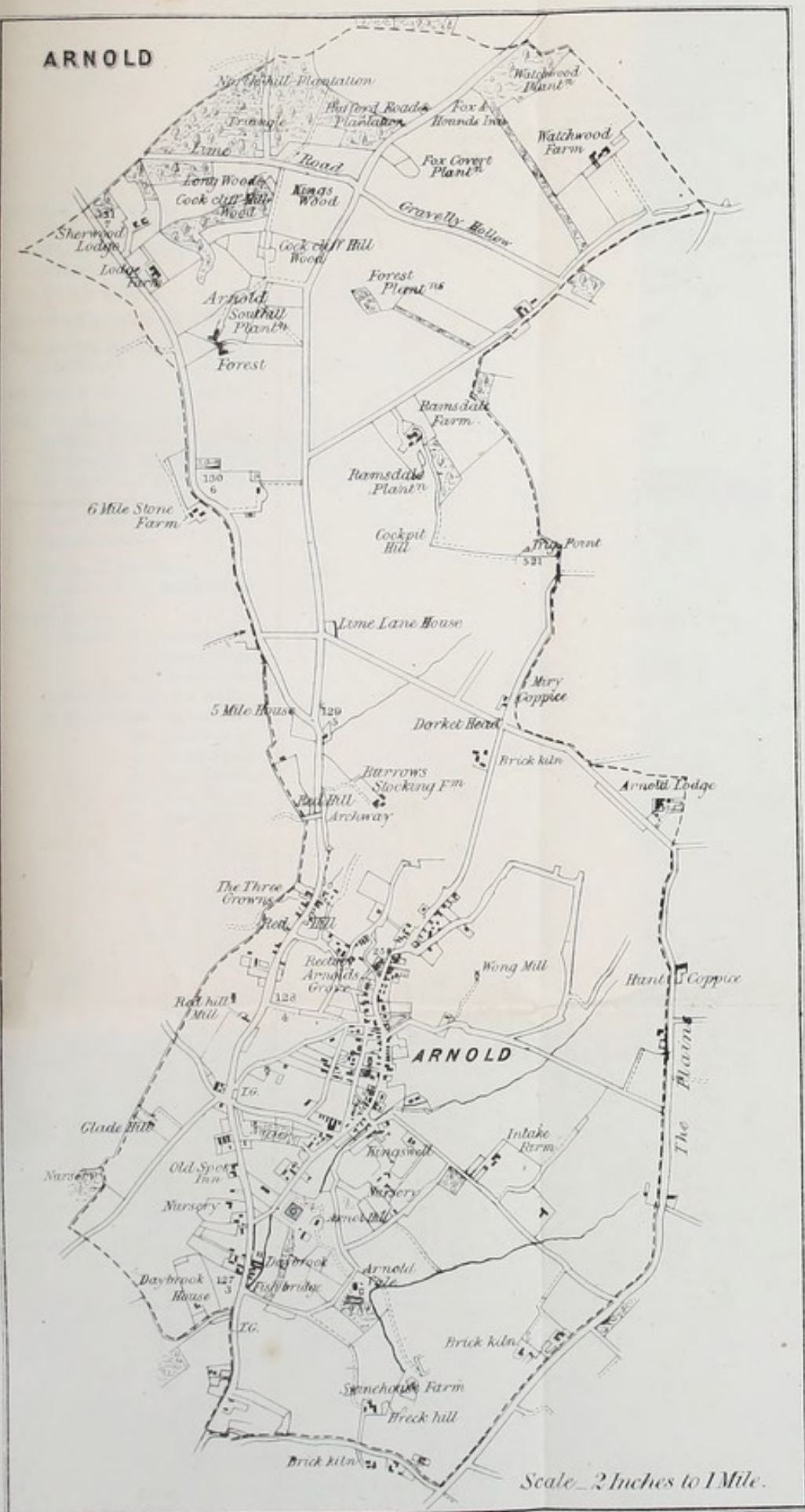
*12<sup>th</sup> January*  
*Whitehall, 19<sup>th</sup> December 1854.*



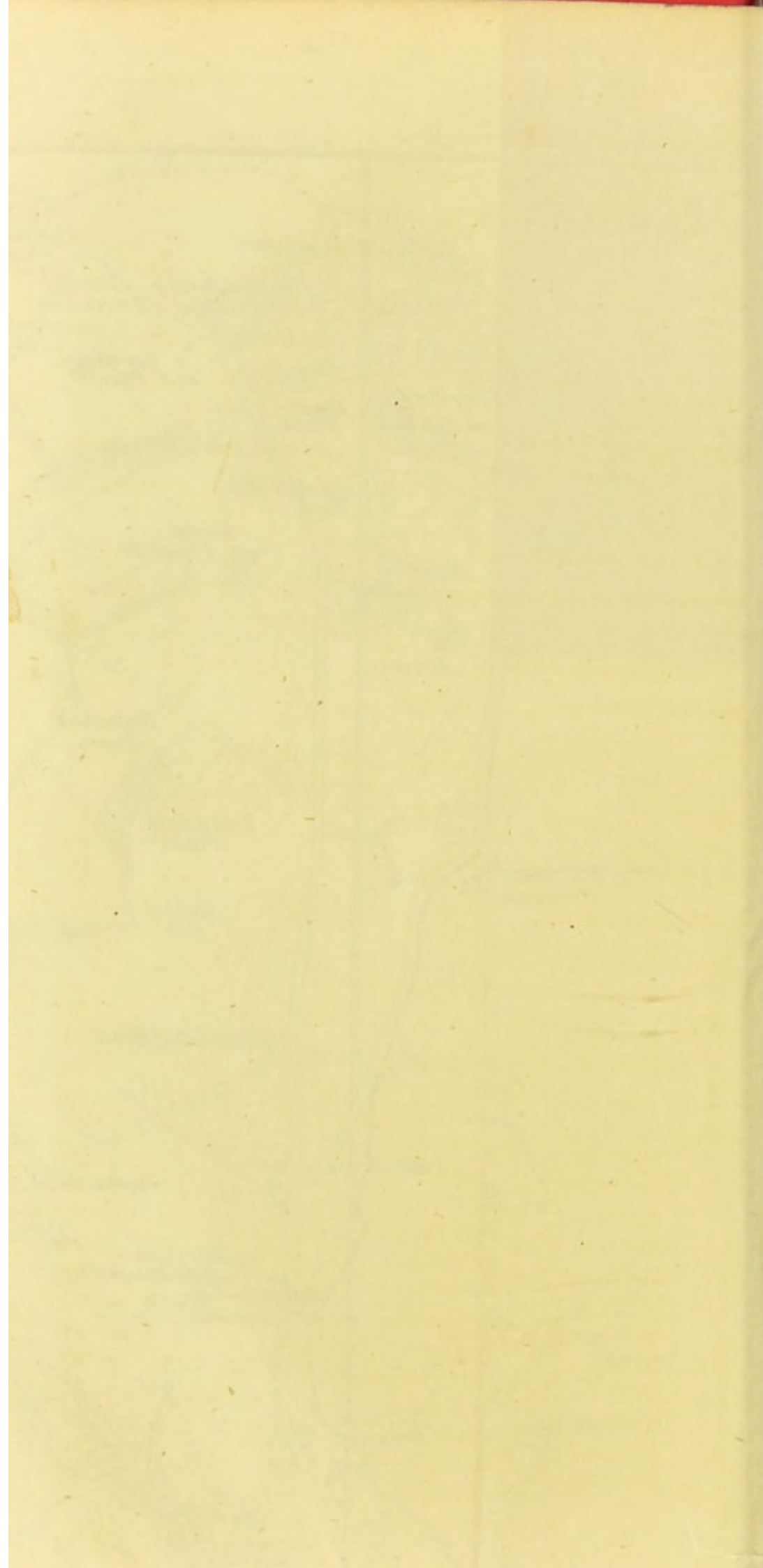
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# ARNOLD







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## PUBLIC HEALTH ACT (11 & 12 Vict. c. 63.)

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*Report to the General Board of Health on a Preliminary Inquiry into the Sewerage, Drainage, and Supply of Water, and the Sanitary Condition of the Inhabitants of the Parish of ARNOLD, in the County of Nottingham. By WILLIAM LEE, Esq., C.E., Superintending Inspector.*

7, Duke-street, Westminster,  
6th July 1853.

MY LORDS AND GENTLEMEN,

A petition having been presented to you in October last from the inhabitants of the parish of Arnold, praying for a Preliminary Inquiry, with a view to the application of the Public Health Act, and signed by more than one tenth of the rated inhabitants, you were pleased to direct, on the 1st of November, that I should make such inquiry, and report to you in writing.

In obedience to such directions I caused the usual public notices to be given, and the Inquiry was, in accordance with such notices, opened in the large room at the Horse and Jockey Inn, in Arnold, at 10 o'clock on the morning of Wednesday, the 5th day of January in the present year, and was continued, by adjournment from day to day, until I had heard all persons desiring to be heard, had carefully inspected the parish, and had obtained such information as was necessary for the purposes of the inquiry.

Mr. *Joseph Phipps*, the district Registrar of Births and Deaths, proved that the public notices of the inquiry had been duly affixed upon the doors of all places of public worship, and other places where public notices are usually affixed in Arnold. Copies of the "*Nottinghamshire Guardian*," and the "*Nottingham Review*," containing the advertisement of the inquiry, being the newspapers usually circulating in the district, were also put in.

*R. B. Spencer*, Esq., Superintendent Registrar of the Basford district, proved that at the census of 1851, there were in the parish of Arnold 991 separate occupiers; 958 inhabited houses; 36 uninhabited houses; and one house building.

From this it was evident that the petition, to be valid, must be signed by not less than 100 persons.



On examination I found that it was signed by 183 rated inhabitants, or nearly one fifth of the whole, and that it would have been signed by a much greater proportion, if that had been necessary.

The whole of the proceedings, therefore, preliminary to the inquiry, had been taken in accordance with the provisions of the Public Health Act.

The following is the form of the petition:—

“PUBLIC HEALTH ACT, 1848.

“PETITION FOR APPLICATION OF THE ACT.

“Whereas, by the Public Health Act, 1848, it is enacted, that from time to time after the passing of that Act, upon the petition of not less than one tenth of the inhabitants rated to the relief of the poor of any city, town, borough, parish, or place having a known or defined boundary, not being less than 30 in the whole, the General Board of Health may, if and when they shall think fit, direct a Superintending Inspector to visit such city, town, borough, parish, or place, and to make public inquiry, and to examine witnesses as to the sewerage, drainage, and supply of water; the state of the burial-grounds; the number and sanitary condition of the inhabitants; and as to any local Acts of Parliament in force within such city, town, borough, parish, or place, for paving, lighting, cleansing, watching, regulating, supplying with water, or improving the same, or having relation to the purposes of this Act; also as to the natural drainage areas, and the existing municipal, parochial, or other local boundaries, and the boundaries which may be most advantageously adopted for the purposes of this Act, and as to any other matters in respect whereof the said Board may desire to be informed, for the purpose of enabling them to judge of the propriety of reporting to Her Majesty, or making a provisional order, as mentioned in the said Act.

“Now, therefore, we, the undersigned inhabitants of the parish of Arnold, in the county of Nottingham, and rated to the relief of the poor of and within that parish, and being one tenth in number of the inhabitants rated to the relief of the poor of and within the same parish, do hereby petition the General Board of Health to direct a Superintending Inspector to visit the said parish, and to make inquiry and examination with respect thereto, with a view to the application of the said Act, according to the provisions of the said Act in that behalf.

(Signed) “THOMAS FROST.”  
(And 182 others.)

EPITOME OF CHIEF TOPICS.—*Sewerage and Drainage.*—A brook runs through the whole length of the village, and is the common receptacle for all such refuse as can find its way in. Part of this brook is arched over, and the stench from the openings is very offensive. There is no systematic drainage in Arnold.



*Water Supply.*—For cleansing purposes water is often taken from the above polluted brook, and for dietary purposes it is fetched and carried great distances, from wells in which the water level has been gradually sinking for years. The deepening of such wells is a source of continual expense, and the water obtained at so much trouble and cost is generally hard.

*Burial Grounds.*—The churchyard was enlarged about three years ago. The old part is full; the additional ground is now being used. The dissenting burial-grounds contain very few bodies.

*Number of Inhabitants.*—At the census of 1841 the population was 4,509, and in 1851 it had increased to 4,704.

*Sanitary Condition.*—Exceedingly defective. The deaths of infants are very much above the average, and the same may be said of the mortality from zymotic diseases.

*Local Acts.*—None.

*Natural Drainage Area.*—Towards the river Trent, with sufficient inclination for the removal of all surface water.

*Local Boundaries.*—The parish boundaries are shown on the plan appended. These boundaries may be advantageously adopted for the purposes of the Act.

*Trade Occupations.*—Chiefly frame-work knitting and lace manufacture.

*Geology.*—New red sandstone overlying the coal measures.

*Local Government.*—Surveyors of highways, overseers and guardians of the poor, churchwardens, and constables.

*Maps.*—Only a small scale parish map, kept in the vestry of the church, and this is stated to be very defective.

POPULATION, NUMBER OF HOUSES, &c.—Arnold is a parish and large village, situate about four miles north of the town of Nottingham, at a considerable altitude, and with an undulating surface. The substratum is generally absorbent, and the inhabitants ought to be more healthy than the average. The parish comprises 4,670 acres.

In 1801 the population of Arnold was 2,768; in 1811 it had increased to 3,042; in 1821 to 3,572; in 1831 to 4,054; in 1841 to 4,509; and in 1851 to 4,704.

It will be seen that during the last ten years the increase has been less than during any of the preceding four decennial periods. This is probably to be attributed to the rapid increase of Nottingham; the contiguity of the two places, and the difficulty of hand-loom and frames,—which are chiefly used in Arnold,—competing with steam power. In ten years, from 1801 to 1811, the increase was 9·9 per cent.; during the next ten years, 17·4 per cent.; then 13·5 per cent., and 11·2 per cent.; but during the last ten years only 4·3 per cent.



The number of houses in 1841 was 954, and in 1851, 994.

The number of inhabited houses at the last census was 958, so that there were nearly five persons in each house. This being slightly under the average is a proof that the dwellings are not generally crowded.

The following classification of the rateable value of houses, gives two less than the number at the census; and it shows also, that the houses are well grouped for sanitary improvements, as nearly the whole population resides in the village:—

PARISH OF ARNOLD.

Annual Rateable Value.	Number of Houses in Village.	Number of Houses in whole Parish.
Under - - £1 10s.	198	210
£ 1 10s. and under 2	173	183
2                   "       3	354	369
3                   "       4	62	72
4                   "       5	30	34
5                   "       6	20	26
6                   "       6 10s.	8	8
6 10s.           "       7	7	12
7                   "       8	12	17
8                   "       9	9	14
9                   "       10	10	10
10                  "       15	10	16
15                  "       20	11	12
20                  "       30	3	6
30                  "       40	1	2
40                  "       50	-	-
50 and upwards - -	-	1
<b>Total - -</b>	<b>908</b>	<b>992</b>

	£	s.	d.
Total annual rateable value of property in } the village - - - - - }	2,077	11	5½
Total annual rateable value of property in } the parish - - - - - }	8,203	8	7

It will be seen from the above, that the houses and other property are rated upon a very low valuation, and this, with other circumstances, render it necessary that the qualification by rating for members of the Local Board of Health should be at least proportionately low.

There is a considerable number of poor persons in the village, occupying small cottages, and it will appear from the



evidence of Mr. Phipps, in a subsequent part of this report, that a serious difference has arisen between the justices and the vestry, as to the propriety of excusing poor persons from the payment of local rates.

MINUTES OF PERSONAL INSPECTION.—Previous to laying before your Honourable Board the medical testimony, and vital statistics of the parish, I think it right to call your attention to what I personally witnessed during an examination of the village. I think you will conclude with me, that there is abundant cause for the excessive sickness and mortality. In this part of my duty, I was accompanied by the following, and other inhabitants, whose names did not reach me:—

Mr. Thomas Frost, gentleman; Mr. Charles Sneath, gentleman; Mr. Joseph Phipps, surveyor of highways; Mr. Daniel Mellor, collector of rates; Mr. Wright Allen, surgeon; Mr. Thomas Robinson, farmer and maltster; Mr. Anthony Wood, druggist; Mr. F. T. Shelton, solicitor; and Messrs. Joseph Anthony, John Hill, Uriah Wood, William Clay, John Worrall, John Stamp, and John Hickling.

The following are my minutes made upon the ground, but condensed considerably for want of space:—

*Minutes of Inspection, 5th January 1853.*

*Horse and Jockey Yard.*—Well has had to be deepened; examined the sand taken out, and found it the same as the Nottingham rock. The well was lowered three feet only two months since, and now stands about three feet of water. The water is 19 yards from the surface; the water level of the district is going down gradually; the quality of the water is good. Mr. Allen, surgeon, says he has only had one case of stone in 25 years. This well was previously lowered two feet about six years since. Mr. John Stamp said the water had gone down five feet in 20 years.

*Phipps' Trustees' property.*—Drainage of the pigsties complained of; it runs into the lane and stinks. One of the tenant says they have no water, but have to go half a mile for all they require. Three houses occupied by 22 persons.

*Front Street* has an underground drain. A urinal adjoins the Horse and Jockey; it also adjoins a butcher's shop with a window on that side.

*Mr. Wood's property.*—Has good water; the well was lowered last year. Some of the people say, that others sinking deeper would again dry it. The water is hard, and the tenants catch rain water for washing. Mr. Wood's farmyard drainage comes down to the road, and runs into the public drain;



it flows in an open offensive channel. Recommended him to make a tank in the yard.

*Thornton's property.*—Drainage bad; it flows behind in an open channel, and then in an underground drain under a house. Privies in a disagreeable state; the soil making its way through the wall. A draw-well on the property not used, because a drain has got into it. There is no other water on the premises; the people fetch from Mr. Brown's well. The arch of the brook or sewer is here above the street.

*Carnall's Yard.*—A large open yard; surface very bad, and unpaved; a foul surface. A draw-well which wants sinking lower, and has now no water in it; it has been dry ever since summer; this was caused by sinking others.

Examined *Charles Wheat's* house. A piggery adjoining is several feet above the level of the floor, and drains through the wall so as to make it damp. The tenant's wife says,—

“When the place is emptied it smells very bad. We fetch water about 200 yards, from Mr. Frost's spring. We go with one pail about two or three times a day. The spring is only running in winter; and at other times we fetch from Rhode's well, and I paid 4*d.* towards the bucket and rope before I was entitled. It is about 70 or 80 yards distance. We get 9*s.* per week wages; but candles, and seaming, and frame rent reduce it to about 6*s.*”

The tenants make holes in the surface for their manure. They have gardens. Each one has a separate hole, and there are five of such holes in this yard. Nine houses for two privies. In some instances, utensils are used in the houses; the privies are much complained of by the tenants of the adjoining property. There are deposits of night-soil on the surface.

*Mexbro' Place.*—Twelve houses in a narrow yard; no water at all. One of the tenants says, they have been without water for 18 years; they fetch from a distance of 400 to 500 yards, and have to wait for turns; before the well was destroyed the water was so bad it could not be used; all the tenants are crying out for water. About 80 persons live in the yard; there is a foul open channel down this yard, and in the next there is another open drain, similar, against the walls of the houses in this yard longitudinally; here again they have scarcely any water. The sinking of other wells around has dried this well, and the sinking of this will dry them.

Examined *Spout Lane Spring.* Now a very fine flow of about two inches diameter, but was dry for about six months during the past year; it rises in Mr. Frost's land. A great part of the town comes here for water, when there is any. Saw here the arch of the brook or drain passing down the



street; it is three feet diameter, and was formerly an open ditch. There is a considerable stench from it now.

*Bradbury's Yard.*—Most offensive drainage from piggeries and manure heaps, flowing all down the unpaved surface; people complain of it.

*Wm. Bramley's Yard.*—Similar bad drainage, but in this case, the pig drainage is aggravated by draining through the privy, and then over the surface to the street.

Mr. Frost has a large house, and a well 60 or 70 feet; it is the deepest well in the neighbourhood, and yet has been repeatedly dry this summer. It will be dry when a trough full is pumped for the cattle; it cost him about 50*l.*, only three years since. He considers himself better off for water than most of his neighbours; about six cubic feet will fill the trough, and will dry the well at times.

A very foul drainage from Mr. *Williams'* premises, coming through a wall at about eight feet high, and falling on the surface of the public road; it is a most offensive nuisance, and ought to be stopped. Mr. Williams is a solicitor, and tenant to Mr. Turbott.

Examined the trough near the church; the water flows from Derrymount Spring, and has not been dry; it becomes fouled, because cattle come to drink, and the children living in the neighbourhood commit nuisances about it. People fetch from here, but more frequently from the spout above, and many from the spring. It is close to the churchyard, and some of the inhabitants object to it, because only an 18-inch stone wall keeps the water from running on or into the coffins. The spring, however, is higher, and the well quite pure; the road below the trough is very foul, from the splashing and overflow of the trough.

*Mr. Worrall's Yard.*—No drainage except along the surface to the road. Six houses to one privy.

Joseph Grainger in one of the front houses complains of the stench from a grate at the corner of his house, where they have to throw in their slops.

*Alcock's Yard* is upon the rock, and has foul manure places, privy, &c. Much of the liquid must percolate the rock, and foul the springs. Pools are made for the manure in nearly all these properties.

*Wm. Henry Wright's property.*—Has a pool in the garden, eight or nine feet above the road. It now overflows, and the liquid refuse descends in a small cascade, six feet on the road.

Mr. Frost is the owner of a large house occupied by Mr. Page. The pump is dry, and the house has no water, but rain water. He has also three houses adjoining, very good property, but no water except rain water.



*Mr. Wm. Robinson's property*, occupied by Isaac Alcock. The yard is above the level of the road, and all the liquid from a great dung-heap runs down upon the road.

*Job Williamson's Yard* is similar, except that he has a pond from which the liquid manure finds its way to the road, when it overflows; the surface is very foul. Manure-heaps drain into the pond, and he says it is worth 2*l.* per annum; it is certainly liquid manure. The tenant who has it close to his door, denies it to be a nuisance, but says that a brick-kiln, which is being erected about 60 yards distant will be a worse nuisance to him.

*Pig T-d Alley* is, as might be expected, a filthy place. Bad thatched cottages, foul piggeries, and dirty yards. Many houses in this colony must have been built by squatters. Numerous dung-heaps, and all the symptoms of a very low state of civilization.

*Front Street, Top o'th' Town*.—A spout here has a good flow of water, and is never dry. This supplies the colony above named. The water is fetched 200 yards around.

*Mr. John Piggin's property*.—Foul holes, for liquid nuisance and ashes to make garden manure, are dug in front of the houses.

The brook is the common conduit of filth from the whole length of Arnold, and at the bottom of the village, people wash their houses with it, although the stench is stated to be at times unbearable.

*Mr. Samuel Robinson's property*.—Six houses, and one small privy adjoining the churchyard. The road into the churchyard is in front of these houses; it is very offensive,—all the slops, ashes, &c. being thrown upon it. In the churchyard it is impossible, for many square yards near the entrance, to place the feet without treading in deposits of human ordure. A new piece of ground was added to the churchyard, about three years ago; it was given by the Duke of Devonshire, who is the patron. The old part of the churchyard appears full; the new has not been much used.

Examined *Derrymount Spring*. It would now about fill a one and half inch pipe, and is never dry, but falls off to about half the quantity in summer.

*Celery Lane. Cragg's property*.—Has a foul place behind for ashes and refuse, and is made use of instead of a privy. It is complained of as a nuisance, especially in summer.

*Cross Lane. Mr. Bramley's property*.—Publican and horse dealer; most horrible privies behind the houses, and within nine feet of the water well. I was informed that grubs of great length had been drawn out of the well. Ann Morley lives in the house, and says if persons were to come in summer they could not live in the house. She is a washer-



woman, but the water is so bad she has to fetch all she requires from a considerable distance.

*Baptist Chapel.*—Only a few burials in the ground, and no house quite adjoining. It needs no interference, as no interments take place here now. Just below, on the public road, a privy drains through a hole in the wall that belongs to Josh. Lee, and is very offensive.

*Daft's Lane.*—Behind the Robin Hood very offensive piggeries; great numbers of flies brooding over them. The pigs have no bedding but manure.

*Blackbird Row.*—One privy to six houses, containing 37 persons. Water has to be fetched 600 yards. No drainage, and abundance of filth-holes. Tenants complain much of stench.

*High Street. Wm. Oscroft's property.*—Four houses, and two others belonging to Mrs. Moore. None of them have any water.

*High Street.*—Mr. Frederick Pemberton's farmyard adjoining the road is very offensive.

*Free School and School House.*—No water on the premises. Tenant says there is some water in the well, but no bucket.

*Mr. Morley's property* is complained of by one of the tenants. A privy and piggery at the end of the house makes the wall damp, and the house offensive. From this place southward many of the houses have to fetch water from the end of the town.

*Bond Street.*—There is a great collection of houses here, with a draw-well. One of the tenants says they do not use it for tea, it is too hard; and all the people fetch from Spout-lane when that is running; and when not, they go to Derry-mount or to Bottom Spring. Privy-places and dung-heaps bad. Mr. Phipps says there has been much sickness in these houses. One privy to nine houses. *Josh. Hopkin's* wife says seven persons died in the house in less than fourteen months, and yet she defends the ashes-heap to receive the suds and slops. She says they cannot use the well water for tea. The family died from small-pox and decline. Another draw-well at the top of Bond-street has been sunk three times in 25 years. It may have been drawn out half a dozen times. It is said to be good water, but the supply is small. I had some drawn, and found it not good. The well is 23 yards deep, and supplies about 30 families. One man says that after a bucket has been drawn another cannot be got without mud. In summer there are grubs in it.

*Falconbridge's property.*—Seven houses without water, and only one privy. There is a well, but it has no water. The people fetch from the Bottom Spring, at least 500 yards distant.



*Mrs. Roger's property.*—Has a draw-well, but the water is so hard that it cannot be used. The well was sunk about four months since. It is 24 yards deep, and is the only supply for nine houses. Fetch water from the bottom of the town. There are two privies for these nine houses.

6th January 1853.

*High Street. Johnson's property.*—Four houses ; no water ; filthy privy ; without any ashpit. A hole very dangerous. Heaps of ordure on the ground. In this neighbourhood it was stated that a dog was thrown into a well a few years since, and remained there until the water stank, so that the neighbours could not use it.

*Mr. Leverton's property.*—Most filthy privies ; heaps of ashes and dung. Eight houses, and only a well with water that cannot be used. Dung-heaps and piggeries within four feet of all the doors.

*Diggle's Yard.*—A bad draw-well, and a foul stagnant channel within five feet of it, in which the liquid refuse stands several inches deep. The water of the well is said to be like "sludge" after two or three buckets have been drawn.

*Broad Moor Lane. Miss Jones' property.*—The same sort of dung-heaps. Water well not used. Drain under a house floor, and choked up.

*Holt's Row.*—Nine houses. Deposits of ordure. Filth-holes as before. One well, and the water not used, except for slopping.

*Miss Bullock's property.*—Two most horrible filthy privies. Great heaps of filth on the seats, and on the floor.

*Knight's Row.*—The same sort of thing. Six houses. No drainage. A great foul pool, very stinking, now quite unbearable. A well, but no water.

*Bramley's Row.*—Nine houses. Very bad stagnant drainage. A draw-well, from which the water is said to be very bad. It must be fouled from the surface.

*Red Hill.*—Malt rooms not worked. The property is on sale, but there is no water, and therefore the buildings are less eligible for the purpose of malting.

*Breffitt's property.*—The well has been sunk deeper during the last year, and now the tenants have water. About eight houses. A foul stench from the dung-holes.

*Winter's property.*—Four houses. Water very bad. One of the tenants says it is not fit to drink. Foul stagnant channel in front of the street, which is the Mansfield turn-pike road.

*Pleasant Row.*—Six houses. The best cottages I have seen. There is water, but not very good. The tenants say



that when three or four buckets have been drawn there is always mud, and when it stands awhile there is sand.

*Daybrook. Mrs. Kelk's property.*—A draw-well. Tenants say that grubs are drawn up in summer. A pigsty within about six yards. Examined water. Forced to let it stand a long time in summer, it is so muddy. There is a hole full of nasty stinking water, within about nine feet of the well. The tenants say that they can draw up dozens of grubs at a time in summer. Another very filthy privy, and more manure-holes within about six yards of the well in another direction. No wonder at the water being bad. This is a detached part of the village, and nearest to Nottingham,

*Atkinson's property.*—Very open court, but a great number of dung-holes. Get water partly from the brook which has flowed entirely through the village. 43 houses, and one draw-well for them all. The bucket is gone, and the rope is broken. The collector of the rents says the landlord has no business to find them ropes. Rent 1s. 6d. per week, per house, except three houses which are 1s. 3d., and one 9l. per annum. The well is about 16 yards deep. Had some water drawn, and found some matter in it like sand. A worm was in the first bucket. It does not fail in summer. It was sunk deeper last summer, however, and was short before.

*Mr. Fox's property.*—10 houses. A well, but no rope or bucket. Tenants say there is no water in it. Some chamber utensil has been recently emptied out close to the well. Below there is a very foul wide deep channel, much complained of. It is stagnant, and a great nuisance. Mr. Wm. Walker, farmer, complains, and says *he has been contending with it for 20 years.*

*Cottage Row. Leverton's property.*—15 houses. Drainage, privies, manure-heaps, all very bad. One draw-well sunk last summer for all the houses.

*Folly Yard. Burrow's property.*—Two houses. A draw-well and a privy within about nine feet of each other. The well has been nearly without water. Nothing but foul water and sand, and privy grubs drawn up in summer. It has to supply 11 houses altogether. When there is no water here, the people go a quarter of a mile for water.

The Infant School has 123 scholars, and no water. 90 to 100 are in regular attendance. A schoolmistress' house adjoining, also without water.

*Knight's property.*—Some very foul piggeries which, when it rains, overflow upon the road. Water is also scarce here. People have to fetch from the Bottom Spring in summer.

*Mrs. Bramley's property.*—No drainage. All stagnant at the back of seven houses. The tenants complain that the stench is very bad. Abundance of ordure and green filth,



solid and liquid. There are two filth-tanks which were made by the landlord, and the deputy says the tenants ought to empty them, and they had better pay their rents more regularly than complain. This is the worst back-yard I have seen. Very tolerable water from a draw-well, which has been lately cleaned out.

*Hallam's Lane Spring* is a branch from the Bottom Spring, and has a spout on the brook side, useful for the houses there, but when dry weather comes it fails, and people have to go to the Bottom Spring.

Examined the *Bottom Spring*. It would now fill a 3-inch pipe, but in summer falls off until it is only as thick as a man's finger.

*Miss Jones' and Piggin's property*.—A foul and stagnant ditch about five feet wide among the houses and gardens. It is black, and bubbling with foul gases, and is calculated to be very injurious.

*The Hall Yard*.—Well without water. Manure-heaps, salted over with dry matter to screen them. 11 houses, and only one privy.

*Deane's Yard*.—Butcher's premises. No drainage; the filth flows all over the surface of what a woman there called a flower-bed, but which is a filth-quag.

*Baptist Chapel*.—Burial-ground about 17 by 7 yards, and only a few graves. It is adjoining the road, but only two houses are near. It need not be interfered with. About 30 bodies altogether have been interred.

Your Honourable Board will have noticed in this account of the condition of Arnold the frequent mention of holes made in the ground to receive filth. Many of the cottagers have small gardens in front of their houses, and they make a sort of puddle-dams in front of their doors with soil and ashes. Into these holes (there being no drainage) all the refuse of the houses is poured; and being then mixed up with the soil and ashes, is used to fertilise the gardens. Such places are offensive, and the practice cannot but be injurious to health.

**DISEASE AND MORTALITY.**—Under this head I shall merely give the evidence brought before me at the Inquiry. *Wright Allen, Esq.*, surgeon, said,—

“I have been practising as a surgeon in Arnold nearly 25 years. I am well acquainted with the sanitary condition of the inhabitants. I am medical officer for the Arnold district of the Basford Union. I have had that office twice, making eight or nine years together.

“I have found common fever to be the great prevailing disease. That is what is called low fever. There are not always cases, but



it is most prevalent at the latter end of the year. We are subject to eruptive diseases, such as scarlatina and measles, and we have a good many cases of consumption. Taking the place as a whole we have not had much small-pox, but it was bad two years since. I should think there were 150 cases, but I cannot state exactly. I attribute them to a prejudice against vaccination, and, in some instances, to the people vaccinating themselves, without knowing that it takes proper effect. I vaccinate gratuitously as far as the poor are concerned. I had many cases where persons had been vaccinated, but no deaths of such that I can remember. There were two deaths from small-pox after natural small-pox. On the whole I considered those who had been vaccinated had the small-pox in a milder form than they would have had if they had not been vaccinated. I have vaccinated a second time, and so far it has been a protection.

“Scarlet fever prevailed three years since, and there were many deaths. It assumed the malignant form in some instances, almost approaching to plague. Some were carried off in 24 hours. Sloughing of the throat was the peculiar symptom, causing death. I cannot tell the number of cases or of deaths. I did not observe any organic disease subsequent and consequent on the scarlatina. In many instances, however, there was continued depression of the constitution afterwards. I cannot say that I observed that any persons who had scarlet fever had small-pox afterwards. The measles generally appear in a mild form. The low fever sometimes runs on to typhus, but rarely to the malignant form of typhus.

“I may say that the diseases have been mainly confined to the lower classes, who are frame-work knitters. I cannot say that there is any particular spot in Arnold where these diseases have been more severe than another. Mexbro'-place has been one locality where it has prevailed; Daybrook, Cottage-row, and Bond-street are others.

“I have considered a great cause of disease in this parish to be poverty, and it is one that I have had the greatest difficulty to contend with on behalf of the union.

“I consider that the nuisances existing have been one great means of entailing disease upon the inhabitants, but I have never been led to attribute disease here to bad water. I have not known persons complain of the water they drank. I think the rock water here is a very good water for dietary purposes. I know that it is, and has been, a difficult article to obtain. I do not think, however, they economise water on that account, but I do not believe they have used enough of it for their own cleanliness. Some would, no doubt, use more water if they had it conveniently; but, I fear, some would not. As the arrangements are now they would have more labour or cost in fetching a greater quantity. I think that every property in this parish ought to have as good water as any man need to drink. If the drainage of the property was more attended to, the health of the town would be far better. I should say the same if more water was used.

“I consider that Arnold is naturally a healthy place, and freer from epidemics than many other places. We never had a case of



Asiatic cholera during the whole time it was prevailing in Nottingham. From the naturally healthy character of the place I should conclude that the causes of preventible disease are more intense. We are, fortunately, not a very dense population, but are spread over a larger surface, so that there is better external ventilation. The fact that disease is produced by poverty, which cannot be prevented, is an additional reason undoubtedly why such other causes of disease should be removed as can be removed; and I am of opinion that what the Public Health Act can do for the health of the inhabitants should be done."

The following is a copy of the return of the Registrar General, made in accordance with the Public Health Act:—

The total Number of DEATHS in the parish of ARNOLD, in the county of Nottingham, in each of the seven years ending 1851, together with the proportion of deaths to 1,000 living during that period; also the deaths in the same years from zymotic diseases.

—	1845.	1846.	1847.	1848.	1849.	1850.	1851.	Total.	Annual deaths to 1000 living.
All deaths - -	75	139	90	128	89	101	110	732	22
Deaths from zymotic diseases -	7	25	9	44	13	11	35	144	

(Signed)

GEORGE GRAHAM,  
Registrar General.

General Register Office,  
1 Nov. 1852.

The above return being made before the close of the year 1852, necessarily terminated with the preceding year. It shows, however, an average mortality of 22 to a thousand; which, considering the natural advantages of Arnold, is excessively high. My inquiry took place early in the present year, when the mortality of 1852 had been ascertained, and it was therefore practicable to bring down the average to the present time. This I have able to do by a return prepared with considerable labour by R. B. Spencer, Esq., Superintendent Registrar of the Basford Union. The return shows the numbers of births and deaths, and the ages of the deaths in each of the seven years ending 1852; also the numbers of deaths from zymotic diseases during the same years.

In the year 1846 the return of Mr. Spencer gives four more deaths than the Registrar General, a circumstance for which I am unable to account; but it is certain that



Mr. Spencer's details, as to the numbers of deaths at various ages, agree with his total number. In each of the years 1847 and 1850, also, there is a difference of one death; but these discrepancies are so small as not appreciably to affect any conclusions that may be come to upon the average of the whole period.

From the return made by Mr. Spencer, I have calculated the table of mortality in the following page, in which your Honourable Board will perceive that the headings of the columns are those to which I have adhered in all my reports, as being, from experience, the most convenient; and, from their uniformity, affording great facility for comparisons between differently conditioned districts.

For the assistance of those who may not be accustomed to the analysis of statistical tables, I think it right to add a few explanatory remarks on the more important facts disclosed by these calculations.

Comparing the Registrar General's return with Mr. Spencer's, I find that the year 1845 was unusually healthy in Arnold, the mortality being less than three fourths the average. This will account for the fact that the annual deaths to a thousand living, during the seven years ending 1851, was 22 in a thousand; while the annual deaths to a thousand, in the seven years ending 1852, is upwards of  $23\frac{1}{3}$  in a thousand.

In this table I have calculated the increase of population for each of the seven years, according to the ascertained rate of increase between 1841 and 1851. The figures may, therefore, be taken as strictly correct, for all practical purposes.

For the purpose of comparison, I have added to the table similar averages of the most recent calculations as to the condition of 61 whole registration districts in England and Wales, containing more than a million inhabitants. These districts contain many towns and places much larger than Arnold, and capable of great sanitary improvement. They are situated in all parts of the kingdom, and, including so large a population, it may be fairly concluded that Arnold ought to be, at least, equally healthy. I regret to say that such is far from being the fact, as the following considerations show.

The annual mortality to a thousand in Arnold is  $23\frac{1}{3}$ , but in the districts with which I have compared it it is only 16 to a thousand. The difference is nearly as 3 to 2.

To put the fact more popularly, as in the next column, out of every 43 human beings in Arnold, *one dies annually*, while among the million of people, with which I have compared it, only one dies annually out of every  $62\frac{1}{2}$ . In plain figures, the average deaths should only have been 75 instead



## PARISH OF ARNOLD—RATES OF MORTALITY.

Year.	Popula- tion.	Total Number of Deaths.	Total Number of Births.	Mortality to a thousand of the population.	Proportion of Deaths to the population.	Proportion of Births to the population.	Proportion of Deaths of Infants under 1 year to the Births.	Proportion of Deaths from Zymotic diseases to the population.	Average Age of all who have died.	Average Age of all who have died above 20 years.	Proportion per cent. of Deaths at each interval of Death to the Total Deaths.											
											Under				Between							
											1 year.	5 years.	15 years.	20 years.	20 and 30.	30 and 40.	40 and 50.	50 and 60.	60 and 70.	70 and 80.	80 and 90.	90 and upwards.
1846	4,604	143	177	31.06	1 in 32	1 in 26	1 in 4	1 in 191	Yrs. 26½	Yrs. 56	30.8	46.1	51.0	55.2	5.6	7.7	1.4	9.9	7.0	10.5	3.5	0.0
1847	4,624	91	158	19.68	50	29	6	578	25½	48½	27.5	40.6	47.2	49.5	9.9	13.1	5.5	4.4	8.8	5.5	2.2	1.1
1848	4,644	128	161	25.41	36	28	4	113	21½	60½	30.5	55.4	67.2	67.9	3.1	4.6	2.3	1.6	5.4	9.3	4.0	1.6
1849	4,664	89	174	19.08	52	26	6	359	30½	56	33.7	40.4	46.0	47.2	9.0	6.7	7.8	2.2	4.5	14.6	7.8	0.0
1850	4,684	102	163	21.77	46	28	5	669	30½	60	29.4	39.2	46.0	51.9	3.0	2.0	6.9	7.8	12.7	9.8	4.9	1.0
1851	4,704	110	182	23.38	43	26	5	138	22½	59½	35.4	50.0	61.8	63.3	3.6	2.7	5.4	1.8	5.4	10.0	4.5	0.0
1852	4,724	99	194	20.95	48	24	6	393	28½	54	31.3	43.4	47.4	48.4	12.1	3.0	6.0	6.1	7.1	11.1	6.0	0.0
Averages . .	4,684	109	172½	23.37	43	27	5	233	27½	56½	31.2	45.6	53.1	56.0	6.3	5.6	4.7	4.8	7.2	10.1	4.6	0.5
Sixty-one Registration Districts in England and Wales.	1,003,124	16,063	28,280	16.01	62½	35	11	449	37½	60	16.0	27.5	34.4	38.4	7.8	5.9	5.6	6.8	10.0	13.3	10.0	2.0



of 109; and, therefore, the annual excess of deaths in Arnold by this test, is 34.

All vital statistics show that, amidst a population in a defective sanitary condition, a great number die during infancy; and that, by a law of Providence, these excessive deaths of infants are, to some extent, compensated by an increase of births. This is found to be the case at Arnold, where the proportion of births is annually 1 in 27 of the whole population; while in the districts below, the proportion is only 1 in 35. The difference between these proportions is, that in a comparatively healthy state of the population there would be 133 births annually, instead of an average of  $172\frac{1}{2}$ . The excess is therefore nearly 40 per annum.

The proportionate deaths of infants is one of the most infallible tests of the sanitary condition of any district, because infants spend most of their time in or near to their dwellings, and are more susceptible of atmospheric influences than adults; besides which, they are not directly affected by some of the causes which are stated to be injurious to grown-up persons. Again we turn to the table, and find, notwithstanding the excessive number of births in Arnold already referred to, that out of every 5 infants born, 1 dies under a year old.

In the populous districts with which I have compared Arnold, the proportion of deaths under a year old is only 1 out of every 11 born. The difference is, that less than 15 of such infants should die annually, whereas the average number is 34.

The same sad truths are apparent in the series of columns with which the table concludes, showing the proportion per cent. of deaths, at various ages, to the total deaths. Under one year old, nearly a third of all the deaths in Arnold take place; while in the districts used for comparison the proportion of deaths at that age is less than one sixth.

Without enlarging upon each of this series of columns, I may observe, that in Arnold 56 per cent., or considerably more than one half of the deaths, are of persons who have not attained the age of 20 years; while in the figures below representing more than a million population, the proportion is only a little more than 38 per cent. Stating the case in absolute numbers, the annual average of deaths under 20 years in Arnold is 61; whereas, in proportion to the districts quoted, it ought to be only 41.

One result of this excessive infantile mortality is, that the proportions of adult deaths to the total deaths are greater in the more healthy localities, because there is a greater number of survivors there. This fact is apparent from a comparison of the averages, at every age above 20 years, but especially marked at all the intervals above 50 years of age. In the



61 registration districts *one third* of the deaths are of persons between the ages of 60 and 90, and 2 out of every 100 exceed the age of 90. In Arnold, however, the deaths between 60 and 90 are only about one fifth, and only 1 person out of 200 exceeds the age of 90 years.

It will be unnecessary that I should extend these remarks by any lengthened description of the class of diseases usually called zymotic. It will be sufficient to say that they include fevers of different forms, and that medical practitioners are universally of opinion that they are more or less preventible. The concurrence is so great, that such diseases are commonly called preventible,—the means of prevention being efficient sanitary arrangements. No one, capable of judging, now doubts that such diseases have their origin, to a great extent, in unremoved decaying refuse and filth. These preventible diseases are of very fatal character, and, even when the patients recover, are attended with great pecuniary loss. The table contains a column showing the proportion of deaths from such diseases to the population, and it will be seen at a glance that in Arnold such proportion is nearly double that in the districts used for comparison. About 20 persons die annually in Arnold from such diseases, and every such death represents nearly 30 recoveries from the same diseases. If the deaths from these zymotic diseases were prevented in Arnold, they would reduce the rates of mortality as follows:—

Average absolute Mortality - - - -	23.37 to 1,000.
Average Mortality from Zymotics - -	4.26        „

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19.11

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The remainder, a mortality of 19.11 to a thousand would be still high, but it would be undoubtedly *lower* than that of the whole country, including all the large towns.

I have only further to direct attention to the columns showing the average ages at death of all who have died, and of all who have died above 20 years old. It appears that in Arnold the average age at death is  $27\frac{1}{2}$  years, while in the districts with which I have compared it the average is 37 years and 5 months; so, that every individual born in Arnold is at present losing comparatively about 10 years of the attainable duration of life.

The next column shows that those who have survived to years of maturity lose, on the average, 3 years and 10 months each of their lives, as compared with the actual duration of adult life at present among more than a million of their fellow-subjects.

In this comparison I have endeavoured to avoid extremes, or I might have shown that among the Society of Friends,



spread over the whole surface of the country, and many of them living in the most unhealthy towns, the average duration of life to all born is stated to be more than 51 years, and the rate of mortality less than 10 in a thousand annually. Sufficient has been stated to excite serious consideration, and it is to be hoped that all who have influence will unite in remedying the evils which have conduced to the excessive disease and mortality at present existing among the inhabitants.

**DRAINAGE AND SEWERAGE.**—I have already indicated under the head “Epitome of chief Topics,” and shown more fully in the “Minutes of Inspection,” the very defective state of the sewerage and drainage, and shall, therefore, only quote, in addition, from the evidence of Mr. *Phipps*, one of the surveyors of the highways, and, therefore, the only local officer having any jurisdiction in such matters. He says,—

“As to drains in the town; the brook is arched over, nearly through the village. If there were a better supply of water we should close up those places that have been left open for the purpose of enabling persons to take water for domestic purposes. The brook, serving, as it does, as the main sewer of the whole, is quite unfit for use, even in cleansing houses.

“There is a covered drain in part of Back-street. Neither of these is deep, there being only about a foot of soil above the brickwork. There is another public covered sewer near the Cottage-row, but it is only about 30 yards in length. What I have described is all the public drainage in Arnold.”

**WATER SUPPLY.**—On this topic I have much difficulty in dealing with the evidence given at the inquiry. I do not know that in all my official experience I have met with a population equal to that of Arnold, suffering so great deprivation with respect to water. The inhabitants experience such great distress that I felt compelled to urge upon them to withhold further evidence, on the ground that I should be unable to embody it in my report. I shall take the responsibility, under such circumstances, of condensing their statements, and trust your Honourable Board will consider that, with respect to water supply, Arnold is almost an exceptional case; and, on that account, will excuse the length of the evidence.

Mr. *John Stamp* said —

“I have been in business as a plumber in Arnold about 27 years, and my business has caused me to have a good deal of experience in water-wells, and their cost. The average depth of the wells is about 18 yards, and the diameter about 4 feet. There is generally from 2 to 5 yards of brick lining, but some wells have the rock to the surface. I should think that one half



would have pumps, and one half would be draw-wells. The cost of well-sinking is about 5s. per yard. The draw-well would have a stone frame, windlas, &c., costing about 5l. The pumps are generally 4-inch lead barrels, with brass cylinder, and screw valve, and wood case, costing complete about 26l. or 27l. That would be one of the best pumps. Common pumps can be fixed complete for 17l. This last would be the description most commonly used. The work never can be done for much less than that; though the price of lead, of course, varies. Such a pump would cost annually in repairs 7s., if used say by 10 or 12 houses. I cannot state the cost of repairing windlas, &c. of the draw-wells. Cleaning out once in four or five years would cost 5s. I have known the same wells deepened twice or three times. The water has gone down 5 or 6 feet. If this were done at twice, each time would cost 20s. to 25s. for sinking a yard; or, say a shilling for every yard depth of well. The pump would be 30s. each time for a yard deep. We always find water by going the additional depth. We have fixed soft-water cisterns in some of the middle class of houses. The cost of those would vary with the size. I think they cost 9s. to 10s. for every hundred gallons, and then the pump would lay to about 3l. The average size is about  $6 \times 5 \times 4$  feet. They are excavated, and built with brick, and arched over. The cisterns are generally in the yard, and the pumps in the houses. The cisterns will require cleaning out about once in three or four years, and cost 2s. 6d. to 3s. each time. The pump repairs would be about 2s. 6d. to 3s. per annum. There are some hard-water pumps in the houses, but they are generally outside. Not one in twenty houses has a soft-water cistern. Many of those who have not cisterns buy soft water from those who have. I do not know what price is paid for it. Many persons have tubs for storing soft water; they cost from 10s. to 1l., and fixing them, 6s. or 7s. more. Some of them are covered and painted. I should say they would last about 10 years. Some of them are painted in the meantime, costing perhaps 6d. per annum. There are smaller tubs, and they are sooner destroyed. I think the best tub would be quite as cheap in the long run as the inferior ones. Both buckets and cans are used, but the buckets are chiefly used. Buckets will cost 2s. to 3s. 6d. according to quality. Some would last 10 years, and some would be worn out in five. Cans would cost about 2s., and would be destroyed in about two years. None of the well water in the village is soft enough for washing."

Mr. *George Newton*, plumber, corroborated at length the evidence of the preceding witness, and said,—

"There is a necessity to be continually deepening the wells. It is my experience that the deepening of one well will abstract the water from another well. There are several that were sunk last summer that are dry again now."

Mr. *Thomas Johnson*, well-sinker, also gave corroborative evidence, and put in an account of the numbers of pump-wells and draw-wells, as follows:—



Place.	Pump-wells.	Draw-wells.	Total.
Main-street - - -	30	18	48
High-street and Bond-street -	3	15	18
Butts and Cross-lane - -	5	12	17
Red Hill and Clay Brook -	9	19	28
Broad Moor-lane and Folly -	-	12	12
Totals - - -	47	76	123

He added,—

“25 draw-wells and 16 pump-wells have been sunk during the last twelve months. 30 draw-wells and 6 pump-wells are now short of water, and require sinking. Some wells that I sank four years since, I have had to sink again; but most of those sunk within three years have water.”

Mr. *Ira Stafford* said that his well had been sunk within a year and a half, and was now short of water; and that though Johnson might have spoken correctly, as far as his experience extended, yet there were many wells which had been sunk within three years, and were now short of water, and that in most of the wells the drawing of a few bucketfulls would dry them for a time.

Mr. *John Worrall*, builder, also corroborated Mr. Stamp's evidence, and said,—

“The first cost of stone frame work, windlas, rope, and bucket, is 4*l*. The annual repairs for each, on the supposition that the well is used by 8 or 10 houses, would be 5*s*. per annum.

“There are persons in Arnold who buy soft water at a farthing per bucketfull, and at three bucketfulls for a penny; but there are seasons when it would be difficult to get it at that price. The purchasers would have to fetch and carry it in addition.”

Mr. *Phipps* said,—

“Many of the inhabitants have to fetch water from considerable distances. The whole of Bond-street, containing 60 or more houses, have to fetch water an average distance of 563 yards. Going and returning would be double that distance. High-street, the upper end, including Blackbird-row, Cross-lane, and Daft's-lane, containing 120 houses, have to fetch water 693 yards. In the winter season, however, many of these can obtain water nearer.

“The general outcry which I have found in the execution of my duties as district registrar, has been a lack of water; and when I have found filth in and about the houses, the people have often attributed it to the want of water.

“I have been eye-witness many times to the poor children, without stockings or shoes, in all states of the weather, and on Sundays as well as week days, having to go these distances for water.”



From the evidence I have already given it would be obviously easy to extract the figures, and to calculate the cost of water approximatively to each family, and to the population as a whole. The great extent of evidence, to which I must still allude, precludes me from doing this, but any of the inhabitants will be able to do so; and the addition of a very reasonable sum as the expense of fetching and carrying water will show that, even to the poorest cottager in Arnold, the present arrangements for water are many times more costly than a constant supply of pipe-water, with a tap in every house. I must, however, refer briefly to other inconveniences.

*Mr. John Hickling* said,—

“The position of the wells and their cost have been looked at; but I have been an eye-witness of kittens, puppy dogs, skins of various animals, rats, and the remains of a putrefied sheep, being drawn out of wells. These things happening, the hair has come off the animals, and I have seen hair in my own tea-cup, and having examined the kettle have found a considerable quantity of hair in it. Weeks have been required, after any such animal has been drawn out, before the well has been clear of these nuisances.”

*Mr. John Hallam* corroborated this evidence, and instanced the well which he has to use, but which is now dry. The entrails and skin of a sheep were taken out, and several persons were made seriously ill from using the water, as the animal appeared, before death, to have been treated with some poisonous ointment. He added,—

“About three months since we found that the well had got foul, and while the work of cleansing was going on a half-grown kitten was found in it. We heard it making a noise at the bottom of the well, and, after much contrivance, got it out alive.

“The well will not yield more than half a bucketfull of water at a time, and that is a well which is the only supply for six houses. We have now given up drawing it, and fetch from the springs or spouts, but chiefly from Derrymount, which is about 1,200 yards there and back.”

*Mr. James Berkin* gave evidence to a similar effect. There had been no water at all to his house and some others for four years.

*Mr. Wm. Frear* said,—

“My father-in-law, Thomas Maddock, had a daughter about eight years old, who fell into the well at Daybrook, but was fortunately got out alive by her brother.”

*George Wildgoose* gave lengthened evidence, from which I can extract only the following:—

“There was a child fell into a well in Carnell’s-yard, but they saw it fall in, and the father got down in time to save its life.



Joseph Jew, in the same neighbourhood, had a child that fell into the well, and its father got it out alive. George Brown's child fell into Hulse's well, and Thomas Houghton succeeded in fetching that out alive.

"It is a very usual thing to wash potatoes in water in which other potatoes have been previously boiled, because people are so short of water. It is almost as common for women to give the suds away after washing clothes to others, who use them again for a similar purpose, as it is to throw them away after only once using."

Mr. *John Hill* gave evidence to similar effect, and proved that in the dry season they fetch water from a distance of 690 yards. When a fall of rain comes they preserve it in every vessel they have, even in bottles.

Mr. *John Clayton* proved that the sink-water remained stagnant close to the well his family had to use; that the privy was only a yard and a half from the well, and that both these nuisances drained into the well. He added,—

"There is no water in it now, but when there was it was full of nastiness, sinkhole, snails, toads, frogs, and anything that could get in."

Mr. *Josh. Bailey* gave evidence, from which the following is an extract:—

"I have seen as many as 50 persons waiting at the spout near my house for water, and I have had to wait an hour before I could get a turn, although I lived close by. In winter time, especially on Saturdays, I have seen many children come, without shoes or stockings, when it was enough to perish them with cold before they could get back again."

*Thos. Frost, Esq.*, said,—

"I have been solicited from time to time, for more than 20 years, to promote a supply of water and other sanitary improvements, and have incurred considerable expense, and have many times received the thanks of the people.

"The occupations of the inhabitants require cleanliness, and I am confident that a supply of water will be considered the greatest blessing. I should say the same of improved sewerage, and the means of removing filth from the village."

Mr. *James Brian* gave evidence to the same effect. He thought that if the Derrymount and Butts springs, and some other springs at the top of the town, were brought together, there might be a supply for the inhabitants.

I cannot occupy time by further remarks on this part of the subject, except to say that there is certainly very much more water flowing down the brook than would suffice to supply all the inhabitants of Arnold, if arrangements be made to intercept and collect it together, near the sources of the springs.



CONDITION OF DWELLING HOUSES.—Some of the more recent cottages are are very convenient, and the greater portion are capable of being made healthy dwellings, but there are some, especially at the upper end of the town, which certainly are unfit for occupation by human beings, or indeed by any breathing animals. I have already spoken of the privies and other appurtenances; the bad condition of which, undoubtedly, aggravates the evils of want of ventilation and breathing space in many of the smaller cottages. Considering the very confined state of some of these houses, I cannot doubt that the establishment of a public wash-house would be of great advantage to the inhabitants, especially the poor. On this subject, Mr. *F. T. Shelton*, solicitor, said,—

“In December 1846 the consent of the Secretary of State was obtained for the construction of baths and wash-houses under the Act. Commissioners were appointed, but it was found that there was no power to break up the streets to convey water to the establishment. Mr. Frost was then surveyor of highways, and we could have got his consent for the time, but it was thought that any future surveyor might refuse to allow the pipes to remain; and as Mr. Frost’s year of office had nearly expired, and would expire before the pipes could be laid, the scheme was abandoned. With some more permanent local authority it would be desirable to revive that scheme. It was intended at that time to supply with water the houses situated along the line of pipes from the spring to the institution, and to make a small charge for such supplies, but it was also found that there was no power to enforce such charge.”

CONDITION OF ROADS AND SURFACE CLEANSING.—The Minutes of Inspection have shown the very defective condition of the surface of court-yards and private places. I regret to say, that I found the state of the public roads very little better. Many of them were in an indictable state, and nearly all greatly dilapidated, and very unclean. This appears to have arisen from a misunderstanding between the ratepayers and the justices, in consequence of which no rate for the highways has been granted for some time.

I regret being compelled to enter into the dispute, but as I cannot suppress the evidence of Mr. Phipps, the surveyor of highways, whose statements were generally confirmed by the inhabitants present, I feel bound also to quote the following letter from the Rev. G. F. Holcombe, the vicar, and also an active magistrate :—

“Sherwood Lodge, Jan. 5, 1853.

“SIR,—Having seen a notice of a meeting to be held this day, for the purpose of hearing any complaints that the inhabitants have to make of existing nuisances, and being prevented by county business at Nottingham from attending, I think it right to inform



you that the petition has never been laid before myself, and scarcely, if at all, before any of the principal ratepayers, on whose part, as well as my own, I beg to call your particular attention to the circumstances under which the petition has been got up; and also to the very great injury which the Board of Health, unless duly apprised, may inflict upon the ratepayers and owners of property, if a petition got up like the present should induce them to carry the Act of Parliament into effect without full information as to the objects and designs of the petitioners.

"I shall be happy to give you to-morrow, or at any future time, any information you may require, and assure you that where grievances do exist I shall be most happy to promote their removal, as also are the guardians. Having been incumbent 40 years, and a pretty active magistrate also, you will allow my experience and knowledge of the parishioners to have some weight, and believe me, Sir,

"Yours obediently,

"G. F. HOLCOMBE.

"PRIVATE.

"P.S.—Mr. Atkinson, my representative and resident curate, and also Mr. Spencer, the excellent clerk of the board of guardians, will explain the great reluctance of the minor ratepayers to pay highway rates, out of which you will find this business has principally arisen, in the hope that a board elected in vestry by themselves would exempt them from this payment."

I was compelled to say, that, as a stranger, directed only to make a public investigation, I must treat all communications as being public and official, and could not receive them in any other manner. I regret that the vicar did not attend during the whole of the inquiry. Mr. Atkinson and Mr. Spencer were both present, and the investigation was continued until I had heard all persons desirous of being heard before me, but no further information was afforded me upon the subject, except in the evidence of Mr. Phipps.

I feel bound also to say, that I think the vicar is unintentionally mistaken in the assertion that the petition for the Public Health Act had special reference to any exemption from payment of highway rates.

My reasons for this conclusion are, first, that not any of the documents, the petition, or correspondence, either before or during the inquiry, except the above letter, refer to such matter; second, that though 16 witnesses gave evidence as to the defective water supply, and many others urged the necessity of the application of the Public Health Act, for reasons stated, this unfortunate dispute as to the highways was not, and has not been, adduced as one of them; third, it was part of my public duty to inquire of the surveyors as to the superficial condition of the parish, and the repair of the highways, and the evidence of Mr. Phipps was given to



account for their dilapidated condition. There was no anxiety or forwardness to give the evidence, but I inferred from the casual expressions dropped by those present during the examination, that the facts were as stated by him. He said,—

“I am one of the surveyors of the highways for the parish of Arnold. We are placed in office under very disadvantageous circumstances. I have only been in office since last March. During the two years ending last October there has not been a rate granted for the repair of the highways. We have applied for one, but the justices have refused to grant one, on the ground that the previous rate had not been sufficiently closely collected up. For years past it has been the custom to make out an excused list, including the empty property, and such list has amounted to about 50*l*. Independently of the empty property, the list would be about 45*l*. I should say there would be from 300 to 400 names in the list out of about 1,025 ratepayers. At the present time we have collected up to 30*l*.; and although we are under an indictment, they still refuse to grant a rate. We are threatened with indictment in another part of the parish as well. The magistrates have decided that there shall be no excused list. It has been usual for several of the inhabitants, along with the surveyor, to make out such a list, and a vestry meeting of the inhabitants has been called for that purpose. We called the meeting in the usual way, by posting two notices on the church doors; but on our collector putting them on, our magistrate, the vicar, ordered them to be taken down, on the allegation that they were not legal. The notices were signed by the two surveyors of the highways and the parish churchwarden. The collector refused to remove the notice, and the vicar took it off and gave it to the collector. In consequence of this we did not hold a vestry meeting, and have since done nothing in respect of calling another meeting. I and my colleague are both some money out of pocket. We have 34 miles of road, and not a man employed upon them. The last rate was 10*d*. in the pound. The sum total levied by that rate would be about 340*l*. The defaulters have not all been summoned before the justices, but 120 have been summoned within two months, *including many paupers*, and every one has been ordered to pay, although some of their rates were under 1*s*., and the costs about 1*s*. 6*d*. on the average. There has only been one distress warrant issued. All are ordered to pay the rate and costs. All the poor in Arnold have to pay poor rates.

“The roads are in a very bad condition.

“One rate each year, of 10*d*. in the pound, would suffice, under ordinary circumstances, to maintain the roads in proper repair.”

STATE OF THE BURIAL GROUNDS.—The superficial condition of the burial-grounds is referred to in the Minutes of Inspection, and I have expressed the opinion that the two small dissenting burial-grounds require no interference at present. I should, however, think it very undesirable that further interments should take place in them, except under proper restrictions.



As to the churchyard, the following return was forwarded by Mr. *Atkinson*, the curate:—

The number of funerals in the parish of Arnold, according to the parish registers, was as follows, during the 20 preceding years:—

In 1833	-	-	79	Brought up	-	-	872
1834	-	-	74	1843	-	-	81
1835	-	-	105	1844	-	-	75
1836	-	-	106	1845	-	-	60
1837	-	-	94	1846	-	-	121
1838	-	-	64	1847	-	-	81
1839	-	-	89	1848	-	-	108
1840	-	-	84	1849	-	-	75
1841	-	-	93	1850	-	-	83
1842	-	-	84	1851	-	-	95
				1852	-	-	82
Carried up	-	-	872	Total	-	-	1,733

“The area of the churchyard belonging to the parish church of Arnold is about one acre and three roods.

(Signed) “GEO. ATKINSON, B.D., Curate.

“Arnold Vicarage, Jan. 5, 1853.”

Mr. *James Brian* said,—

“I believe that there is a rule laid down, that the old ground shall not be opened except for existing vaults and brick graves. I know this, because I had to inter a relation about six months since, and was informed, that unless there was a brick grave or vault belonging to the family, the ground could not be opened. The new ground was first used about two years since last November.”

WATCHING, &c.—The County Constabulary Act is in operation in the county of Nottingham, and there is one man stationed at Arnold. It is some proof of the peaceable and honest character of the inhabitants, that, in a population of nearly 5,000, one such officer should be found sufficient.

There are no gas-works in Arnold, nor any public lighting. The desirableness of gas was mentioned at the inquiry, and the idea was suggested of obtaining gas from Nottingham. I would take the liberty of strongly recommending that the works should be independent, because I think that a small gas-work, sufficient for Arnold, could be constructed for less than the cost of the four miles of main pipe, for which the inhabitants would have to pay either the capital sum, or, which would be the same thing practically, the annual interest.

BOUNDARIES, AND QUALIFICATION OF LOCAL BOARD.—I think that for many reasons the boundaries of the parish



are those which may be most advantageously adopted for the purposes of the Public Health Act.

I have already stated that the property in Arnold is rated upon a low valuation, and that this must affect the amount of qualification for membership of the Local Board of Health. It was suggested that the qualification should be the occupation of property rated at not less than 6*l.*, or the possession of real or personal estate of not less than 350*l.* It will be seen by the table of classified rateable values of the houses, given in the early part of this report, that on the present low valuation there are only 71 rated at 6*l.* and upwards, out of 908 houses in the parish.

On inquiry of some of the persons present, and an examination of the rate book, I found that a higher rateable qualification would exclude some persons who, from their respectability and intelligence, should be eligible for election. Some of the inhabitants think that even a 6*l.* qualification would be too high, and several thought it too low; but the general conclusion was, that a re-valuation of the property was very desirable.

*Charles Sneath, Esq.*, said,—

“I think the qualification named will be too low, because the houses will be put at a proper valuation, which they are not now. I think it probable, because it is not equitable that some persons should have one third, and 15 per cent. taken off the full value. There are no proceedings at present to do this; but if no one else will take such proceedings I will myself. If the valuation should remain as at present the qualification would be right; but if the valuation should be raised I think the qualification should not be raised also, and proportionately, so that no persons who ought to be eligible should be excluded.”

I fully concur in the remarks so candidly made by a gentleman in Mr. Sneath's influential position, and in recommending provisionally the qualification suggested at the inquiry, I should urge that if the re-valuation of property in Arnold should be proceeded with before the issuing of the Order in Council for the application of the Act, the rateable qualification of the members should be increased proportionately. It would be necessary, however, that an official communication by the overseers should be made as to such re-valuation.

## CONCLUSIONS AND RECOMMENDATIONS.

I. That the sickness and mortality of the parish of Arnold is excessive; that, as compared with other extensive but populous districts, the ratio of deaths in Arnold is nearly as three to two; the deaths of infants under one year old is



nearly double; the average loss of life to all born, about 10 years; and the deaths from zymotic disease nearly double.

II. That the avocations of the inhabitants are not calculated to raise, appreciably, the mortality of Arnold; that the climate, physical geography, and geology of the district are naturally salubrious; and that much of the disease and mortality existing in the district are preventible.

III. That there are no Local Acts of Parliament in force, nor any local authority in Arnold capable of instituting the necessary sanitary arrangements.

IV. That the water supply in the wells has been gradually diminishing for many years past; that the necessity of deepening such wells individually is a constant source of annoyance and expense, and as a consequence many of the wells are dry; that such as contain water are frequently polluted by putrid filth; and that a great portion of the inhabitants have to fetch and carry water great distances, and often to pay for it in addition.

V. That the drainage of Arnold, the pavements, the state of the roads, and the condition and position of the privies, and the large and frequent accumulations of both solid and liquid refuse in the vicinity of the houses, are sufficient to account for the excessive disease and mortality existing.

VI. That sanitary improvements are greatly needed in Arnold; that such improvements would save many lives annually, would raise the general health of the inhabitants, avert the susceptibility to zymotic disease, and be productive of great economy.

VII. That the chief works required are,—a proper water supply to every house; efficient drainage for the removal of all filth capable of being removed in water; improvements in the superficial condition of highways and courts, and systematic cleansing of the whole surface of the inhabited part of the parish.

VIII. That the natural features of the district are such as to ensure the efficiency and economy of the works of water supply and drainage recommended.

IX. That the burial-grounds in Arnold do not require interference at present.

X. That the number of inhabitants at the census of 1851 was 4,704.

XI. That the parish of Arnold is a place having a known and defined boundary; and that such boundary may be most advantageously adopted for the purposes of the Public Health Act.

XII. That the Public Health Act contains powers and provisions which would enable a Local Board of Health to



remedy the sanitary evils existing in the parish, and therefore its application would be highly beneficial.

WHEREUPON I RECOMMEND,—

1. That the Public Health Act, 1848, except the section numbered 50 in the copies of that Act printed by Her Majesty's printers, should be applied to the parish of Arnold in the county of Nottingham.

2. That the Local Board of Health, to be elected under the said Public Health Act, shall consist of nine persons, and that the entire number shall be elected for the whole of the said district.

3. That one third in number of the said Local Board shall go out of office in each year subsequent to that in which the first election shall take place.

4. That every person, at the time of his election as member of the said Local Board, and so long as he shall continue in office by virtue of such election, shall be seised and possessed of real or personal estate, or both, to the value or amount of not less than 350*l.*; or shall be rated to the relief of the poor of the said parish upon an annual value of not less than 6*l.*

I have the honour to be,

My Lords and Gentlemen,

Your very obedient servant,

WILLIAM LEE,

*Superintending Inspector.*

*To the General Board of Health,*  
*&c.      &c.      &c.*