

**A letter to the Right Honourable the Earl of Shaftesbury, : containing suggestions as to the expediency of submitting certain branches of trade & manufactures to government medical inspection / by J.B. Harrison.**

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**Publication/Creation**

Manchester : Haycraft, printer, 1851.

**Persistent URL**

<https://wellcomecollection.org/works/wvx94eac>

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L E T T E R

TO THE

RIGHT HONOURABLE

THE

EARL OF SHAFTESBURY,

CONTAINING

S U G G E S T I O N S

AS TO THE EXPEDIENCY OF SUBMITTING CERTAIN

BRANCHES OF TRADE & MANUFACTURES

TO

GOVERNMENT MEDICAL INSPECTION,

BY

J. B. HARRISON, M.R.C.S., &c. &c.

FORMERLY SURGEON TO THE ARDWICK AND ANCOATS  
DISPENSARY.

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*“ Quorum animus meminisse horret luctuque refugit.”*—VIRGIL.

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MANCHESTER:

HAYCRAFT, PRINTER, MARKET STREET,  
1851.

LETTER, &c.

My Lord,

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L E T T E R, & c.

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MY LORD,

Perhaps one characteristic of the present age is an increased and increasing attention to the condition of the labouring classes. As it is necessary that a large portion of mankind be occupied in the exercise of the industrious arts, it behoves those who are removed from such toil by the accident of birth, or the possession of rare mental endowments, to ameliorate as far as possible the condition of their fellow-men. But to know how to befriend mankind requires at least a knowledge of the evil which has to be removed, and it unfortunately happens that those who are best acquainted with the position of the sufferers are chiefly interested in maintaining silence. It is common to consider that labour is healthy, and it cannot be doubted but that an active and industrious life is the most happy, as it is the most useful. Yet it should not be forgotten that *all* labour is not healthy, nor all exertion attended with felicitous results. The refinements of social

life, and the inventions of the ingenious, have imposed on mankind many occupations which are injurious to the body, and many temptations which can scarcely be avoided. In some trades life is shortened, and in others it is rendered miserable by the production and recurrence of terrible diseases. Of those who enter into the more pernicious trades the great portion are ignorant and poor, and are therefore little able to appreciate the dangers to which they expose themselves. Or if, in any particular instance, the injurious tendencies are recognised and deplored, a change of occupation is mostly impracticable, and influence is wanting to secure such alleviation as might be compatible with its continuance. It becomes then the duty of a government to watch over the interests of its laborious poor, and to extend to them that friendly advice and protection which their situation requires.

They who have written upon the Diseases of Artizans have afforded us a melancholy picture of the evils which result from some forms of employment; the Hecklers of flax, the Grinders of Sheffield, and the Miners of lead, are for the most part destined to a short and unhealthy existence. But it would

appear that the manufacturers of white lead are more especially to be commiserated for a life rendered as brief in its duration as it is unhappy in itself. Mr. Thackrah states that many of the persons who commence this employment soon abandon it from broken health, and those who continue to pursue it are laid-up in bed one third of the time "decrepid from colic or palsy." He adds "no person can be a month in the the worst department without a serious attack of disease."\*

I may however best elucidate my views by taking an example from an occupation which is comparatively of recent introduction; for novelty excites interest and curiosity, and we are apt to consider that evils which have been long felt may be suffered to continue. If it be thought that the instance I have chosen is not happy in other respects, it may, at any rate, be allowed to arrest attention, and lead the inquiring mind to fix itself on more fit examples. Besides it is natural that I should present my ideas as they first arose in my mind, that it may appear how much I have been forced into these reflections by the dictates of common humanity.

On a recent visit which I paid to a provincial

\* The effects of Arts, Trades, and Professions, by C. T. Thackrah.

hospital, my attention was directed to the case of a young woman who was suffering from a disease of the jaw. It appeared that she had been employed in the manufacture of congreve matches.—Being aware of the terrible effects which occasionally arise from this branch of trade, I felt interested in prosecuting some inquiries. I found that she had worked three years in the manufactory; having previously been employed in a cotton factory. She had left the latter to procure a higher rate of wages, and is now the victim of a dreadful complaint from which recovery can at best be only imperfect. I was informed that a short time ago, one of the Hospital Surgeons had removed the greater portion of the lower jaw in another patient for the same disease, produced in the same manner, and from the same manufactory. To the Surgeon it is unnecessary to say how lamentable, I may say, indeed, how horrible is the existence of such disease. The complaint itself is slow, disgusting, and painful; the face is disfigured, the teeth destroyed, and the greatest skill sometimes fails in arresting the mischief; a dreadful operation, with a life of future discomfort, is not seldom all that can be looked for.

As the trade of making lucifer matches is of comparatively recent introduction, I am not disposed to censure the proceedings of those who conduct the business, but I wish to point it out as one instance, amongst many, of the necessity of medical supervision.

Attention has been especially directed to this subject by the German physicians, but in England it has not yet received the consideration it demands. In the manufactories of congreve matches the air is loaded with the vapours of phosphorus, and the persons employed in the occupation, who are mostly women, are obliged to stoop over the vapour as they dip the matches in the heated preparation. The vapour thus inhaled passes over the mucous membrane of the mouth, and is consequently brought in contact with the teeth, where it first produces its deleterious influence. If the teeth be in a state of decay the operation is obviously more certain, and when this condition exists it has been considered chiefly influential in localising the complaint. The effects produced by the phosphoric fumes are no doubt ascribable to their chemical influence on the composition of the bone. It is not therefore necessary to suppose, as it has been conjectured, that an



admixture of arsenic is the real source of the mischief. Independently of these chemical effects, there can be no doubt but that the system generally must be brought into a cachectic condition by the constant inhalation of a substance which is known to be poisonous. Hence the fearful ravages which ensue from the periosteal inflammation and the death and detachment of the bone.

In further illustration of the disease, I may briefly allude to some cases which are related by Mr. Taylor, of Nottingham, in the *Lancet*, for the 10th of Nov. 1849. In the 1st case, the man, who was aged 49, had been 8 years engaged in the business ; he was attacked with acute pain in the upper jaw, attended with a purulent discharge. A large portion of his jaw became *necrosed*, it measured in length two inches and a half, and in depth one inch. "It embraced in one piece nearly the entire of the bodies of the two superior maxillary bones, with the alveolar cavities for the four incisors, two canine and four bicuspid teeth ; it formed the floor of the nostril and anterior part of the roof of the mouth, and extended backwards nearly to its junction with the palatine bones." The lower jaw afterwards began to swell on the right

side, and the gums presented an inflamed and spongy appearance. The symptoms noticed on the 11th of January, 1849, are described by Mr. Taylor. There was great swelling of the lower jaw, extending up the side of the face, and excruciating pain up the side of the head and ear; there was numbness of the lower lip on the right side, and the breath was exceedingly offensive, with a profuse discharge from the mouth of saliva mixed with fœtid matter. He was unable to swallow any other than thickened fluids; his pulse was feeble, and his hands so tremulous that he could not hold a spoon;—he was in a highly nervous state, and had jumped out of his bed in the night in a fit of delirium. In September, 1849, he had symptoms of the disease on the *left* side of his lower jaw,—but the description of the case is discontinued and left imperfect.

In the 2nd case the man was aged 43, and was superintendent of the works. It does not appear that he had been regular in his manner of living, and he had been engaged in his occupation for 15 or 16 years. This case, also, is not given in a complete form, as the man was afterwards taken to London and placed in St. Thomas's Hospital. Mr. Taylor concludes it by saying

“I have since learnt that the bone has become extensively diseased.” Both these men were employed as *dippers*. Mr. Taylor mentions that the *dippers* stand over the composition of phosphorus, chlorate of potass, glue, &c. heated in a metallic plate; and so great are the fumes which arise, that the clothes of these persons, at night, appear incandescent. The preparation of the liquid and the drying of the matches seem also to be attended with the elimination of the vapour. Mr. Taylor states that lately some means have been taken (which he does not specify) to prevent the inhalation of the fumes in the particular factory where his observations were made, and he suggests the use of a mask with a tube that shall enable the wearer to breathe the external air. Another case is briefly alluded to in the *Lancet* for the 17th of November, 1849, in the following terms, “On Saturday last, November 10th, 1849, Mr. Stanley brought before the pupils of St. Bartholomew’s Hospital, assembled in the theatre, a patient who had lost *the whole of the lower jaw by necrosis*. The man, who looked about 5 or 6 and 20, had been 6 months in the Hospital, and traced the affection of the jaw to the effects of the vapours

of phosphorus, to which his trade of a lucifer match maker had exposed him; the whole body of the lower maxilla with one of the condyles were exhibited, and presented several necrosed fragments in which the original shape of the bone could easily be recognised." Mr. Stanley is stated to have mentioned that turpentine placed in saucers in the workrooms would absorb the fumes, and that this precaution is taken at the large lucifer match manufactories in the neighbourhood of London.\*

Whether this or other means will be available or not, I am unable to say, but however effective it may be, there is no certainty of its being everywhere known, and no authority empowered to secure its adoption. That a necessity exists for the supervision of this occupation there can scarcely be a question, and many other trades might be named which challenge attention with equal or greater force. It would be well that the processes of all pernicious trades were submitted to regular inspection, and plain directions or suitable cautions found in every establishment where mischief is to be apprehended. It is unnecessary, however, at this time to enter into details; for those who were appointed to inspect such

\* Lancet, p. 529, 2nd Vol., 1849.

manufactories would best lay down a scheme of procedure, and that plan which was found most practicable and efficient would be easily discovered.

Statistical returns would arise out of these inquiries which would be greatly serviceable to the cause of humanity. We should learn the ages of those employed in the more baneful occupations, the condition of their health, and the period of time they were able to continue their employment. How much such documents would reveal that would be painful to the contemplation, but how great also would be the good which would accrue from the investigation! There can be no doubt but that many obstacles would be raised in the way of such inquiries by those who are guided more by individual interest than general philanthropy. The necessity is one, however, which arises immediately from our present state of civilization, and it would be cruel to enjoy the benefit and not provide against the evil.—An evil which is extensive does not impress the mind with its real importance, for in speaking of what is common to many, we are led to express ourselves in general phrases, and the mind is relieved from the contemplation of any particular case by the multiplicity of the examples. It

is for this reason that a great writer in speaking of *Captivity* selects a particular instance, and shews us, through the gratings of his cell, the solitary prisoner notching on his bit of stick another day to the miserable succession. If, my Lord, I had the pen of that great writer, and could set before you a single instance from the couch of the hospital to illustrate the disease which I have mentioned, I should want nothing more to awaken your sympathy and secure your co-operation.

With respect for your exalted station, and admiration for the talents which you have ever devoted to the cause of humanity,

I am, my LORD,

Your Lordship's very obedient

and humble Servant,

JAS. BOWER HARRISON.

*Higher Broughton,  
Manchester, July, 1851.*

In reply to you

I have the honor to acknowledge the receipt of your letter of the 14th inst. and to inform you that the same has been forwarded to the proper authorities for their consideration. I am, my dear Sir, very respectfully,  
Your obedient servant

With respect for your station and administration for the talents which you have ever devoted to the cause of humanity,  
I am, my dear Sir,  
Your Lordship's very obedient  
and humble servant

JAS. THOMAS HARRISON.

Essex Buildings,  
Manchester, July, 1801.