

and the air they breathe is thus loaded with impurities, which weaken their resistance to such attacks. Ventilation there is none, and if the morbid poison gets access to the throats they become an easy prey to this scourge."

Waltham.—Dr. Priest remarks:—"The steady increase of diphtheria of late years is a very unwelcome fact, and has been found to prevail more especially in urban districts, leaving for the time being the sparsely-populated rural areas. The subject is a most serious one and demands the closest investigation and research. It is a disease that will spread by the ordinary means of infection, but the chief causative factors are, in my opinion, defective sanitary fittings, and dampness generally. Throughout this town the house-drains are more often than not in a defective condition, badly jointed, and leaking to a considerable extent, and even comparatively modern drains have been found very imperfect. In the old houses of the town damp-proof courses are absent, and dry areas with concrete basements are not to be found; fungi and moulds rapidly appear upon the walls, and in the rooms which are usually set apart for occupation on the Sabbath day an odour of mustiness is overpowering. It is, therefore, no wonder, that living as many of the community do in houses indifferently drained, into which sewer air obtains an entrance, and a nidus is ever ready for the reception of the diphtheria microbe, that, when the disease manifests itself, its results are so frequently fatal."

Braintree.—Dr. Carr says:—"During quite recent years the theory has been gaining ground that the germs of diphtheria live in the subsoil, and that when the subsoil water rises, as it does after heavy rainfall, it drives out the subsoil air and with it the diphtheria germs. Diphtheria being endemic in one part of the district, I was anxious to add to the evidence now being collected for and against this theory. The sanitary authority therefore, at my request, have established an observation well at Coggeshall. Of course it is much too early yet to draw any inferences, but observations will be made, and records kept, which will be of use in the future."

THE VENTILATION OF SCHOOLS.

By J. WHEATLEY, M.D., M.O.H. of Blackburn.*

IN my reports I have frequently expressed the opinion that the better ventilation of schools is one of the most urgently needed reforms. Some of the schools in the town have certainly been improved in this respect. In the great majority there has been no considerable improvement beyond the fact that open windows are more common. The provision of cloak rooms has become more general, and is certainly a step in the right direction.

In the rules issued by the Educational Department this year, with respect to the building of new schools, there are more definite and precise rules laid down. I quote here the paragraph which relates to ventilation:—

Apart from open windows and doors, there should be provision for copious inlet of fresh air; also for outlet of foul air at the highest point of the room; the best way of providing the latter is to build to each room a separate air chimney, carried up the same stack with smoke flues. An outlet should have motive power by heat or exhaust, otherwise it will frequently act as a cold inlet. The principal point in all ventilation is to prevent stagnant air, particular expedients are only subsidiary to this main direction. Inlets should provide a minimum of $2\frac{1}{2}$ square inches per child, and outlets a minimum of 2 inches.

Although in many ways these directions are no doubt excellent, it seems a pity that with regard to new schools more stringent regulations are not laid down. The inlet space of $2\frac{1}{2}$ inches is totally inadequate for preventing the air of schools from becoming very foul indeed. With a cubic space of from 80-120 feet per child it is generally allowed that the ventilation can only be at all perfect by the aid of mechanical power, and that the system must be that of forcing warm air into the room. This system has not come generally into use on account of expense and the supervision that it requires. If then natural ventilation is relied upon it should be carried out as perfectly as possible. The minimum inlet space I think that should be allowed is from 10-20 inches per child. The heating apparatus, which in most schools consists of hot pipes, should be made to heat the incoming air. The extra expense in construction is almost nothing, but the heating surface of pipes, and the amount of coal used, would have to be increased on account of the more rapid change of air. Because of the tubes that are necessary to give an upward direction to the incoming air the friction is very considerable, and the amount of air introduced is much less than one would imagine. A very great fault in many of the inlets for air in school rooms is that there is no provision for cleansing them. The attention of teachers is called to the fact that the rooms should be flushed with fresh air every two hours. This is a very important instruction, but surely it is not difficult, and certainly it is most desirable that school rooms should be flushed every hour with fresh air. It is extremely desirable, too, that windows shall be so constructed that the rooms can be properly flushed with air. Schools are continually being built in which windows open to such a small extent that changing the air is a very slow process.

The spread of scarlet fever through schools has been shown time after time, and the influence of schools in the spread of whooping cough and measles is seen in every epidemic. It is generally thought that schools are frequently the means of propagating diphtheria, and of this there was a well marked instance in Blackburn last year. It

* From Dr. Wheatley's Annual Report for 1894.

is, however, principally with regard to tubercular diseases that this matter is of so much importance. It has been proved most conclusively that no insanitary condition predisposes so much to phthisis as an atmosphere containing respiratory impurities.

I am glad to be able to report that the health committee have so far taken this matter in hand, as to order in a certain case that the necessary proceedings to be taken in order to remedy a nuisance produced by bad ventilation of a school.

QUERY *re* DRAIN.

PLANS were passed of a certain house in the Urban District of B—in 1894. The building has been erected and the drains laid as shown on plan and the house certified fit for habitation.

When the drain came to be laid, it was found that a water main ran for some distance parallel with the proposed line of drain; the distance between the two being only 9 inches. The drain was laid as proposed.

The Council are anxious to remove the drain from its present position, on account of its close proximity to the water main, as the possibility of the water being fouled from a leakage that may occur in either of the two may endanger the public health.

When the plans were passed the position of the water main was not known. The drain had, however, been laid when the premises were certified fit for occupation.

1st. Have the Council power to compel the owner or builder to remove the drain to a sufficient distance from the water main, so as to prevent any possibility of the water being polluted? If so, under what section of the Public Health Act, or any Act incorporated therewith?

2nd. If not, can the Council remove it at their own cost, the drain being private property?

3rd. Can the possibility of a future contamination of the water be considered as a "Nuisance," so as to justify proceedings being taken under sections 91-94 Public Health Act, 1875?

Answers.—The query gives no information as to whether the water main is or is not the property of the Local Authority.

1st. The plans having been passed and the drain laid, the Local Authority cannot compel the owner to remove the drain. If the water main belongs to the Local Authority, they can either remove the main, or by concrete or other material render contamination unlikely or impossible.

2nd. The Local Authority cannot compel the owner to allow them to remove the drain at their own cost; this can only be done by permission.

3rd. The possible future contamination of the water cannot be treated as a nuisance under sections 91-94.

CORRESPONDENCE.

BRITISH INSTITUTE OF PUBLIC HEALTH.

To the Editor of PUBLIC HEALTH.

King's College, 21st June, 1895.

SIR,—Will you kindly intimate in your July number of PUBLIC HEALTH that it is proposed that those engaged in Public Health work shall dine together at the Holborn Restaurant, in the King's Hall, on Wednesday, 31st July, at 7 p.m. Tickets, 7s. 6d., exclusive of wine. Ladies, friends of those dining, will be admitted to the gallery at 8.30. The band will be the Queen's Westminster R. V. The following are some of the guests who are coming:—Duke of Cambridge, Lord Playfair, Lord Monkswell, General Lord Methuen, Sir Francis Grenfell, G.C.M.G., Cardinal Vaughan, Archdeacon of London, Sir G. W. Kekewich, K.C.B., and many others. The Guard of Honour will be furnished by the 19th Middlesex R. V.—Yours truly, W. R. SMITH.

MONTHLY LIST OF PARLIAMENTARY PAPERS, ETC.,

RELATING TO SANITARY MATTERS.

(To be obtained from P. S. KING AND SON, 12 and 14, King Street, Westminster, S.W.)

PAPERS.

Factories. Report of the Chief Inspector of Factories and Workshops for 1894. *Maps, Diagrams, and Illustrations.* 5s. 3d.

Dangerous and Unhealthy Processes—Flax Mills and Linen Factories—Accidents and Fencing of Machinery—Local Sanitary Authorities—Outworkers—Overtime—Protection of Children Acts—Ventilation, etc.
Workhouses (United Kingdom). Consumption of Spirits in 1894 and 1893, Return. 6d.

APPOINTMENTS.

MEDICAL OFFICERS OF HEALTH.

BOWHAY, ALBERT, D.P.H. Camb., L.R.C.P. Lond., M.R.C.S. Eng., appointed M.O.H. to the Calstock Rural District Council.

CLARK, FRANCIS W., M.B. Durh., D.P.H. Camb., M.R.C.S., L.R.C.P. Lond., appointed Health Officer for Hong Kong.

GARLAND, EDWD. CHARLES, L.R.C.P. Edin., M.R.C.S. Eng., re-appointed M.O.H. to the Yeovil Town Council.

JACOBSON, DR., appointed M.O.H. to the Kingston Urban District Council.

MARTIN, ARTHUR W., L.R.C.P. L.R.C.S. Edin., re-appointed M.O.H. to the Gorton District Council.

MALCOLMSON, JOHN A., M.D., Q.U.I., L.M., re-appointed M.O.H. to the Eston Urban District Council.

MILLER, J., M.B., C.M., D.P.H., appointed M.O.H. for the Burgh of Largs.

MORRIS, FREDERIC HENRY, M.D. St. And., M.R.C.S. Eng., re-appointed M.O.H. to the Wellingborough Rural District Council.

PALMER, AMBROSE M., L.R.C.P. Edin., M.R.C.S. Eng., re-appointed M.O.H. to the Whittington Urban District Council.

RANDALL, W., L.R.C.P. Edin., M.R.C.S. Eng., appointed M.O.H. to the Maesteg Urban District Council.

RIDING, EDWIN, M.R.C.S. Eng., and L.S.A., appointed M.O.H. to the Repton Rural District Council.

SWETE, EDWD. H. W., M.D. St. And., M.R.C.S., re-appointed M.O.H. to the Droitwich Rural District Council.

SKINNER, D. S., M.D. Brux., L.R.C.P. Lond., M.R.C.S. Eng., re-appointed M.O.H. to the Willemsen District Council.

STEELE, JONATHAN, L.R.C.P. & S. Edin., re-appointed M.O.H. to the Kildgrove Urban District Council.

WALKER, DR., re-appointed M.O.H. to the Wrotham Urban District Council.