

sickness, diarrhœa, and other symptoms resembling those of cholera, has recently received melancholy confirmation in numerous instances. Mr Grainger reports, that "in a small court in the City of London, containing 15 houses, and a population of about 200 souls, there is only one stand cock for the supply of water. On some days even this wretched supply is not given. In the cellar of each of these houses is a privy, and some time since the owner laid down a barrel-drain, communicating on the one hand with the common sewer, and on the other with the privies; but as the latter were not trapped, and there was not in a single house any water supply, the most noxious effluvia escaped from the drain into the interior of the dwellings, which were consequently in a highly offensive condition; indeed I never witnessed a more noxious state of things. The results as to the health of the unhappy inmates of this court have been most disastrous; there have been, in a very short time, no less than 13 cases of developed cholera, of which 7 were fatal, besides a large number of diarrhœal cases; and it is by no means certain that other attacks will not follow."

"The total want of a supply of wholesome water in many densely populated parts of London, has, during the prevailing epidemic, produced the most fatal results. Various instances have come to my knowledge in which the most destructive attacks of cholera have been distinctly traceable to the use of foul water for domestic purposes; in some cases, the poor inhabitants have been compelled to use water from offensive ditches, into which sewage matter flowed; in other instances, the supply has been obtained from wells, into which drains have directly emptied themselves. Water thus impregnated with decaying matter is particularly calculated to cause disturbance of the alimentary canal; and at the present time would unquestionably act as a highly predisposing cause of cholera."

"The influence of the water supplied to the inhabitants of London," reports Dr Gavin, "in producing diarrhœa, and developing cholera, is shown by the following facts:—

"22 persons inhabited 5 houses in a small square; 2 houses being on one side, and 3 on the opposite side of the square.

"In a few days 11 of these persons died of cholera:—of 1 adult inhabitant at No. 1, 1 died; of 5 inhabitants at No. 2, a child died; of 7 inhabitants at No. 3, the mother and 3 children died; of 5 inhabitants at No. 4, the mother and 2 children died; of 4 inhabitants at No. 5, the mother and son; the deaths followed in rapid succession."

"Now, the supply of water to these 5 houses is from a pump originally sunk 18 feet, but on the formation of the sewer it was sunk to 24 feet, as if to ensure the reception of the water percolating from it. Near the centre of the small square of 50 feet, a cesspool was dug to receive the surface drainage of the houses, and to relieve the cesspools of the fluid matters, also to receive the drainage from an adjoining stable. Within a few feet of the pump a hole had been dug to receive water to water the square, laid out as a garden. Into this hole decaying vegetable matter had been thrown, and was accumulated. Moreover, the sokeage from a large heap of manure (since removed) passed into the well. The adjacent road is badly drained; and doubtless, the drainage from it finds its way to the well, which is the lowest level. It is impossible to stand close to this pump without perceiving the nauseous and offensive smell arising from it. There is no doubt

that the state of the water, holding as it did organic matter in solution, was the remote cause of the heavy mortality which swept away, in a few days, one-half the inhabitants of the square."

After an elaborate examination of the cause of the dreadful loss of life occasioned by the outbreak of cholera in Albion-Terrace, Wandsworth-Road, Mr Grant, the Assistant Surveyor of the Metropolitan Sewers Commission, says, "Whatever other influences may have existed in causing this excessive mortality, I cannot, for the reasons stated, avoid coming to the conclusion, that the contamination of the water, with which the Terrace was supplied, was one prominent element."

It appears that on the 26th of July (the first case of cholera occurring on the 27th) a very sudden and heavy fall of rain occurred; this seems either to have caused the drains to overflow into the tanks, or to have burst the drains or cesspools, the contents of which flowed partly into the tanks. "The samples of water taken from the tanks," says Mr Grant, "require but to be looked at and smelled to satisfy any one of their contamination, which seems clearly to have taken place after the water left the spring." Among the results of a more careful examination made by Dr. Snow, a medical gentleman who has taken considerable interest in this case, the following is one:—"The large bottle labelled No. 7, contains black semi-fluid matter, possessing very distinctly the odour of privy soil. On proceeding to open the bottle, as soon as the cork was disturbed it was driven violently out, together with part of the contents, by the gases resulting from the putrefaction going on. There was sulphuretted hydrogen among the gases. Several substances that escape digestion were found in the contents of this bottle—as currants, grape-stones, and portions of the epidermis, or thin outer covering of fruits and vegetables; and another material that enters privies was found, namely, little bits of paper."

"The fatal effects of impure water at such a time as the present," adds Mr Grant, "appears to be confirmed by another remarkable case of excessive mortality lately reported by me in Surrey Buildings, where in one court 10 or 11 persons died in one week of cholera, and in the adjoining court the people remained in health, the only apparent difference in the two courts being, that in the first is a well in which foul water was admitted, and in the other there was not."

Some of these deplorable results have happened partly in consequence of want of due care, and partly from the small extent of the supply afforded. It might seem almost out of place to recommend that water which smells or tastes offensively should not be used; and yet there is reason to fear that the use of such water has occasioned fatal attacks of cholera during the present epidemic season. The leakage of privies, cesspools, or sewers, even in very small quantities, is known to render well-water poisonous.

In other cases however, the retention of the ordinary water-supply in cisterns or other vessels, so as to expose it to the absorption of unwholesome exhalations, renders the water unfit for use after a short period of time. Hence the urgent necessity, at a season like the present, of affording daily supplies of water, especially to the poorer districts, where, from the great contamination of the atmosphere, the water which is exposed to it becomes rapidly vitiated. Hence also the necessity of the very frequent emptying and cleansing the cisterns, and the importance of not retaining for any length of time the water that is