MISCELLANEA

Outbreak of Fever in Cotton Mills at Radcliffe, 1784

INTRODUCED BY
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In the Mackenzie Lecture published in this issue I have endeavoured to indicate the importance of this outbreak at Radcliffe in the development of measures to promote the health of factory workers. As appears from the sameness of quotations, often distorted by paraphrasing, few authors of medical and social essays on the period have read the report by Dr. Thomas Percival and his colleagues in the original text. The reason, of course, is that copies are rare and not easily accessible. It is hoped that the following reprint and library sources may be of interest and assistance.

A representation of a very alarming nature having been made by Lord Grey de Wilton, and a great number of the most respectable inhabitants of the township and neighbourhood of Radcliffe, in this county, to the gentlemen to whom the following letter is directed, of a malignant fever, which was supposed to have originated in the cotton works there; they took the liberty of desiring Dr. Percival, and the other medical gentlemen of Manchester, would take upon themselves the trouble of making such inquiries as they should think necessary, in order to ascertain the causes to which it was owing, and the most proper methods to be used to prevent the further spreading of the contagion. Much to the credit of the physicians, they undertook the task with the greatest alacrity, went over to the infected place themselves, and the following report was the consequence:

To

SAMUEL CLOWES, jun.
THOMAS B. BAYLEY,
DORNING RASBOTHAM,
and

M. BENTLEY.

HIS MAJESTY'S JUSTICES Of the PEACE for the
County Palatine of LANCASTER.

GENTLEMEN,

WE have taken into the most deliberate consideration your very humane and judicious requisition; and we shall now lay before you the result of our inquiries, concerning those interesting objects, which you have proposed to our investigation. We have fully satisfied ourselves, either from actual observation, or authentic testimony, that a low, putrid FEVER, of a contagious nature, has prevailed many months in the cotton mills,

and among the poor, in the township of Radcliffe. We cannot, however, ascertain whether this fever originated in those works, or was imported into Radcliffe from some other parts of the county. But though this point remains doubtful, we are decided in our opinion, that the disorder has been supported, diffused, and aggravated, by the ready communication of contagion to numbers crowded together; by the accession to its virulence from putrid effluvia; and by the injury done to young persons through confinement and too-long-continued labour: to which several evils the cotton mills have given occasion.

These evils, we trust, are not without remedy; and from the benevolent attention which the proprietors of the Radcliffe works have shewn to the sick and infirm under their charge, we may reasonably presume to hope they will be induced to adopt the following practicable regulations, from motives of policy, humanity, and justice, as well as from the respect which is due to your authority:

I. All the casements of the windows, and the three large western doors of the cotton mills, should be left open every night: the same regulation should take place during the recess from work at noon; and as many casements should be kept open in the hours of labour as may be compatible with carrying on the operations of the machinery.

II. The casements are too small, being in dimension only about one sixth part of the window: they are likewise placed high, and parallel to each other, a position obviously unfavourable to complete ventilation; for the inlet of the air ought to be lower than the outlet.

III. Several fire places, with open chimnies, should be erected, at proper distances, in each work room. The stoves now employed afford no sufficient passage for the offensive vapours generated in the rooms, and increase the contamination of the air by the effluvia which they emit. Turf would be the cheapest, and also a very salutary fuel; for it consists chiefly of the roots of vegetables, and yields, in burning, a strong, penetrating and pungent smoke, which is likely to prove as good an antidote to contagion as that of wood is found to be from long experience.

IV. The rooms should be daily swept, and the floors washed, at least once every week, with strong lime water, or with water impregnated with the spirit of vitriol or the acid of tar. The walls and ceilings may be scraped and whitewashed, at first, every month, and afterwards twice or thrice yearly. Lime, fresh burnt, and as soon as it is stacked, must be used for this purpose, and the wash laid on whilst it is hot.

V. During the prevalence of the present fever the apartments should be fumigated weekly with tobacco.

This Court is pressed with the Obligations it is under to Doctor Percival Doctor Cowling Doctor Eason and Doctor Chorley for the Diligence and Attention they have Shewn in Visiting the Manufactories and Cotton Works at Radcliff in the said County and for the Learned and usefull Information they have Given respecting the same for the purpose of putting a Stop to the alarming Sickness which has prevailed and still continues there and for preventing the same in future give the public and Sincere Thanks of the Court to the above Gentlemen on this Occasion

*By Order of Court
J. Taylor
Deputy Clerk of the Peace for the
County of Lancaster*

The original of this document dated October, 1784, is in the Lancashire County Record Office, by whose courtesy this reproduction is published.

Brimstone might, perhaps, be more powerful; but, in burning, it yields an acid which would be injurious to the cotton.

VI. Great attention ought to be paid to the privies: they should be washed daily, and ventilated in such a manner that the smell arising from them shall not be perceptible in the work rooms.

VII. The rancid oil which is employed in the machinery is a copious source of putrid effluvia. We apprehend that a purer oil would be much less unwholesome, and that the additional expense of it would be fully compensated by its superior power in diminishing friction.

VIII. A strict observance of cleanliness should be enjoined on all who work in the mills, as an efficacious means of preventing contagion, and of preserving health. It may also be adviseable to bathe children occasionally. The apparel of those who are infected with the present fever should be well fumigated before it is again worn; and the linen, etc., of the sick should first be washed in cold water, lest the steams arising from heat communicate the distemper to the persons engaged in that operation. Crofter's lye, when it can be procured, is preferable to water. The bodies of those who die of the fever should be closely wrapped in pitched cloth, and interred as soon as propriety or decency will permit. Smoking tobacco will be an useful preservative to the superintendents of the works, and to others exposed to infection who can practise it with convenience.

IX. We earnestly recommend a longer recess from labour at noon, and a more early dismissal from it in

the evening, to all those who work in the cotton mills: but we deem this indulgence essential to the present health, and future capacity for labour, of those who are under the age of fourteen; for the active recreations of childhood and youth are necessary to the growth, vigour, and the right conformation of the human body. And we cannot excuse ourselves, on the present occasion, from suggesting to you, who are the guardians of the public weal, this further very important consideration, that the rising generation should not be debarred from all opportunities of instruction at the only season of life in which they can be properly improved.

We have the honour to be, with the highest respect,
Gentlemen,

Your most faithful and obedient humble servants,

Thomas Percival, M.D.

John Cowling, M.D.

Alexander Eason, M.D.

Edward Chorley, M.D.

Manchester,

October 8th, 1784.

P.S. Our respectable colleagues, Dr. Mainwaring and Dr. Mitchell, are absent from Manchester at this time.

SOURCES

The reprint is from *Thoughts upon the Means of Preserving the Health of the Poor by prevention and suppression of Epidemic Fevers. Addressed by the Inhabitants of the Town of Manchester and of the several Populous Trading Towns surrounding and connected with it, by the Revd. Sir Wm. Clerke, Bart., London, MDCCXC.* (from the Library of the University of Edinburgh, volume entitled Pamphlets on Infirmarys, number LL.116.5.24; pamphlet 22).

A Short Essay written for the Service of the Proprietors of Cotton Mills and the Persons employed in Them. Anonymous. Manchester, 1784. (From the City Librarian, Manchester; not available for borrowing but photostat can be obtained.)