

Remarks on an epidemic of typhus which prevailed in the cotton districts of Lancashire and was described by Dr. Campbell of Lancaster in the year 1785 / read by Christopher Johnson of Lancaster at the Meeting of Certifying Surgeons held in Manchester on July 14th, 1869.

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REMARKS

ON AN

EPIDEMIC OF TYPHUS,

WHICH PREVAILED IN THE COTTON DISTRICTS OF

LANCASHIRE,

AND WAS DESCRIBED

BY DR. CAMPBELL, OF LANCASTER,

IN THE YEAR 1785.

Read by Christopher Johnson, of Lancaster,

AT THE MEETING OF CERTIFYING SURGEONS, HELD IN MANCHESTER

ON JULY 14TH, 1869.

LANCASTER :

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1869.

REMARKS, &c.

MR. PRESIDENT AND GENTLEMEN—

When I consider the audience I address, and the place where we are assembled, men whose watchword is progress, a city in which beyond most others the opinion is held that we are to be taught by the living and not by the dead,—I feel some hesitation in alluding to anything written or transacted in the year 1785.

The scientific history of the past is not without value. It is both pleasant and profitable at times to look back on the work of those who have gone before—to trace therein the rudiments of future discoveries, and to notice how nearly the leaders of public thought have often come to the knowledge of truths, which the mass of mankind have only worked out afterwards by long and painful investigation.

Dr. Campbell, of Lancaster, published in the year 1785, "Observations on the Typhus or Low Contagious Fever," in which he gave a description of an epidemic which prevailed during the two preceding years among the cotton mills in various parts of Lancashire, and more especially at Lancaster and at Backbarrow near Ulverston.

This fever seems to have been so malignant as to have given rise to a panic among the operatives and the people among whom they dwelt.

It was believed that the cotton was poisonous. Dr. Campbell succeeded not only in proving to the public the groundlessness of this opinion, and the business might be safely carried on by attention to certain sanitary regulations, but by his very judicious management he saved what would be even now considered a large proportion of lives.

Of the treatment adopted, time will only allow me to say little. Believing the disease one of debility, he avoided the bleeding and lowering practice of the day, and employed a supporting method. He refrained from purgatives, and checked the least tendency to diarrhæa, he gave wine liberally, and bark and opium. In fact his treatment was similar to that of Dr. Graves, thirty years ago, and of many good practitioners of the present day.

Like Graves, he *fed* fevers, and he anticipated that distinguished physician in the use of musk and other anti-spasmodics, and in the administration of tartar emetic and opium.

He made a close examination of the mills and of the habitations of the workpeople, and paid great attention to ventilation, fumigation, disinfection, and cleanliness.

He found at Backbarrow privies contiguous to the workrooms, emitting a very offensive odour. This he remedied by a very ingenious contrivance, having wide pipes made, so that the excrementitious matter fell direct to the bottom, he turned through them a stream of water which washed all away as it came.

The following are the results of his treatment at Lancaster and Backbarrow:—Lancaster, 500 cases, 34 deaths; Backbarrow, 180 cases, 7 deaths. Taking the cases at both places there were—

Men, 206, of whom 25 died—rather less than 1 in 8.

Women, 235, „ 13 „ — „ „ 1 in 19.

Children, 225, „ 3 „ — „ „ 1 in 80.

of these three cases of children two were doubtful.

You will find on reference to an article by Dr. Gairdner in the present number of "Braithwaite's Retrospect" that 9 per cent deaths is much better than the average rate in London hospitals.

About the same time he says—"A contagious fever prevailed in so great a degree at Radcliffe, in this county, and in the cotton mills there, as to become the object of the attention of some very respectable gentlemen in their capacity as magistrates. As these mills or factories are now becoming numerous in the country and individually employ great numbers of persons, any circumstances which may materially affect the health of those who are concerned in them are certainly matters of public concern.

"Every praise therefore is due to the magistrates, who, in consequence of the representations that were made to them, have taken such rational and effectual methods to prevent the production and propagation of these diseases, by procuring several gentlemen of eminence of the faculty from Manchester (Drs. Percival, Cowling, Easton, and Chorley), to inspect the places where the sickness was most frequent, and who have, at their request, arranged such directions as if duly observed, cannot but be productive of the best effects, not only in the particular place for which they were originally drawn up, and in similar manufactories, but in every other situation where many persons are employed in common workrooms."

The following is the report alluded to:—

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 regulations 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 one-sixth part of the window. They are likewise placed high, and paralled 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 fireplaces with open chimneys should be erected at proper distances in each workroom. 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 by 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 strongly 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 slaked 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 with tobacco. 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 workrooms.

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 mills, as an efficacious means of preventing contagion, and of preserving health. It may also be advisable to bathe the children occasionally. The apparel of those that are infected with the present fever should be well fumigated before it is worn again, and the linen, &c., of the sick should first be washed in cold water, lest the steam arising from the heat communicate the distemper to the person engaged in that operation. Croster'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 a useful preservative to superintendants of the works, and to others exposed to infection who can practice 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 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, the 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 shall not be debarred from all opportunities of instruction at the only season of life in which they can be properly improved.

Had these men omitted the concluding paragraph from their report, we should even then have considered they had done the state good service, and conferred a benefit on the cotton trade at a critical period of its existence. Its insertion gives no ordinary value to their work—the document assumes a prophetic character,—its authors seem to gaze into the far future, and to realize the times in which we now live.

Here we have the bold outline of a complete factory act. The necessity for legislation demonstrated, the direction and the extent clearly defined.

“Brave men lived before Agamemnon,”

and brave and true men labored in our profession for the best interests both of rich and poor, long before the names of Oastler or Ashley were heard amongst us.