that priests, in performing their duties (to which in England, unlike many continental countries, they appear to have bravely kept) of administration of the Sacrament, Absolution, and burial, were more exposed to infection than the average lay person? But, allowing liberal deduction for this view, the picture of the desolation of the country drawn by the author in Chap. IX. is intensely and painfully interesting.

In the last chapter the author treats of "Some Consequences of the Great Mortality." Those who have examined the records themselves are practically unanimous in considering that the disease swept away fully one-half of the entire population of England and Wales. The most immediate effect of this mortality was to produce a complete social revolution. The Black Death comparatively speaking spared the rich and took the poor. Thus a premium was put upon the services of those that survived, and consequently the old methods of cultivation and the old tenures of land became impossible. The land owners, who hitherto had had it all their own way, now had a hard time of it. In vain did the King and Council attempt to prevent the rise of wages by legislation. The frequent complaints of non-compliance with the regulated wages were eloquent proofs of the futility of the legislation. Gradually also the traditional system of cultivation of the land by the land owners and their bailiffs gave way to the land lease with a certain fixity of tenure. The popular rising of 1381 practically emancipated the labourers from the mediæval system of serfdom.

The Great Pestilence left its traces on our language, English superseding French among the nobility and gentry, who had always previously spoken the latter. Traces of the pestilence are visible in the architecture of many churches, which having been partially built before it commenced, were not completed until after a change had been made in the style in vogue. Upon the Church itself, Dr. Gasquet points out that the sudden removal of so large a proportion of the clerical body must have caused "a breach in the continuity of the best traditions of ecclesiastical usage and teaching." The dearth of priests is indicated by several striking examples. In the diocese of Bath and Wells a man was admitted to the first step to orders in the lifetime of his wife, she giving her consent and promising to keep chaste, but not, as was usually required under such circumstances, being compelled to enter the cloister, "because she was aged, and could without suspicion remain in the world." Similarly another priest at his ordination was made to swear upon the Holy Gospels that within twelve months he would learn the Articles of Faith, the Ten Commandments, the seven mortal sins, the form of baptizing, etc. The demand for higher stipends was taken up by the survivors among the clergy, as well as among labourers. King Edward, referring to this fact,

inveighed against "the unbridled cupidity of the human race," forgetting that owing to the paucity of labourers, the cost of subsistence had increased for priests as for the rest of the community.

The foregoing sketch of the scope of Dr. Gasquet's work will probably tempt many hygienists to purchase it. Its interest is very great, whether from the hygienic or the historical standpoint. The value of the book is enhanced by a copious index.

DIARRHŒA IN SOME LANCASHIRE AND YORKSHIRE TOWNS IN 1892.*

WITH A NOTE ON AN EXPERIMENT IN SCAVENGING.

By J. SPOTTISWOODE CAMERON, M.D., B.Sc., Edin.,
M.O.H. for Leeds.

THE death-rate from diarrhœa in the 28 large towns in the decade 1882-91 was 0.88, while for the year 1892 it was 0.71, an improvement of 19.3 per cent. In Leeds, while our death-rate had been 1.12 in the ten years, it was 1.09 in 1892, an improvement of less than 3 per cent. There was, therefore, in that year, somewhat of a check to the improvement which had been taking place in our diarrhœa death-rate during the two preceding ones. In a special report on this subject to the Sanitary Committee at the close of the autumn of 1892 I showed by a chart how the larger Lancashire and Yorkshire towns had severally behaved during the quarter. In Salford a sudden rise in the death-rate to 8½ per thousand occurred in the week ended September 3rd, the average rate for the three months being 2.57. In Liverpool and Manchester the rates were respectively for the quarter 2.45 and 2.08; the highest rate for the former being 4 deaths per thousand of the population during the week ended August 13th, the curve for the quarter having a second but more gradual rise during the end of August and the beginning of September. In Manchester the curve began to rise somewhat steadily a week later than the Liverpool apex, and reached 4½ and nearly 5 deaths per thousand in the fourth and fifth weeks of August. In Bolton, with a death-rate for the quarter of 3.72, while a rate of 4 per thousand was reached the same week as in Liverpool, a slight fall the following week was succeeded by a steady rise in the two weeks which followed. The death-rate for the week ended September 3rd was 11.7, after which the rate fell steadily in two weeks to 4 per thousand. It was nearly five in the penultimate and 0.4 in the last week of the quarter. In Preston, with a death-rate for the period of 4.49, the mortality rose in the week ended August 27th, from 1.9 to 5.7, and in the following week to 12 per thousand, dropping in the week ended September 10th to 11, and in the following week to 7, and two weeks later from 7 to 4. During the same period the death-rate in Oldham remained considerably below 1 per thousand to the end of August. In the

* Chiefly from Dr. Cameron's Annual Report for 1892.

week ended September 3rd, it rose to 2.7, the highest point reached during the quarter, whence it went steadily down, the average for the three months being 0.87.

Of the three Western Yorkshire towns, Sheffield, Huddersfield, and Halifax, in the first of these the rate for the period was 3.50, the mortality having increased in the first half of the quarter pretty steadily to nearly 3 per thousand, after which it shot up in the weeks ended August 27th and September 3rd, to 6.5 and 8.2. It continued for a week longer above 8, fell in the week ended September 17th to 5.5, and the two following weeks to 2.4 and 2.2. In Huddersfield the rate for the period was 0.57. The highest rates, 1.6, occurred in the weeks ended August 27th and September 3rd. Week ended September 10th the rate was 1.1, and the three following weeks 0.5. Halifax had an even lower rate of 0.14, only 3 deaths being recorded during the three months. Bradford had a rate for the thirteen weeks of 1.31; the rate kept well down till the week ended August 20th. In the week ended August 27th, the rate was nearly 1 per thousand, in the three following weeks it was 2.4, 2.6, and 3.3, falling in the week ended September 24th to 2.4, and in the last week of the quarter to 1.2. In Hull the rate altogether was 2.87; it kept low till the week ended August 20th; the next week it rose to 2.5 per thousand, the following week to 7. For the weeks ended September 10th and 17th, it was 6.4 and 6.6, the following week 5.4, and in the last week of the quarter 3.1. In Leeds our rate for the quarter was 3.39. After the end of July the rate rose pretty gradually to 5 per thousand, which point it reached in the week ended August 27th. The week ended September 3rd it stood at 9, fell to 8½ the following week, then to 6, 4, and 3 in the succeeding weeks. Of the towns mentioned, Leeds stood fourth in order of highest diarrhoea mortality for the quarter, the rates being: Preston, 4.49; Bolton, 3.73; Sheffield, 3.50; Leeds, 3.39. Hull, Salford, Liverpool, and Manchester ranged between 2.87 and 2.08, then came Bradford, 1.31; Oldham, 0.87; Huddersfield, 0.57; and Halifax, 0.14.* The three last-named are towns which have adopted the pail system of refuse removal pretty nearly in its entirety. The Registrar-General does not give the statistics for Rochdale, a town whose name is largely identified with this system.

Manchester, with a death-rate of 2.08 per thousand from this cause, compared with a general death-rate of nearly 24, compares favourably as to diarrhoea with Leeds with a death-rate in 1892 of 3.39 in the third quarter, and a rate from all causes for the year of under 20. In Manchester, again, a

considerable portion of the town is dealt with on the pail system (there are about 23,000 middens and 75,000 pail closets). The high mortality in Bolton and Preston was probably accounted for to a large extent by work conditions. In both towns there was a high mortality amongst very young children, and in both towns I believe mothers work in the cotton factories. Preston is a town in which the midden system is still prevalent, although a great deal is being done in the introduction of water closets. The conversion, however, of middens into water closets has been delayed on account of the fear of increasing the sedimentary deposits in the river. The new sewage works have enabled the conversion to be proceeded with. The pail system has only been adopted to a very limited extent, and in a very imperfect manner in Leeds. About half its houses are provided with some sort of water carriage system, and about half have middens.

Postscript.—In consequence of the special report referred to, the Leeds Sanitary Authority determined to see whether any special means would reduce this high mortality from diarrhoea. It was accordingly resolved in one district, with a population of nearly 34,000, and comprising nearly a tenth of the town, to use certain special cleansing measures on the approach of summer (see Dr. Cameron's report for 1892, pp. 101-2). The result is noteworthy. In the dry autumn of 1893 Leeds, like other large towns, had a mortality from diarrhoea high even compared with that of 1892. That autumn the death-rate from this cause rose to 5.19, as compared with 3.42* the preceding year, and 3.28 the autumnal rate for the decade 1883-92. Only in one district in Leeds did the rate not exceed that of 1892, and that was the one specially scavenged. In another district the increase was merely nominal, but in the "scavenged" district the death-rate actually decreased as compared with that of 1892 from 7.01 to 6.40.

Those who have studied the Registrar-General's report for the autumn quarter of 1893 will have observed that the death-rate from diarrhoea did not increase in the same ratio in towns with a usually high rate from this cause as in those with a lower rate. Of the Lancashire and Yorkshire towns, for instance, Bradford, Oldham, Halifax, Blackburn, and Hull had rates respectively 105, 114, 150, 176, and 180 per cent. above their rates for the preceding decade. Of these Hull had a rate for the decade of 3, Blackburn of 2.5, Bradford of 2.1, and Oldham of 1.4. On the other hand Leeds and Sheffield, with rates for the decade of 3.4 (R.G.), only increased their rate 50 per cent., and Preston, with a decade rate of 6.2, only 52 per cent. The increase in England and Wales was 75, that of the great towns only 40 per cent.

* The weekly rates were calculated from the deaths published in the Registrar-General's weekly returns, those for the quarter were taken from his quarterly return. The latter contains, sometimes, corrections of the weekly returns, but not in detail.

* 3.42 for 3.39, as given in previous part. The latter is the Registrar-General's, the former my own death-rate for the third quarter of 1892. In dealing with Leeds alone, and its parts, I fall back upon my own figures.