ON THE DEATH-RATES IN THE COTTON DISTRICTS.

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At page 6 of the last Quarterly Report of the Registrar-General occur the following observations, which may serve as a text for the present paper.

"It is right at the present time to guard against deductions from the returns of mortality which they do not justify. . . . The allowances may or may not have been sufficient in amount, but the returns of mortality furnish no evidence of the fact; they only show that extreme consequences of famine have not yet been manifested in Lancashire. . . . Recreation in the open air, moderation in meat and drink, and the due administration of domestic offices, are beneficial to health; but, if they have been compensation for the loss of wages, the tables above quoted are silent on the point. These tables prove that, under circumstances favourable to human life, the mortality in England was reduced last quarter, and that the districts of the cotton manufacture were not prevented by the distress from participating in the benefit; they cannot show that, if Lancashire had been prosperous, the health of its people would not have been still better, and a further reduction of mortality obtained."

Doubtless these remarks are made by the Registrar-General with the praiseworthy object of preventing the current of public and private charity from being checked by a partial consideration of the facts relative to the mortality in the cotton districts which appear in his own tables. While thoroughly sympathising with this object, I think that the Registrar has failed to seize the full meaning of the facts in question, and that it may tend most to the general good and the interests of sanitary science if their import be clearly pointed out.

For the purposes of this investigation, I have divided the unions of Lancashire into two, and subdivided them into five groups, taking as the leading principle in the arrangement the more or less intimate dependence of each on the cotton manufacture.

In the first class I have placed those unions in which more than one-fourth of the adult population, male and female, were, according to the census of 1851, engaged in the spinning, weaving, printing, and dyeing of cotton. These are, Ashton, Blackburn, Haslingden, Chorley, Bury, Burnley, Oldham, Preston, and Bolton.

In the second appear only Manchester and Rochdale, places in which the number of operatives employed as above is considerably less than one-fourth, but where the distress is great, and the rates are stated by Mr. Farnall to be heavier than in some of the preceding class—doubtless in part, at all events in the case of Manchester, from the fact that there are immense numbers of persons who appear in the census under various heads, but who depend more or less directly on the cotton manufacture for their means of living.

In the third are six districts, where less than one-fourth of the adult population are employed as above, and in none of which, so far as we can learn, are the rates heavy. Even in Wigan, the only one of the six in which we hear of much distress, they have not reached the proportion of five shillings. These are, Wigan, Chorlton, Salford, Clitheroe, Leigh, and Barton-upon-Irwell. I will call this, for convenience sake, the half-cotton group.

In the fourth are seven districts, which have little or no direct connexion with the manufacture; viz., Ormskirk, Prescot, Warrington, Fylde, Garstang, Lancaster, and Ulverstone.

The fifth group might have been classed with the fourth, but is sufficiently important and peculiar to form

a separate subdivision, including only Liverpool and West Derby, or the town and suburbs of Liverpool.

More clearly to exhibit the facts, I have constructed, from the data supplied by the Registrar-General, two tables, which are appended to this paper. In the one, I have calculated, for each district or group of districts, the rates of mortality in the summer quarters of 1861 and 1862; in the other, the summer of 1860 is also taken into account.

The summer quarter of 1862, as may be gathered from the words above quoted of the Registrar-General, was unusually healthy throughout the greater part of England. Cold summers almost always are so in this country; and September was the only month of the three constituting the quarter whose temperature reached the average. Accordingly, all the eleven registration provinces, except the metropolis, and most of the counties, exhibited a decline of the rate of mortality, as compared with that of 1861. If the whole county of Lancashire had merely participated in this general improvement, there would have been nothing very remarkable in the fact; and, at the first blush, the figures show little more; while they also show that, in the extraordinarily healthy summer of 1860, the death-rate in Lancashire, as over all England, was lower still. It is only when we come to divide Lancashire into two sections, on the plan above stated, that we arrive at the mark-worthy result, *that the whole of the decline in the county has taken place in the cotton districts*; while there has been a positive increase in the other or more prosperous group of unions. We find, moreover, that while in the latter the increase of mortality over the healthy summer 1860 is prodigious, amounting to 27 per cent., in the former the decline remains even on that comparison.

Proceeding further to subdivide these two groups into five, we find the facts continuing to tell in the same direction. In the summer of 1861, while all Lancashire was still prosperous, the death-rates increased pretty uniformly in the several sub-groups of districts, the increase varying only between 20 and 27 per cent., and being exactly equal in the cotton and no-cotton groups. This increase, then, might fairly be attributed to meteorological and other analogous causes operating on all alike. But in the summer of 1862 a great change has taken place. The meteorological causes of disease remain, as before, common to the county; but the previous concert in the fluctuation of the death-rates is altogether broken, and, instead of 120 and 127, the extremes are as wide apart as 92 and 132. What can be the disturbing elements? Are they connected with the consequences of the scarcity of cotton? The figures yield an unequivocal affirmative. The much-cotton groups give in 92 and 98; the no-cotton ones, 117 and 132; while the half-cotton group occupies, as, *ex hypothesi*, it should do, an intermediate position (109).

To test yet further the accuracy of the results arrived at, we may now examine the returns from those districts in other counties than Lancashire where the cotton manufacture is extensively carried on. Tested by the census reports of 1851, these appear to be Stockport in Cheshire, Todmorden and Saddleworth in the West Riding, Hayfield and Bakewell in Derbyshire, and Carlisle. In every one of these six districts there is a decline, and in most of them a considerable one. In Hayfield and Bakewell, indeed, the decline falls much short of that in the remainder of the county; but in Todmorden and Saddleworth it far exceeds the average of the West Riding; while the remainders of the counties of Cumberland and Cheshire yield a positive increase of mortality. On the whole, there are, in the five counties above mentioned, twenty-three which may be considered as cotton districts, and sixty-three which are otherwise. Of the former, only two—viz., Chorley and Clitheroe—or 8 per cent., present an increased death-rate; while, of the

latter, no less than twenty-four, or 38 per cent., are found to do so.

It may be worth while to point out that the distress which prevailed in Coventry, and the neighbouring unions of Nuneaton and Foleshill, two years ago, was observed at the time to be accompanied by a decline in the mortality. In the present year, Coventry, never fully recovered, has again relapsed into deep distress; and again the same coincidence appears.

All these facts are more clearly set forth in the sub-joined tables. On careful consideration, I can perceive no objection to their validity worthy of mention. It may perhaps be said that emigration may have diminished the population of many of the distressed towns, and thus lessened their death-rates. It is, however, highly improbable that such emigration can have taken place to any noteworthy extent: Haslingden is the only district where the local registrar takes any notice of it. The class most prone to migrate—viz., the young adults—is precisely that which always furnishes fewest deaths. Moreover, the rather high birth-rate tells strongly against such a supposition. The decline in the usually high marriage-rate, which in Blackburn, Ashton, Preston, and Hayfield is great, but elsewhere moderate, is, of course, due to the pressure of poverty and the gloom and uncertainty of the future.

It seems to me that from these data we are entitled to conclude that the partial stoppage of trade in the cotton districts was, during last summer, attended by a great diminution in the death-rate; and that of this diminution it was a remote or indirect cause.

The proximate causes could be better set forth, and their relative importance more accurately estimated, by one better acquainted with the country and people than the present writer. Some of them, however, I have no doubt, are those indicated in the notes appended to their reports by some of the district registrars. Such are the greater amount of fresh air and out-door exercise obtained by the factory operatives, the cutting off from drunkards and opium-eaters of the means of indulging in their vicious habits, and the greater attention and care bestowed on young children by their mothers, who, from the shortness of work, are kept at home, instead of deserting their houses for the mills. Possibly we may add to these the greater purity of the air, no longer sullied by the fumes which, in a manufacturing town, are thought to furnish the most palpable evidence of prosperity.

It is a subject of grave consideration how to mitigate, henceforward, the virulence of those physical and social evils which seem to be so interwoven with our manufacturing system that its sudden collapse wears in the Registrar-General's reports the aspect of a positive blessing. Happily, the days are long past when, in the interest of greed against health and life, the disgraceful opposition to the Ten Hours Bill was carried on. Much has been done by enlightened and benevolent manufacturers, in the way of improving the ventilation and arrangements of factories and schools, diminishing or counteracting the production of noxious dust, etc.; but much yet remains to be done in improving the physical conditions under which the cotton and other manufactures are carried on. Of the social evils connected with the system, those resulting from the employment of married women in factories are still more difficult to deal with, and more intimately connected with the prosperity of the trade; for so long as it flourishes and affords high wages to female labour, so long will the temptations of the factory attract mothers from their proper sphere—the home.

In conclusion, I must again caution the reader against drawing too hasty or too extensive corollaries from the facts which have been substantiated above. They show, it is true, that hitherto the effects of famine have not been experienced, except, perhaps, in isolated cases;

and that the comparison of the condition of the Lancashire folk, as it has been hitherto, with that of the peasantry of Munster and Connaught in the terrible years of the potato-blight, is a gross exaggeration. But they do not prove that the bare subsistence, secured by the public bounty and the systematic and unwearied exertions of the relief committees to the great majority of the poor, which sufficed to preserve them from sickness during the summer, will carry them equally well through the damp, inclement Lancashire winter, when also the deficiency of warm clothing, unfelt in summer, may tell with deadly effect. Nor can we say whether the scanty subsistence, which is the habitual lot of large numbers of people in other and hitherto less prosperous districts, and serves to maintain in them a certain standard of health, may not in the course of time tell very unfavourably, and produce low forms of chronic disease, among the hitherto well-fed and comfortable operatives, overlookers, and shopkeepers of Lancashire.

TABLE I, exhibiting the Rates of Annual Mortality in the Summer Quarters of 1861 and 1862.

Districts, etc.	1861.	1862.	In-crease.	De-crease.
England	2.012	1.836		.176
Lancashire	2.436	2.116		.320
First group: Ashton, Black- burn, etc.	2.387	1.892		.495
Second group: Manchester and Rochdale	2.920	2.176		.744
Third or half-cotton group	2.266	1.980		.286
Cotton Division	2.533	1.967		.566
Fourth group: Prescott, etc. ..	1.932	1.820		.112
Fifth group: Liverpool	2.624	2.768	.144	
No-cotton Division	2.384	2.436	.052	
Stockport	2.368	2.043		.325
Rest of Cheshire	1.856	1.883	.027	
Hayfield and Bakewell	1.956	1.768		.188
Rest of Derbyshire	2.062	1.600		.462
Todmorden and Saddleworth ..	2.136	1.768		.368
Rest of West Riding	2.138	2.056		.082
Carlisle	2.070	1.865		.205
Rest of Cumberland	1.762	1.782	.020	
Coventry, Nuneaton, Foleshill Rest of Warwickshire	1.904 2.010	1.600 1.912		.304 .098

TABLE II, exhibiting the Relative Proportions of the Mortality in Three Summer Quarters, that of 1860 being taken as the standard.

Districts, etc.	1860.	1861.	1862.
England	100	117	107
Lancashire	100	125	109
Cotton Division	100	125	99
No-cotton Division	100	125	127
Ashton, Blackburn, etc.	100	127	98
Manchester and Rochdale	100	123	92
Half-cotton group	100	120	109
Prescott, Ulverstone, Fylde, etc. .	100	124	117
Liverpool	100	125	132

EXTRAORDINARY SELF-MUTILATION. The woman, the subject of self-mutilation, the wife of a barman, named Jane Brickland, aged 38, for some time past had given way to drinking habits, and while intoxicated she deliberately chopped off her left hand and wrist. She then wrapped up her arm, and in proceeding to the University College Hospital she called in at the Lord Wellington, and, having taken some brandy, she walked into the hospital, and told the porter she had cut herself. Unwrapping her arm, she said she had left her hand at home; it was a beautiful hand, and she was sorry she had not brought it, as they might have put it on again. During the exhibition of the limb she maintained a remarkable degree of coolness. Mr. Gee, house surgeon, immediately attended, but he found it necessary to send for Mr. Quain, and shortly afterwards the arm was operated on. It is believed that the woman will recover. (*Express*.)