[Report 1894] / Medical Officer of Health, East Kerrier D.C.

East Kirrier

Annual Report for 1894.

To the East Kirrier District Council.

GENTLEMEN,

During the past year of 1894, 207 births have been registered, 104 males and 103 females, giving an annual birth-rate of 24·3 per thousand inhabitants.

During the same period 176 deaths have been registered, 82 males and 94 females, giving an annual death-rate of 20·68 per thousand inhabitants. I append a list of the birth-rates and death-rates for the past ten years, as it will be interesting for comparison, always remembering that the rates for the years 1885 to 1892, inclusive, are calculated on a population of 9527 (before the amalgamation of Penwerris with Falmouth), whilst those for 1893 and 1894 are calculated on a population of 8510—

"Birth-rates for past ten years."	"Death-rates for past ten years."
1894—24·3.	1894—20·68.
1893—23·8.	1893—19·62.
1892—24·6.	1892—14·17.
1891—26·3.	1891—20·9.
1890—27·5.	1890—20·7.
1889—25·1.	1889—16·2.
1888—?	1888—14·4.
1887—27·2.	1887—15·8.
1886—24.	1886—21·6.
1885—26·2.	1885—19·4.

The natural increase for 1894 was 31; for 1893 it was 36; for 1892, 98; and for 1891, 51.

On reference to Table A., herewith enclosed, it will be seen that of the total number of deaths in 1894, seventy-two had attained the age of sixty-four years and upwards; that is, considerably more than one-third of the total. Twenty-four of these had reached the age of eighty and upwards. Twenty-nine deaths of children under one year of age occurred, and eleven of children between one and five years: that is, there were thirty deaths of children under five years of age. Of deaths from Zymotic diseases, one death resulted from Scarlatina, one from Diphtheria, three from Typhoid Fever, one from Whooping Cough, and six from Diarrhœa. Respiratory diseases accounted for forty-two deaths, whilst four deaths were the result of injuries.

On considering the above figures one cannot but, in the first place, feel that for a rural district our death-rate year after year is too high, and that there must be some cause or causes why this is so. I have said above that considerably more than one-third of the total number of deaths had exceeded the age of sixty-five, twenty-four exceeding eighty years of age. Of course, death cannot be warded off altogether,

and when it occurs at or near to seventy years of age, we feel that we must look to other than avoidable causes for such a result: that we must not look to that column in Table A., which relates to deaths at sixty-four and upwards, if we wish to discover a clue to an avoidable cause. What all Sanitation aims at is to increase the proportion of deaths among the aged in rotation to the total number of deaths, or, in other words, to prolong the life of every separate individual as much as possible. But there is another column in Table A., that relating to deaths under one year of age. In 1894 twenty-nine children died under one year of age, and I see that of these three or four died within the first two or three weeks from debility, or from being born prematurely: three died from Diarrhœa and five from Convulsions, four from Pneumonia and eight from Bronchitis. This column, relating to deaths under one year of age, is the one which, year after year, has more to do with keeping up the death-rate than any other in Table A., and the mothers of the little ones can do more towards pulling down the number of deaths under one year of age than any number of Sanitary Officers. When one sees the ignorant and improper feeding which goes on, one is not surprised at deaths from Diarrhœa and Convulsions, or at deaths from Pneumonia and Bronchitis after seeing the bitter weather babies and little children are taken out in, often insufficiently or improperly clad. I have myself often seen little babies being wheeled home in perambulators on nights when it was unfit for adults to be about, and have been sent for to attend to them, sometimes without success, for Pneumonia brought on by exposure. In these days of Technical Instruction, I think if the classes held for improving the feeding of adults were replaced by classes for the better feeding and clothing of infants, and their general treatment, a great good would be done, and probably the death-rate diminished.

Another striking feature of Table A. each year is the number of deaths from diseases of the respiratory organs: in 1894 forty-two deaths from such diseases occurred. But when we remember the rapid changes of weather which take place, the large amount of wet weather we get, the bleak and exposed situation of some portions of this district, more especially Mabe and Constantine, where there is a greater proportion of deaths from these diseases than elsewhere, the exposed lives that men, working in quarries, lead, &c., it is not to be wondered at that the list of deaths from such complaints should be a large one. I do not know whether the proportion of deaths from these diseases is greater in our district than in other districts presenting different geographical features, and with different trades and occupations, but I should not be at all surprised if this were so. Of course conditions such as these are unavoidable causes. We cannot help some parts of the district being bleak and exposed, and we ought to be thankful that in those very parts there is such a prosperous local industry as the granite trade. But I am only trying to point out that we have ever present a condition of things which accounts, to some extent, for a proportion of deaths from a certain class of diseases which is probably greater than in other districts, and, I think, that this is the place, when I am trying to distinguish the "avoidable" from the "unavoidable" causes which go to make the total number of deaths, to draw the attention of this Council to the risks that children attending school in Rural Parishes run. Often they have to walk two or three miles to school. They start in fine weather, but before they reach the school heavy rain has come and they arrive wet through, or, at any rate, damp, and so they remain until late in the afternoon. I have personally known such instances, and illness such as pneumonia or rheumatic fever to follow. It is a difficult thing to know what to do, short of sending the children home again at once,

which, if repeated often, would interfere with their school work, but, as it is a certain cause of sickness, a probable cause of death, immediate or remote, and, to a certain extent, an "avoidable" cause, I think it is my duty to direct the attention of the Council to this matter. Another portion of table A, that relating to deaths from zymotic diseases, is influenced by causes some of which are avoidable and some unavoidable. Whooping cough may prevail and cause two or three deaths, or measles, or they may both be absent and so cause the list of deaths for that year to be a smaller one. I do not know that we can altogether stop such diseases from appearing, and from causing deaths when they do appear, although, of course, the sanitary condition of the houses, the questions of overcrowding in the same, of ventilation of bedrooms, &c., will have an influence on the amount of damage done by such diseases. But when we come to such diseases as Typhoid Fever, Small Pox, Scarlatina, Diphtheria, &c., then I say we can practically avoid them and keep them at arm's length, and any neglect of oft-repeated warnings will be sure in the end to be visited upon us. We will first take Typhoid Fever. This disease is always caused by some sanitary defect, rendering the drinking water, or the air breathed, impure, and if the drinking water be a public supply, then an epidemic results. The Budock epidemic is an example of this and of neglected warnings. The general insanitary condition of Budock no doubt contributed some of the cases, but there is no doubt now but that it was the Budock Pump Water which gave rise to the great majority of the cases. Analysis made of water from this pump for two years past, and more, showed that the water was polluted with sewage. In my Annual Report for 1892 I remarked that "I had always viewed this pump with suspicion, situated as it is in a low and crowded locality, with unknown, and badly constructed drains close at hand, and running no one knew where, and with foul cess-pits situated just over the spot whence the spring supplying the pump is supposed to rise: that the water has been analysed and that even though the well had but recently been cleaned out before the water was taken from it for analysis, and, therefore, a sample obtained under the most favourable conditions, yet the analysis pointed to sewage contamination." And again, in the same report I remarked that "in my opinion the water was a very unsafe drinking water, and recommended that this part of the parish should be supplied with drinking water from the Falmouth Waterworks Company's mains, and the pump closed." And again, in my Annual Report for 1893, I remarked that "the water from this pump had been condemned by analysis as unfit for drinking purposes." In intermediate reports, too, I pointed out the danger of the pump as a public supply, and especially in my August Report (1894), when the first two cases of the epidemic of last year appeared, I urged upon the Authority the necessity of closing the pump. I think that in this case there were warnings enough given by me, and I also think that those gentlemen of your Council, who were present a week or two ago when the drains near the pump were laid bare, are convinced that for a long time sewage must have been pouring into the pump and contaminating the water, and that this pump was the main cause, and an "avoidable" cause of an epidemic of Typhoid Fever, with three deaths.

We will now take Small Pox. I have said that we have it in our power as a Sanitary Authority to avoid this terrible disease. Perhaps we cannot avoid it altogether, as it may be introduced from outside; but as a Sanitary Authority we can certainly keep it at arm's length by seeing that the powers conferred by the Vaccination Acts are fully carried out. Only once, since I have been Medical Officer of Health, has this disease made an appearance, and that was some years ago in

Praze, St. Gluvias. A sailor arrived home with the disease upon him: his wife sickened with it also, but by the adoption of stringent measures the disease was prevented from spreading. Should it, however, come in an epidemic form, it would have just as fine a field for its ravages as Typhoid Fever had in Budock with the pump for its help-mate; for in our district the Act is virtually a dead letter, and as a consequence every year quite nine children out of ten born remain unvaccinated. People avoid the Vaccination Act, and do their best to tumble into the arms of Small Pox, instead of avoiding Small Pox by tumbling into the arms of the Vaccinating Officer. It has been over and over again proved in epidemics elsewhere that, supposing Small Pox has made its appearance, the unvaccinated are in quite as much danger of getting the disease in its worst form as the very same people would be of getting an attack of Typhoid Fever if they went on drinking water known to be polluted by sewage charged with Typhoid poison. It is a serious thing to allow children to grow up to manhood unvaccinated, and to leave home and go to parts where they may meet with Small Pox, to be struck down with it, and perhaps to die. I do hope the new Council in this District will seriously entertain this matter, and that they will inaugurate their first year of office by strictly enforcing the Vaccination Act, and so help people to avoid this terrible disease in the same way that they help them to avoid Typhoid Fever by compelling them, by closing a long-loved pump, to drink water from another source, or to do away with foul cess-pits and substituting water-closets, or to drain premises, which in an undrained condition are likely at any time to cause disease.

Last of all I will refer to Scarlatina, taking that disease as an example of a class of diseases which perhaps we cannot prevent from occasionally visiting us in the shape of a case or two now and then, owing to introduction of the disease from over the border, but an epidemic of which we can certainly avoid by the adoption of measures which will bring immediately to the notice of the Sanitary Officials the very first case, or cases, of the disease, and which will then empower those officials, always supposing that accommodation for isolation exists, to isolate those first cases, where in the opinion of those officials the means for the suitable and efficient isolation of the cases cannot be secured in their own homes. We have already adopted a measure which secures the early notification of infectious diseases. The Infectious Diseases Notification Act has been in force in this district for two years and works well, but without some place into which the first case, or cases, of some dangerous and infectious disease can be removed and properly isolated, a great part of the benefit derived from early notification will be lost. Early notification should go hand in hand with immediate isolation, and the two together would abolish epidemics. In the houses of well-to-do people isolation at home is possible, but in those of the poor it is impossible; with a mother who has to nurse the sick and attend to the healthy, these again mixing up with others from non-infected houses—that is not exactly the way to isolate infectious diseases. I have more than once advocated the necessity of an Isolation Hospital, and I have suggested that it would be better and less expensive to combine with one or more neighbouring Authorities in providing an Isolation Hospital common to all contributing Authorities. I hope the New District Council will be able to initiate some such plan before it is too late, and the help that might have been had from a neighbouring Authority be lost, owing to that Authority providing isolation accommodation for itself.

I have now completed my analysis of Tables A. and B., and have tried to show that by means of sanitation there are certain diseases we can altogether avoid, whilst

there are others, which though we cannot altogether avoid, we can yet crush out on their very first appearance. I do hope that the sense of the new District Council will be taken as soon as possible on some of the points which I have raised, such as Vaccination, &c.

I will now go on to summarise what has happened, and what work has been done in 1894.

Of Zymotic diseases notified throughout the year there were twenty-one cases of Scarlatina, three cases of Diphtheria, forty-four cases of Typhoid Fever, and three cases of Erysipelas; and of non-notifiable Zymotic diseases there were numerous cases of Influenza, Measles, and Whooping Cough. In January we saw the end of the Influenza Epidemic of 1893. Numerous cases of Whooping Cough prevailed in the first quarter of 1894, some of which developed serious lung complications. There were several cases of Measles in April, more especially in Mylor, but there was a fresh appearance of this complaint, and the cases more numerous, in the last two months of the year. Of the twenty-one cases of Scarlatina, two of them were landed at Mylor Dockyard from the "Ganges." Here early removal and strict isolation no doubt prevented a serious outbreak of this disease from occurring on board. Another case occurred in Mylor Bridge, and five or six cases in one family in Perranwell, whilst in Budock Water there were altogether 12 cases. In the last instance two or three cases kept cropping up each month from February to May, and as the disease appeared in each house so it could be traced distinctly to inter-communication of members of that house with members of a house in which the disease previously existed. How a more general outbreak did not occur I do not know. If the first case could have been properly isolated the other eleven cases would most certainly not have occurred. The cases at Perranwell were distinctly traceable to a house outside this district in which there had been Scarlatina. Of the forty-four cases of Typhoid Fever, one case occurred at Mawnan Smith and was distinctly contracted outside this district, two occurred in Flushing, where in the shape of large and offensive cess-pits, such as especially existed in connection with, and in the immediate neighbourhood of, the house in which the first case lived, there is plenty of material for the generation of Typhoid Fever. A fourth case occurred in Mylor Bridge in a house which had at its back a dilapidated privy and a large, offensive, and overflowing cess-pit, but as the man himself is an oysterman and had been working just before his illness on his beds in Penryn River, down which for a long time before large quantities of Typhoid excreta, coming from cases of this disease in Budock and the adjoining portion of Penryn, had been pouring, I am inclined to give the latter of the probable causes the preference. The remaining forty cases of Typhoid Fever all occurred in Budock, that portion which adjoins Penryn. The first case appeared at the latter end of July, the next case in the beginning of August, then a batch of cases, eight or ten, appeared in the Borough of Penryn, reaching up from the bottom of St. Thomas Street, which is only separated from Budock by the Budock River, to near the Town Hall; then a fresh batch of cases occurred in Budock, commencing about the middle of September and continuing on to the end of October. The Budock Pump was closed on November 1st, but a few fresh cases, nine or ten, appeared in the early days of November, but sufficiently early in the month to carry the date of the commencement of the incubation stages of these last cases back into October, before the pump was closed. I do not think a single case of the forty cases in Budock really commenced after the pump was closed on November 1st. From what I have said over and over again in previous reports on the sanitary condition of Budock, it will be concluded that, apart

from the question purity or impurity of the water in the pump, quite enough material existed in that locality to generate Typhoid Fever ; large and offensive cess-pits, badly drained yards, and above and beyond all these the Budock River, which was merely an open Sewer, receiving all the drainage of Budock and a large portion of the drainage of Penryn and passing under and at the back of inhabited houses and giving rise to smells of a most powerful and objectionable character. All these conditions existed up to the time of the outbreak last August, with one or two notable exceptions, where, as in Saffron Court, great improvements had been effected. In 1892, when we had several cases of Typhoid Fever in the lower part of St. Thomas's Street, Penryn, adjoining the Budock River, I attributed them to the condition of this stream, and this condition of things may have had something to do with the appearance of this disease in the first two cases of last year's outbreak, especially as the yard, in which was the closet belonging to the houses in which these two cases were, was a most dirty one, and contained an enormous and offensive cess-pit. I say that these two cases may have originated from this state of things, though considering that they drank water from the pump, and that, as I have shown earlier in this Report, the water in this pump has for years been proved by analysis to be unfit for drinking purposes, it is probable that even these two cases were caused by pump water. Still, granting this possibility, I feel sure that all, or nearly all, the cases which came after the first two cases were caused by drinking water from the Budock Pump. For such an outbreak we must look for some common cause, and almost all the cases drank, more or less, from this supply. It may have been remarked that I have mentioned cases of this disease occurring in Penryn, and the question may be asked why I deal with things happening outside this District. I merely do so to prove still more conclusively that the pump was the main cause of the outbreak. All, or nearly all, the cases in St. Thomas's Street, Penryn, derived their drinking water from this pump ; but when I came upon two cases in Market Street, near the Town Hall, and one in Broad Street, I began to ask myself what could have given rise to these cases, especially as the premises around were, in each place, in a very good sanitary condition. But on inquiring I found that the two Market Street cases were apprentices at Messrs. Freeman's Yards, and that every day of their lives they drank water from this pump whilst at work in the yards, and also that the Broad Street case spent a good deal of her time in Budock, often sleeping there in the house of a friend, and continually drinking pump water. These facts, almost more than any others, convinced me that the pump was at the bottom of it all. As may be imagined, disinfectants were fully supplied, and freely used. The place that I suppose got the greatest share of disinfectants was the yard containing the closets and cess-pit belonging to the two houses in which the first two cases of fever occurred. This cess-pit is situated over the spot, or near to the spot, from whence the spring which supplies the pump is supposed to rise, and the drainage from the yard and from the closets is conveyed by earthenware pipes, or was so at that time, across the main road into the main sewer, passing within a foot or two of the pump. Soon after disinfectants were freely poured down these closets and into this cess-pit the water in the pump was noticed to be turbid, slightly milky, and to taste and smell of disinfectants. I distinctly smelt disinfectants in a pail of water I had specially drawn for me. And there is no doubt that these disinfectants found their way from the closets and cess-pits, by means of the earthenware pipes into the pump, and if disinfectants could get there so could sewage, and considering that all the excreta from the first two cases were thrown down these closets it is beyond doubt that these Typhoid excreta

found their way into the pump, and so gave rise to about 38 other cases of Fever. In further proof of this I can truly say that since the pump was closed by a Magistrates' Order, on November 1st, not a single case of Typhoid Fever in Budock has occurred: and in still further proof is the evidence of one's eyes, for when a short time ago the drains leading from the closets and yard referred to, and running across the main road, passing within a foot or two of the pump to join the main, and surrounded by springs, which probably fed the pump, were laid bare, the pipes were all found smashed and broken, and the surrounding soil saturated with sewage, which nothing could prevent from being carried into the pump by the springs supplying it. I think I have now brought forth sufficient evidence in proof of what I said from the very first, that the pump was the cause of all the sickness in Budock in 1894, and that if my advice to close the pump immediately, as given in my August Report, and not only then but repeatedly before—2 years before—had been followed out, we should have been saved endless misery and anxiety, whilst at the same time several valuable lives would have been spared.

Of the three cases of Diphtheria, two occurred in February at a farmhouse in Budock Parish, and one, which ended fatally, in Mylor Bridge. The Budock cases were no doubt caused by the emptying of a house full of rotten and decomposed turnips: there was nothing in the neighbourhood of the house which was likely to cause the disease, and before the turnip house was emptied all in the house were in good health: but when the rotten turnips were disturbed, the smell in the farm-yard, and pervading the house, was most sickening and offensive, and a few days after the disease made its appearance.

The Mylor Bridge case was, in my opinion, the result of dampness of the house caused by subsoil water, which was probably polluted by a very offensive and wet cess-pit near; this pit was merely a large hole dug out of the loose earth, and the liquid contents had no difficulty in draining away into the country around, and thereby polluting the subsoil water.

Throughout the year inspection of the several portions of the district has been carried out, but some portions have necessarily required more attention than others. A case of overcrowding appears now and then, and I have no doubt more cases exist than come under our notice: in Budock Water two or three such cases have been reported by me, but owing to the want of house accommodation in this, as well as in other parts of the district, the only way in which such cases have been met has been by getting one or more of the children to sleep out in other houses, where there is more accommodation, and so break up the family. It is impossible to do any other, for a family cannot be turned out of one house until they can find another more suitable to go into.

With regard to special Sanitary work accomplished in 1894, as being distinguished from the ordinary round of Sanitary work which continues throughout the year, the chief items are:—

I.—**DRAINAGE.** In my last Annual Report I stated that it had been decided to drain the north side of Gweek, which I described as being in a very filthy condition, owing to an utter absence of drainage. This work has this year been satisfactorily carried out, and a drain runs at the back of the whole row of houses on that side of the village. A greatly improved condition of things should be the result.

In my Annual Report for 1893 I said, with regard to the very important question of the draining of Budock River, that the Urban Sanitary Authority of Penryn had met our Rural Sanitary Authority, that a conjoint scheme had been adopted, that tenders had been invited, and that there the matter had ended. But this year, after several delays, a move has been made towards carrying out the work on the plan agreed upon by the two Authorities. A main sewer, consisting of nine-inch pipes, has been laid, reaching from College at its upper end to nearly as far as the Saw Mills at its lower end. In the upper part of its course the sewer runs under ground, and consists here of earthenware pipes, but where it enters the bed of the river, the pipes are iron ones. The sewer discharges at a spot where the river supplying the mills enters the Budock River, with the idea that the great rush of water at this spot will be sufficient to carry away the sewage and prevent it from depositing to any great extent. Some connections have been made on the Penryn side, but a good many places that ought to be connected still remain as before, and continue to discharge into the river. But on the Budock side no connections have yet been made, and the whole of the drainage of Budock still discharges at various points direct into the river. The reason for this is that your inspector, Mr. Cox, contends that the main sewer has been badly laid, the work badly done, and that the junctions are so situated that to connect with them is impossible. Meanwhile the state of things, about which I have reported so often, continues, endangering the health and the lives of people living anywhere near that river. At present there is, of course, a tremendous rush of water down the river, which sweeps everything before it, but only let dry weather set in and the present torrent of water subside, and then we shall see the river become quite as bad as before, and worse, for owing to a good many privies and pits having been done away with and pan closets substituted, not only in Budock, but also in large numbers in Penryn, a much larger amount of sewage pours into the river than ever before. To settle the matter I would recommend that a competent engineer should be called in to pass his opinion as to whether the sewer is properly laid or not, and to advise on the scheme as a whole. This work must be completed to the satisfaction of both Authorities before the dry season comes in.

Drainage work has also been carried out in other parts of Budock, and in Mylor Bridge and Flushing.

II.—**WATER SUPPLY.** Considerable work has been done under this heading in various parts. In Ponsanooth, wherever the water ran through earthenware pipes, iron pipes have been substituted. In Perranwell the water which ended at the Royal Oak Inn has been piped into the centre of the village, and two or three stand-pipes fixed along the course of the pipes for the convenience of the inhabitants. I think it would have been better, whilst about the work, to have continued the pipes still further on towards the Wesleyan Chapel. But this can, of course, be done at any time. Deep wells have been sunk and pumps erected in Passage Hill, Mylor, and at Trelew, Mylor, and good supplies have been obtained. In Budock the pump, which was the main supply of this locality, but which was the cause of so much Typhoid Fever in 1894, has been closed by order of the Magistrates for six months, dating from November 1st, 1894. Notices have been served on the owners of property in Budock to connect with the Falmouth Water Works Company's mains, and so to provide a supply to each house. This has been done in every instance, and almost every house in Budock is supplied directly from the Water Works. The Falmouth Water Works Company has, during the last year, extended its mains to the

end of Praze, in St. Gluvias, and up Truro Hill, and every house in Praze and Truro Hill, in the same parish, is supplied directly from the Water Works. The inhabitants are thereby saved the inconvenience of going for their water to the supply opposite the Cross Keys Inn, or to the Poor House Pump, to say nothing of the danger incurred by drinking from supplies so liable to pollution as these are. I consider the work done under this heading in Praze, in Truro Hill, and in Budock very satisfactory, and likely to be of the greatest benefit to the inhabitants.

III.—**EXCREMENT DISPOSAL.** Of course, in the purely rural parts of the district, the midden system prevails, and I do not see that anything better could be adopted, provided attention is paid to the size of the pit and the frequent scavenging of the same: but in places like Budock and Flushing, most of the pits should be done away with, and pan-closets, or water-closets, substituted. This, during the past year, has been done to a great extent in Budock, and some more still are about to be similarly treated. When these are finished Budock will really be far better than I have ever known it. At one time it abounded in huge and offensive pits, but where these once existed neat and clean pan-closets have taken their place. In Flushing, where there are many cess-pits of the worst possible type, there is no doubt that the water-closet system should be pretty generally adopted, but until this village has a better water-supply, I would not advise any change from the present state of things.

IV.—**SCAVENGING.** Arrangements exist between this Council and certain private individuals for the regular and systematic scavenging of Flushing, Budock, and Constantine.

V.—**SEWAGE DISPOSAL.** I have already mentioned what has been done with regard to the scheme for the disposal of Sewage in Budock. This is the only part in the District in which any important work of the kind has been begun.

I have now given an account of what Sanitary work has been done in 1894. Of course, as may be imagined, a lot of work is constantly going on of a minor kind, but one cannot go into small details in a Report of this kind. With regard to what should be taken in hand in 1895, I regard the following as being more urgent and pressing than anything else:—

1.—"The Budock River Drainage Scheme and with that the Drainage of Budock itself." This is most urgent. It will never do to allow another hot and dry season to come before this is completed. No expense should be spared in thoroughly settling this matter. With pan-closets and no cess-pits, or very few, with pure water and good drainage to carry the sewage well away from the place, Budock ought to be another place from what it has been up to the present.

2.—"The Closing of Budock Pump." This Pump was ordered to be closed on November 1st, 1894, for six months. This was the period asked for by this Authority from the Magistrates, and in the meantime it was thought that if anything was found to have gone wrong with the drains near the pump this could be rectified; the water would then be analysed, and if found to be pure the pump would be opened again. As I have described earlier in this Report it was found that everything had gone wrong, and the earthenware pipes smashed and broken all along the line. These have now all been taken up and replaced by nine-inch iron pipes and the joints made perfect, so that it seems impossible that anything could happen to them now. But considering

the heavy traffic from waggons, traction engines, &c., which pass over these pipes, and which might crack them or force the joints, and considering that since the pump has been closed every house in Budock almost is supplied direct from the Falmouth Water Works Company's mains, thereby almost doing away with the need of a pump there at all, I strongly advise this Council not to allow the pump to be used again. Shallow wells, such as this one, in a crowded locality are always dangerous supplies, protect them as you will. The water may be pure to-day and polluted to-morrow. But I do not advocate doing away with the pump altogether; let it remain where it is and keep the handle off, and protect the overflow from the pump, which discharges into the yard belonging to the Commercial Inn, from being used by the general public when they find they cannot get at the pump. I advise this because if we have an exceptionally dry year, such as that of a year or two ago, when the Water Works almost ran dry, and we ran the risk of not getting any water at all, we could then, after finding by analysis that the water was pure, always open the pump to the public by merely fixing on the handle again. I believe in the driest of seasons this well never fails.

3.—"The Better Filteration of Water supplied by the Falmouth Water-works Company." After closing a popular, though a polluted supply, such as that at Budock, and after compelling the landlords of property in Budock to lay on water to each of their properties from the Water Works mains, and after doing the same to all properties in Praze and Truro Hill, St. Gluvias, and making people pay a water-rate when previously they had water free, the least we can do for them, then, is to see that the water we compel them to drink is a pure water, free from visible as well as invisible impurities. In September, 1892, the Penryn Urban Sanitary Authority had the water of the Falmouth Water Works Company analysed. The analyst reported "the water contains an excess of organic matter; it requires filtering, but after filteration it should yield a water of very good quality." And in 1893 when Dr. Bulstrode, the Local Government Board Inspector, was here, I went with him to inspect the Water Works, when Cholera was threatening, and he said that the filter beds at the Water Works were defective and should be made to do better work. There is no doubt that better filteration is needed; it is a matter of common knowledge that when this water is allowed to stand in water-jugs, or in a glass, for a time that a sediment forms, and in dry seasons or in most summers the Water looks brownish and the sediment is greater. I believe that this sediment is only suspended vegetable matter and comparatively harmless, and that it could be easily removed by filtration. The presence of this has caused a great prejudice with many against this water, which really is an excellent water, and many prefer drinking from supplies just sufficiently polluted by sewage as not to affect the colour of the water, but sufficient to generate little bubbles of sewage gas in it, and to give it a brisk and sparkling appearance. I hope this Council will take this matter up soon.

4.—"Flushing Water Supply." Some time ago Mr. Cox and I were called upon to report on this matter specially, and to make what recommendations we thought necessary. We did so; the Report is still in existence, but nothing further has been done. Meanwhile, certain very necessary sanitary work, such as the doing away with cess-pits and substituting water-closets, is at a stand-still, for it is of no use putting closets in, with no water to work and flush them. Besides this a good supply there would improve the place, and help it to

gain the popularity it ought to have as a winter health-resort. The question of providing a better water-supply for Flushing is a very important and pressing one. In addition to the above I think that the water in Mawnan Smith should be brought well into the centre of the village; at present it is too far away for the large majority of the inhabitants.

I have now come to the end of my Report. Throughout it, in dealing with the deaths at certain ages, or from particular diseases, I have tried to distinguish "avoidable" from "unavoidable" causes, and have tried to show the measures that should be adopted in dealing with the first class of "causes." I trust that 1895 will see completed some, if not all, of what I have recommended this Council to entertain.

I have the honour, gentlemen, to remain,

Your obedient servant,

JAMES BLAMEY, M.O.H.

January 21st., 1895.

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