INJURIOUS EFFECTS OF UNPAVED YARDS.*

By WILLIAM BERRY, F.R.C.S.I.,
Medical Officer of Health for Wigan.

I THINK all of you will agree that the site of a dwelling-house is important from a health point of view, and if everyone could select a suitable site, a suitable aspect, and a suitable surrounding, we should have very little to complain about; but for the bulk of the people—the plebs, if you like—it is quite different, and they have no choice. When a choice is possible, we know that (1) the site should be dry; (2) the site should admit of proper drainage; (3) should not be on the banks of a river; (4) should be airy; (5) the aspect should be such as to admit as much sunlight as is possible; and (6) made soils should be avoided.

Now, all these conditions are good, so far as the preaching and teaching of the medical officer of health are concerned. We know, however, that all these laws are violated, and years ago there was no compulsion as to the paving of the yards—yards which are common either to one house or cottage or to two or more cottages—and in consequence of this neglect we have cottages rendered unwholesome. Now, this is an assertion—and it is an assertion which is perhaps difficult to prove by specific cases—but I am of opinion, and strongly, that in houses or cottages which have unpaved yards, where the soil is liable to become saturated with all kinds of refuse matters, we have a harbinger for infectious diseases, as well as a condition which predisposes to rheumatism, phthisis, bronchitis, etc.

It is common knowledge now, through the experiments of Dr. Martin and Dr. Robertson, that the bacillus of typhoid will live for months and for years in soil, and why not other bacilli? Why not the germ of scarlet fever, measles, whooping-cough, anthrax, erysipelas, tetanus, etc.? I believe they do! You may take an old town like the county borough of Wigan, ancient and loyal borough. The ancestors of the present inhabitants probably cared more about their loyalty than their sanitary condition. Here we have a town with a clay subsoil mostly and the rest “made soils,” no care taken in the foundations, no concrete basements, yards unpaved, and, previously, privy-middens.

Now, what is the state of matters with regard to infectious disease? We have typhoid endemic, scarlet fever endemic, measles

* Read at the meeting of the North-Western Branch of the Society of Medical Officers of Health on March 12th, 1902.

epidemic biennially, and whooping-cough the same. Infantile diarrhoea in a much greater degree than can be accounted for by artificial and careless feeding. Our bye-laws now provide for the paving of 150 feet of back-yard, but the hundreds of houses put up before these bye-laws came into existence remain unpaved and a detriment to the health of those people who are compelled to live in them.

In my annual reports I have persistently reported houses which have unpaved back-yards, and, in consequence, our then Town Clerk received the following letter from the Local Government Board. He was of opinion, if we had bye-laws, all the yards could be paved.

Local Government Board,
Whitehall, S.W.,
September, 28th 1900.

SIR,

I am directed by the Local Government Board to state that they have had under their consideration the annual report of 1899 of the medical officer of health for the borough of Wigan, a copy of which has been forwarded to the Board, pursuant to their general order.

Adverting to the medical officer of health's remarks in the report, and to the Board's letter of the 10th August, 1898, I am to state that the Board observe that the number of unpaved yards dealt with in the borough has largely diminished in recent years, and I am to request that the Board may be furnished with the Town Council's observations on the subject.

In reference to this matter, I am to suggest that the Town Council should consider the desirability of making bye-laws with regard to the paving of yards and open spaces in connection with dwelling-houses under Section 23 (1) of the Public Health Acts Amendment Act, 1890, which is in force in the borough. Copies of the Board's model clauses on the subject, which have been very generally adopted by local authorities making bye-laws during recent years, are enclosed for the guidance of the Town Council.

The Board will be glad if any bye-laws proposed to be made by the Town Council are submitted to them in draft for their preliminary approval on foolscap with half margin, and it would be of assistance to the Board if the draft bye-laws were submitted in duplicate. No steps should be taken as regards the formal adoption of the bye-laws or compliance with the preliminary requirements of Section 184 of the Public Health Act, 1875, until the Board have had an opportunity of considering the proposals of the Council.

I am, sir,

Your obedient servant,

JOHN LITHBY.

MODEL BYE-LAWS.

Paving of Yards, etc.

With respect to the paving of yards and open spaces in connection with dwelling-houses:

1. The owner of every dwelling-house in connection with which there is any yard or open space, shall, where it is necessary for the preven-

tion or remedy of insanitary conditions that all or part of such yard or open space shall be paved, forthwith cause the same to be properly paved with a hard durable and impervious pavement of flagging or paving bricks, evenly and closely laid upon a sufficient bed of good concrete, mortar, or other suitable material, and properly jointed, or with good cement concrete, or with good asphalt on a proper foundation, and so sloped to a properly constructed channel as effectually to carry off all rain or waste water therefrom.

2. Every person who shall erect a new dwelling-house shall cause not less than *150 square feet* of any open space provided in connection therewith to be paved with hard durable and impervious pavement of flagging or paving bricks, evenly and closely laid upon a sufficient bed of good concrete mortar or other suitable material, and properly jointed, or with good cement concrete, or with good asphalt on a proper foundation, and so sloped to a properly constructed channel as effectually to carry away all rain and waste water that may fall thereon.

He shall cause such paving to be so arranged that it shall adjoin the external wall in the rear or at the side of the dwelling-house, that wherever practicable it shall extend throughout to a distance of *10 feet* from the said wall, and that, subject to this last-mentioned requirement, it shall extend as nearly as conveniently may be to the full width of the open space.

For the purpose of this bye-law the expression "width" means in the case of paving in the rear a measurement taken parallel to the rear external wall of the dwelling-house, and in the case of paving at the side a measurement taken at right angles to the side external wall on which such paving may abut.

Provided always that in the case of any dwelling-house, the height of which is *15 feet*, as measured from the open space to the level of half the vertical height of the roof, or to the top of the parapet, whichever may be the higher, any part of an open space provided in pursuance of any bye-law in that behalf which is occupied by any water-closet, earth-closet, or privy, and by any ashpit, may be reckoned as if it were paved, if the remainder of such open space is paved, in accordance with this bye-law.

I and the borough engineer (Mr. William Bolton) were asked to report, and we sent in the following report:

We have considered the letter of the Local Government Board, dated September 28th, 1900, on the subject of the paving of yards.

As is pointed out in the letter of the Local Government Board, *paving yards and open spaces* can be dealt with under Section 23 of the Public Health Acts Amendment Act, 1890, and which is in force in Wigan.

Section 23 provides:

1. Every urban authority shall be empowered to make bye-laws with respect to water-supply or flushing w.c.'s, structure of floors, hearths, stairs, and the height of rooms to be used for human habitation, paving of yards attached to dwellings, provision in new streets of secondary means of access for removal of house refuse, etc.

2. Bye-laws here made in regard to the drainage of new buildings, of sanitary conveniences, and flushing w.c.'s, etc., may be extended to older buildings.

Section 23, then, is an extension of the powers conferred in Sec-

tion 157 of the Public Health Acts, 1875, and under which section you have made bye-laws as to new buildings.

These bye-laws apply to older buildings through the adoption of the Public Health Acts Amendment Act, 1890, by means of Section 23.

And we recommend that action be taken against defaulters in this respect, after making the required bye-laws.

Time went on, and, no bye-laws made, we got to 1901, when a resolution was passed by my committee on July 18th, 1901, our present Town Clerk being asked to report on the matter. I might here interpolate that we have a local Act of 1889, which, I thought, gave us the power wanted, but our present Town Clerk thought otherwise.

The Section runs as follows :

SECTION 99.—The back-yards of all houses which shall be built after the passing of this Act shall be formed with such fall, and shall for the space of at least 150 square feet be flagged or asphalted or paved with such materials as shall be satisfactory to the Corporation for the purpose of carrying off the surface water to the drains of such houses, and if the back-yard of any house erected before or after the passing of this Act shall not be so formed, flagged, asphalted, or paved so as to allow of the surface water being carried off as aforesaid, the Corporation may give to the owner or occupier of such house notice in writing requiring him within seven days after such notice shall have been so given to proceed to form or to flag, asphalt, or pave such back-yards so as to allow of the surface water being carried off to the drain of such houses, and within twenty-one days after such notice shall have been given to complete such several works to the satisfaction of the Corporation ; and if such owner or occupier shall make default in complying with any of such requirements to the satisfaction of the Corporation within the respective times aforesaid, the Corporation may if they think fit execute the works necessary for carrying out such requirements, and the expenses incurred by them in so doing shall be paid to the Corporation by such owner or occupier, and shall be recoverable as a penalty under this Act is recoverable, or shall be deemed private improvement expenses, and be recoverable accordingly.

The Town Clerk advised this was not sufficient. Then I advised my committee that we ought to take action under Sections 94, 95, and 96 of the Public Health Act of 1878. The Sections, as you are aware, read as follows :

SECTION 94.—On the receipt of any information respecting the existence of a nuisance the local authority shall, if satisfied of the existence of a nuisance, serve a notice on the person by whose act, default, or sufferance arises or continues, or if such person cannot be found, on the owner or occupier of the premises on which the nuisance arises, requiring him to abate the same within a time to be specified in the notice, and to execute such works and do such things as may be necessary for that purpose. Provided

First.—That where the nuisance arises from want or defective construction of any structural convenience, or where there is no occupier

of the premises, notice under this section shall be served on the owner.

Secondly.—That when the person causing the nuisance cannot be found, and it is clear that the nuisance does not arise or continue by the act, default, or sufferance of the owner or occupier of the premises, the local authority may themselves abate the same without further order.

SECTION 95.—If the person on whom a notice to abate a nuisance has been served makes default in complying with any of the requirements thereof within the time specified, or if the nuisance, although abated since the service of the notice, is in the opinion of the local authority likely to recur on the same premises, the local authority shall cause a complaint, relating to such nuisance to be made before a justice, and such justice shall thereupon issue a summons requiring the person on whom the notice was served to appear before a court of summary jurisdiction.

SECTION 96.—If the court is satisfied that the alleged nuisance exists, or that although abated it is likely to recur on the same premises, the court shall make an order on such person requiring him to comply with all or any of the requisitions of the notice, or otherwise to abate the nuisance within a time specified in the order, and to do any works necessary for that purpose; or an order prohibiting the recurrence of the nuisance, and directing the execution of any works necessary to prevent the recurrence; or an order both requiring abatement and prohibiting the recurrence of the nuisance.

I am of opinion that the magistrates would enforce these Sections of the Act, and we should specify what we require to be done; but our Town Clerk is of a different opinion, and thinks we might get an order in special cases. My committee, being desirous of doing something in this matter, passed a resolution that our present Town Clerk, borough engineer, and myself should report on this matter. The Town Clerk advised us on the legal powers we had.

The sum and substance of the report was that the Corporation could, by its local Act of 1889, compel the owners to pave the back-yards, or common back-yards. That the back-yard comes under the definition of "street" in the Public Health Act of 1875 (Section 4). Street in that Act includes any highway (not being a turnpike road), and any public bridge (not being a county bridge), and any road, lane, footway, square court, alley or passage, whether a thoroughfare or not. This appeared all right, and I was hopeful; but the next paragraph killed the good effects, for it stated that after this work was done to the satisfaction of the Corporation, the Corporation can be compelled by the greater part in value of the owners to declare any such yard a highway repairable by the inhabitants at large. The Town Clerk holds that the terms of this section can be made applicable to back-yards which are common to several houses, and these yards considered a street.

Well, we found that we had plenty of powers to compel, but the committee are not willing to compel the owners to do the necessary

work, and then the Corporation take them over and keep them in repair.

I am cognisant of the imperfections in my remarks, but shall be glad to learn the opinion of yourselves and what has been done in this respect in your towns.

DISCUSSION.

Dr. GARSTANG thanked the reader of the paper, and said he was pleased to see such a large meeting, and he hoped that Dr. Berry's request for a good discussion would be well responded to.

Dr. J. H. MARSH asked if the yards which had been held to be streets repairable by the people were enclosed or not.

Dr. GORNALL asked if it was customary for the cleansing department of the Corporation to deal with common yards. He said that that was the custom in Warrington. He had been struck with the grave danger that arises from unpaved yards. In Warrington, although there is power under a private Act, most of the work of this nature has been done under the nuisance clauses of the Public Health Act.

Dr. YOUNG spoke as to the great importance of having the backs of houses in a good sanitary condition, because these parts are far more used than the fronts. He said that, as a rule, the surroundings of the back of the house contrasts very unfavourably with the front. He had been able to deal with these cases under Section 91 of the Public Health Act as "premises in such a state as to be a nuisance." He described a method adopted by the London and North Western Railway Company in Crewe which converted the unsatisfactory "cobbled" pavement into a very satisfactory surface.

Dr. CHADWICK suggested that the old street setts might be used for paving back yards, and would probably be supplied by corporations at a very low rate when no longer fit for streets.

Dr. VACHER thought the contention of the Town Clerk of Wigan a most important one, and that it ought to be settled definitely. In Birkenhead they dealt with these yards under the Public Health Act, but he was of opinion that bye-laws would be necessary to carry out this work on a large scale. He instanced the difficulties in the conversion of privy-middens under the Public Health Act, when it is necessary to prove that each midden is a nuisance.

Dr. WHEATLEY said that in Blackburn all new yards were now flagged, and that the old yards were being flagged in large numbers each year. He considered flagging much superior to any form of pavement. The work is carried out partly under a local Act, and partly under the Public Health Act. Under the local Act, after representation from the Health Committee, the borough engineer serves notices, and if the work is not carried out, it is advertised and let by contract. He thought that an unpaved yard in a large town was, perhaps, the most serious nuisance that could exist in connection with a house.

Dr. COURTTS spoke with regard to brick-paving. He had been considering whether proceedings might be taken in respect of such yards when in bad condition as "yards which cannot be cleansed." He thought that in large houses a greater space than 150 square feet should be flagged.

Dr. SERGEANT spoke on the great importance of this subject and the difficulties in small places. He referred to the idea of considering a single back yard as a street as an absurdity.

Mr. BERRY replied: He was pleased with the discussion, and had got valuable information. He felt the subject was of some importance, and knew the members would agree that unpaved yards were injurious and insanitary. He was pleased to learn what had been done in Warrington and Blackburn by the assistance of local Acts, and glad Dr. Meredith Young had attained much in Crewe and Stockport under the Public Health Act, 1875, but thought that Section 96 of the Act would be necessary to enforce paving or flagging. He agreed that the yard should be made impervious, and perhaps flagging was the best; but if paving was done, it should be grouted with cement. Blackpool, where yards had been paved with red bricks, would do well to make bye-laws similar to those recommended by the Local Government Board, and adopt the Public Health Acts Amendment Act, 1890, and proceed under Section 23.

ON THE PRESENCE OF MICRO-ORGANISMS IN CERTAIN OILS, AND THE DEGREE OF VITALITY OF THE SAME.*

THE author calls attention to the possibility of the transmission of infectious diseases by means of fats and oils in consequence of the micro-organisms contained in the latter. Thus he points out that butter has been proved to contain both pseudo-tubercular bacilli, and also, but more rarely, tubercle bacilli, which are both active and virulent.

The fats dealt with commercially are exposed, and that freely, to all sorts of contaminations from the air of the streets and from handling both of customers and shop-assistants.

It is a mistake to suppose that fatty matters do not afford a suitable medium for the growth and increase of micro-organisms, as has been too generally assumed. The author has chosen for his experiments those oils which are largely used in commerce, and which are employed also in practical medicine and surgery.

He ascertained the presence of many of the hyphomyceti, of which the *Penicillium glaucum* was the most abundant; the schizomyceti were obtained in much smaller proportions. No pathogenic germs were found in the crude oils, which, as the author states, is a proof, not of their absence in all cases, but only of their rarity.

The author next proceeded to introduce pathogenic bacteria into the oils, and to watch the result.

When the temperature of the oil was raised to a considerable height, it was found that the germs rapidly disappeared, but at ordinary temperatures the vitality of the organism remained unaffected after a period of two months. The *Bacillus anthracis* was not employed in the experiments on account of its well-known tenacity of life. But as regards the *Bacillus coli*, the *Staphylococcus aureus et albus*, and Eberth's bacillus, the fact of their virulence being perceived when contained in the ordinary oils at normal temperature is noteworthy.

As the author remarks, the results should lead to the greatest care being employed in ascertaining the purity of oils used both externally and internally in medicine and surgery, and every precaution should be taken to prevent their being exposed to contamination.

If these safeguards be neglected, disasters may arise.

* "Sul contenuto microbico e sulla resistenza dei germi patogeni in alcuni oli." By Dr. L. Baldas. *Giornale della Reale Società Italiana d' Igiene*, February, 1901.