

finned to populous and detached portions of the town, but a large drain in every street, whether wholly occupied by houses or not, having tributary drains from every close and every house. Few towns could be drained at less expense than Greenock, the great proportion of the streets having a slope towards the river: there is a great deal of waste water about the town, which, instead of being allowed to run over the surface, might at little expense be turned into the main drains at the higher parts of the town, and which would effectually carry away all the liquid refuse which is apt to obstruct narrow drains.

4th. The removal of all dunghills and other collections of filth kept at present in the closes; in other well-regulated towns they are not to be found, and there is no necessity for having them here if the inhabitants were compelled to throw out their ashes, &c. at a proper time, when they could be carried away by the dung-carts. Public privies would require to be erected in suitable places and cleaned out at proper intervals.

5th. An effective body of scavengers, who should have power to enter every close and sweep away all the rubbish which cannot enter the drains; these closes ought to be so paved that their impurities could be easily distinguished and removed.

6th. That the cattle-market, slaughter-house, and certain manufactories and trades be removed beyond the precincts of the town. There are many minor points with regard to the size and distribution of drains, proper regulations for lodging-houses, and other inconveniences, having only a local bearing, which I need not now mention.

I have now gone over the chief points contained in your special inquiries, the other information which I have added I can vouch for as being correct, though it is not so extensive as I could have wished. If there be any of the subjects on which you would wish more minute information, or if I have omitted anything which would tend to forward your views, I shall feel most happy to supply it to the best of my ability.

I have the honour to be, Gentlemen,
Your most obedient servant,
W. L. LAURIE, M.D.

To
The Poor Law Commissioners.

Greenock, 5th December, 1841.

No. 14.

REPORT ON THE SANITARY CONDITION OF THE LABOURING CLASSES OF THE TOWN OF STIRLING.

By W. H. FORREST, Esq., Surgeon.

President of the Stirling Medical Association, Ordinary Medical Attendant on the Stirling Dispensary, &c.

1.—Have diseases of the various forms of continued fever, and other contagious febrile diseases, been prevalent in any, and what parts of your parish or district; and do such diseases recur at regular intervals, or are they rare and occasional only?

This question is best answered by a Table from the records of the Stirling Dispensary, showing the comparative prevalence of fever in the different streets of the town and in some of the adjacent villages during the last ten years:—

TOWN.			
	Cases.	Population.	Equal to
Saint Mary's Wynd	75	651	1 in 8.68
Saint John-street	44	493	1 in 11.20
Broad-street and Bow	53	657	1 in 12.20
Spital-street	22	307	1 in 13.95
Castle Hill	52	866	1 in 16.46
Baker-street	57	943	1 in 16.49
King-street	45	815	1 in 18.11
Cowane-street	37	851	1 in 23.
Upper and Lower Bridge-street	24	575	1 in 23.95
Craigs	10	492	1 in 49.20
Port-street and Mill-lane	8	444	1 in 55.5
Friar's Wynd	5	390	1 in 78.
VILLAGES.			
Saint Ninians	35	1369	1 in 39.11
New House	7	344	1 in 49.15

Twenty cases occurred in other parts of the country, the population of which is unknown. Added together, they form a total of 494 cases. Many other cases, however, occurred during the same period, which were treated privately by myself and other practitioners. During the past year, for example, eight persons, enjoying all the necessaries and many of the comforts of life, died in the upper part of the town alone of this disease.

2.—What are the seasons at which such diseases appear amidst any part of the population, and what are their characteristics?

This question will also be best answered by a Table indicating the number of cases which occurred in the dispensary during each month for the last ten years:—

Year.	Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sep.	Oct.	Nov.	Dec.	Total.
1831	13	9	3	1	0	1	2	5	4	5	14	12	96
1832	12	11	2	2	0	1	0	3	0	1	1	1	34
1833	4	9	10	4	2	5	7	17	1	14	12	11	96
1834	3	2	9	2	0	2	2	3	5	0	2	1	31
1835	1	4	5	0	0	0	0	0	0	1	0	1	12
1836	0	1	1	1	0	0	0	2	1	0	0	0	6
1837	3	0	14	13	19	21	26	13	11	15	15	9	159
1838	4	6	2	1	2	0	10	2	2	2	1	1	33
1839	1	0	1	2	0	0	0	1	0	1	2	1	9
1840	0	3	4	1	2	5	3	7	4	8	4	4	45
Total	41	45	51	27	25	35	50	53	28	47	51	41	494

3.—Did the cholera at the time of its general prevalence prevail to any, and what, extent within the district?

The cholera prevailed to a very considerable extent in this town and neighbourhood at the time of its general prevalence. Ninety-six cases were reported to the Central Board of Health as having occurred in Stirling, 59 of which proved fatal. The disease broke out again during 1833, but none of the cases, during this attack, were reported to the Board of Health. Ten of these cases were treated in the Dispensary, three of which proved fatal.

4.—What is the *external* condition, in the following respects, of the residences of the population amidst which such diseases occur?—

a.—As to the contiguity of vegetable or animal substances in a state of decomposition, stagnant pools or undrained marshes, accumulations of refuse, either thrown from houses or otherwise?—

b.—As to the means adopted or the means available for the *removal* of such substances, or the prevention of the generation of malaria; whether there are sufficient drains or sewers adequately well supplied with water to dilute, and sufficiently sloping to carry off all such refuse; whether such drains are sufficiently *closed* to confine noxious exhalations from them; whether there is any regularly appointed service of scavengers or otherwise for the removal of such substances; whether there is such ventilation around the resi-

dences as to dissipate the noxious vapours apparently irremovable?

a. There are no stagnant pools or undrained marshes in or very near Stirling. The poor, notwithstanding, are very much exposed to the effluvia arising from decaying animal and vegetable substances. These, for the most part, are thrown from the houses into abominable receptacles, called "middings." Many, very many, of the poor do not put themselves to the trouble of depositing their filth in these receptacles, but use the first place that presents itself, such as common stairs, closes, &c. Many, again, throw it without any ceremony or hinderance from their windows into the public streets and closes.

b.—The drains or sewers, called in Stirling "*sivers*," are all open and sloping. On the public streets, they are, in general, well constructed, but in the closes their construction is so very bad that scarcely any of them run well. The only supply of water, so far as I know, which they receive, is from the heavens. The inhabitants of Stirling, during many months of the year, do not obtain water sufficient for their domestic wants, and they cannot, therefore, have any to spare for their sewers. There is a regularly appointed service of scavengers, but it is inefficient. A few old men sweep the public streets from time to time, and the sweepings thus collected are removed in a cart, without any apparent attention to time or order. Sometimes the sweepings remain on the streets for many days. To show how matters of medical police are neglected, I shall state a few facts which are known to every person in Stirling. 1st. The filth of the gaols, containing on an average sixty-five prisoners, is floated down the public streets every second or third day, and emits, during the whole of its progress down Broad-street, Bow, Baker-street, and King-street—the principal streets in the town—the most offensive and disgusting odour. 2nd. The slaughter-house is situated near the top of the town, and the blood from it is allowed to flow down the public streets. 3rd. The lower part of a dwelling-house, not more than three or four yards from the town-house and gaol, is used as a "midding" and pig-sty, the filth being thrown into it by the window and door. 4th. There are no public necessaries; and the common stairs and closes, and even the public streets, are used, habitually, as such, by certain classes of the community. 5th. Two drains from the castle convey the whole filth of it into an open field, where it spreads itself over the surface, and pollutes the atmosphere to a very great extent. 6th. A dwelling-house in the Castle Hill, the greater part of which is inhabited, is used by a butcher as a slaughter-house; and some of the butchers kill sheep and lambs in their back shops, situated under dwelling-houses. 7th. The closes where the poor dwell, and where accumulations of filth most abound, are, I may safely say, utterly neglected by the scavengers. In some situations the

ventilation around the residences is good, but in many others, and especially in the closes, it is very bad, and, in my opinion, quite irremediable.

5.—Describe the *internal structure and economy* of the residences of the population amidst which contagious febrile diseases arise,—

a.—State whether they, as well as the surrounding land, are drained or undrained?

b.—Whether they are properly supplied with water for the purposes of cleanliness of the houses, persons, and clothing?

c.—Whether there are good means of ventilation with a due regard to warmth?

d.—Whether there are proper receptacles for filth in connexion with the cottages?

a. They are not drained.

b. The supply of water is often very deficient. There is no water-company; and the water is not conveyed into the houses even of the wealthy inhabitants. In times of scarcity, it is no uncommon occurrence to see from eighty to one hundred persons waiting at each public well for water; and the scarcity of it is often made an excuse by servants for the neglect of domestic duties. I may therefore with propriety say, that the poor of Stirling are often not properly supplied with water for the purposes stated in the query.

c. There are no good means of ventilation in the closes, but in other situations the means of ventilation are good. The science of ventilation has not made much progress in Scotland among the lower orders, and when its importance is stated to them, they in general show a great contempt for it. I am almost daily in the practice, when attending fever cases, of opening a window for the purpose of admitting fresh air, but as soon as I leave the house the window is closed, and continues so till my next visit.

d. In towns such as Stirling, I conceive that there should be no receptacles for the filth of the houses, and I must therefore consider every such receptacle as improper, however well situated or constructed. If these are tolerated, under any circumstances, the habits of the poor, which are beyond all description filthy, will never be changed. *Vide* Answers to Query 4.

6.—As to the internal economy of such residences, describe further,—

a.—Whether they are unduly crowded, and several families or persons occupy the space which would properly suffice only for a less number?

b.—Whether there are any inferior lodging-houses crowded by mendicants or vagrants?

c.—Whether there is a gross want of cleanliness in the persons or habitations of certain classes of the poor?

d.—Whether there is a habit of keeping pigs, &c., in dwelling-houses, or close to doors or windows?

e.—Whether there is an indisposition to be removed to the hospitals when infected with contagious disease?

a.—All the houses inhabited by the poor are unduly crowded.

b. There are numerous lodging-houses, of the very worst description, in various parts of the town, especially in Broad-street, St. John-street, Baker-street, and King-street. In all of these streets there are houses that harbour the lowest description of mendicants and vagrants.

c. There is gross and disgusting want of cleanliness in the persons and habitations of the poor. There may be a few exceptions to this character, but it holds true generally.

d. I have heard of pigs being kept in the houses of the poor, but this is by no means a general or common practice. It is a common practice, however, to keep them close to doors and windows.

e. We have no hospital in Stirling.

7.—Is the extension of the diseases described in Question 1 ascribable in any or what proportion to want of any of the necessaries of life, or to other causes than those specified in Questions 4, 5, and 6; if so, distinguish those other causes so far as you are able, and the extent of diseases resulting from them?

I am of opinion that typhus fever is produced by a specific poison, and that it is spread chiefly, if not altogether, by contagion. I do not think that this poison is ever produced by want of any of the necessaries of life, or by the causes specified in Queries 4, 5, and 6. These may, and I believe do, facilitate its diffusion, but they do not, in my opinion, produce the poison itself. They act rather as predisposing than exciting causes of typhus.

8.—What is the common cost of erection and average cost of repairing each description of the tenements or cottages inhabited by the labouring classes?

The residences of the poor in Stirling are generally very old houses, which have been gradually abandoned by the richer classes. Few houses have been erected for their accommodation.

9.—What are the rents paid by the labourers for each description of tenements or cottages?

The rents paid by the poor are enormous, and far above the value of the miserable apartments which they occupy.

10.—What is the general proportion of the rent paid by the labourer to his total expenditure?

I cannot answer this query.

11.—What is the common cost of the lodgings to persons of the labouring classes?

A labourer is accommodated in a poor family with permanent lodgings, for one shilling a-week. In the lodging-houses the charge is threepence for each mendicant or vagrant, every night.

12.—Are you of opinion that any and what legislative measures are desirable or available for remedy of any of the evils existing within your district?

The powers of the municipal authorities of Stirling are not sufficient for the purposes of a medical police. They do not, for example, possess the power of entering private property, and removing therefrom nuisances injurious to health. This was seriously felt immediately before the invasion of the cholera in 1832. I am of opinion that a Board of Health ought to be constituted with ample powers to enforce the removal of all nuisances both public and private, the cleansing, whitewashing, and ventilating the houses of the poor, the suppressing of all lodging-houses harbouring mendicants and vagrants, and the building of new houses for the poor, agreeably to a plan approved of by competent judges. This Board should, in my opinion, be composed chiefly of persons fully and accurately acquainted with the subject of medical police. I am also of opinion that any expenses incurred by this Board in the removal of nuisances, &c., should be paid by the parties offending, whether public or private, and that the proprietor should in all cases be liable for his tenant.

13.—Have any, and what voluntary exertions been made to improve the external or internal economy of the residences of the labouring classes within your district, and if so, describe their nature and effects?

A great many nuisances were removed, especially in the Castle Hill, immediately preceding the invasion of the cholera. In this quarter of the town all the nuisances on the public streets were, without any exception, removed, and most of those on private properties were very much mitigated. Every house in this quarter too, was, with a single exception, whitewashed, both outside and inside, and I believe with the happiest results. Several of the lodging-houses were also for a short time suppressed. These improvements were effected altogether by the energetic and unwearied exertions of a committee appointed by the Board of Health. In other districts of the town the duties of the other committees, similarly appointed, were not discharged so rigidly, and all traces of them are now completely effaced, whilst the inhabitants of the Castle Hill are still reaping the benefits of the rigid purification which this district underwent in 1832.

General Observations.

By the term typhus is understood the common continued fever of this country, and no other fever whatever. The statements in the preceding Answers therefore apply exclusively to it.

The Stirling dispensary, the different reports of which furnish the tables of disease contained in the preceding answers, was founded in 1831. Its object is to furnish gratuitously medical attendance and medicine to the poor. It is supported entirely by voluntary subscription; and no patient is admitted unless he is recommended by a subscriber, who certifies that the applicant is a poor person and unable to pay for medical attendance and medicine. Having been the ordinary medical attendant of this institution during the last ten years, and admitted and treated nearly all the cases of fever contained in the preceding Tables, I can, with great confidence, state that they can be implicitly relied on.

WILLIAM H. FORREST.

No. 15.

REPORT ON THE SANITARY CONDITION AND GENERAL ECONOMY OF THE LABOURING CLASSES IN THE CITY OF ST. ANDREWS.

BY JOHN ADAMSON, Esq., *Surgeon.*

GENTLEMEN,—If I rightly understand the object of your inquiry, it is expected of me, in the following Report, to exhibit the sanitary condition of the labouring inhabitants of St. Andrew's, in connexion with their general habits, grade of living, and such external circumstances as may be supposed to influence them.

With this view, I shall, in the first place, describe the condition of the town, so as to notice those general causes which may be supposed to affect the health of the community.

These are connected with the topography and meteorology of the district, the position and structure of the town, the nature of the soil, and the drainage, cleanliness, and ventilation of the streets and houses.

I will then illustrate the domestic economy of the working classes, by the information I have been able to procure regarding their personal habits, the wages of different trades, their customary food, and the aids which they derive from charity, whether public or private.

The rate of mortality in the town will be proved by the records of funerals compared with the estimated population; and the prevailing diseases will be approximated by a table compiled from