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ANNUAL REPORT

OF THE

CHIEF INSPECTOR

OF

FACTORIES AND WORKSHOPS

For the Year 1898.

PART II.—REPORT

Presented to both Houses of Parliament by Command of Her Majesty.

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19. The [illegible] workers.

The register must contain:—

(1) Christian and surname, age, domicile, date of first employment, and nature of employment.
(2) Name of the person responsible for the register.
(3) Name of the doctor in charge of the workers.
(4) Date and nature of any illness of the worker.
(5) Date of recovery from illness of the worker.
(6) Date and results of the monthly medical examination.

20. The employer must make Rules to be observed by workers on the following points:—

(1) The workers must not bring food or spirits into the workrooms, nor partake of them there. Meals must be taken only outside workrooms.
(2) The workers must wear overalls provided as directed.
(3) The workers may not enter [illegible] rooms, or take meals, or leave the works until after they have removed their overalls, washed their hands and faces thoroughly, and rinsed out their mouths.
(4) Smoking, snuff taking, and tobacco chewing are forbidden to workers during [illegible]

21. A copy of these Special Rules shall be affixed in every workroom, and in dressing-rooms and mess-rooms in such a way as to be easily read.

22. In case of infringement of these Special Rules, the Police Authority is empowered to close the works, so far as affected by the infringement, until the place has been brought into conformity.

I have had to report to you more than once during the year, on receipt of complaints from workers, of the hardship they felt it to be that they should be prohibited from taking meals in certain places, *e.g.*, fur-pulling rooms, where they had formerly done so, no other place having legally to be provided as a substitute. This has been a long standing grievance with rag-sorters, in Yorkshire and elsewhere, although from time to time encouragement comes from stray employers, who, yielding to the Inspector's persuasion (or perhaps to the great difficulty of carrying on their works with aggrieved workers) provide some shed or covered corner where the women can safely sit in the mealtime. Too many cases remain unredressed, however, and one hesitates therefore to press immediately the view that a *primâ facie* case exists for this prohibition of work-rooms as meal-rooms in every case where provision of washing appliances is necessary on account of the dangerous substances handled. It seems strange, for example, that in the meantime the Inspector should have no legal power to require during meals the evacuation of work-rooms in the post-carrotting departments of a Hatters' Furriers, or the dise-cutting or enamelling rooms of a metallic capsule works. Much less is there any power to prevent irregular eating of food in those rooms during working hours. (*i*) Places prohibited for meals.

Miss Squire reports as follows:—

"To prohibit the taking of meals in a factory or workshop without laying upon the occupier a legal obligation to provide a suitable place in which food may be eaten, is unfortunately merely to substitute one set of conditions injurious to health for another. The latter complaints of women whose homes are distant from their work, turned out of factories and workshops in wet or cold weather into the streets to get a bit of food and rest where they can, are well founded. 'The cold and damp does us more harm than ever the dust did' they say. In some neighbourhoods coffee shops and eating houses do not exist, and where they do the dinner hour fills them with men and 'we women don't get a chance.' Moreover it is a question of expense as well as of discomfort or suffering, and one can quite understand the importance of the confidential communication that 'a little bit of something brought from home' costs less than ever so cheap a meal at a coffee shop.

"To many, possibly the majority, of employers, the provision of a meal room in the factory naturally follows obedience to the Order of the Secretary of State prohibiting meals in certain processes, but there still remain others whom no consideration but that of a legal obligation can move."

Miss Deane, however, reported cases during 1898 of old workwomen in the fur-pulling trade who wished to take the law in their own hands in an opposite sense, by positively declining to take their meals anywhere but in the dusty spot to which they were accustomed, and of them their employer seemed to stand in "wholesome dread."

Of all the dusty occupations which specially came under observation in 1898 three, in addition to china scouring, stand out on account of their easily demonstrated danger to the health of the workers, and because of ascertained cases of injury to bronchial tubes and lungs medically attributed to the employment of the sufferers. These occupations were asbestos sifting and carding, silk opening and combing, and hemp spinning. Although the dust inhaled in considerable quantities was necessarily injurious in a greater or less degree according to the constitution of the persons in question, it was found that with properly applied ventilation in some factories the occupations could be rendered comparatively innocuous. In the case of one particular asbestos works, which I visited with Miss Deane, far from any precaution having been taken, the work (sifting, mixing, and carding) appeared to be carried on with the least possible attempt to subdue the dust; hand labour being used where mechanical contrivance was possible to obviate it, and no sort of ventilation being applied. One of the dustiest processes was carried on in a cellar. Recommendations were made for a scheme of applied ventilation to H.M. Inspector in charge of the districts in question, and the carrying out of the necessary works extended into 1899. (*ii*) Certain dusty occupations.

In the case of the silk mills, greatly increased injuriousness to the respiratory organs of workers of the excessive dust appeared to be coincident with recent introduction of an inferior quality of silk, in which, on the matter being referred to him, Dr. [illegible] found [illegible] microscopic débris containing [illegible]

The opinion of the workers expressed to Inspectors, that they were inhaling and coughing up silkworms thus received some support, and there is strange testimony from a keen medical observer in Italy over two centuries ago to the havoc that can be wrought by this ever-recurring tendency of a manufacture to make its profits out of cheapened materials. In his *De Morbis Artificum* (published 1670, translated into English 1705), Ramazzini wrote:—

"Worst of all is the condition of those who comb the silk cakes that remain after the making of the silk in order to spin it into thread for several uses as being less chargeable (costly!) than the silk itself. For when the bags of the silkworms after being steeped in hot water are opened and untangled by our women . . . . and wound upon reels in small threads there are still some grosser threads or filaments behind, which have parts of the bodies of silkworms mixed with them; and of these they make a sort of cakes which they dry in the sun and give out to workmen to have drawn out into threads with small combs. Now the poor people that comb these cakes are usually troubled with a vehement cough, and a great difficulty of breathing, and few of them live to old age in that way of business. The virulence that gives rise to this tragedy is owing to the sulphurous particles of the silkworms that are mixed with the cakes. . . . I know a whole family in this city that got a good estate by the silk trade, and drew misery of consumptions; the physicians imputing the cause of their calamity to the trade they were continually employed in.

"I usually recommend to this sort of workmen a milk diet above all other things, there being nothing that more effectually corrects the corrosive and ulcerous acrimony. . . . But at the long run if they find their affliction grows upon them they must look out for another trade; for 'tis a sordid profit that's accompanied with the destruction of health."

Would that our workers in dangerous industries could avoid the evils that beset them by following this last recommendation!

Miss Deane reports on the abundant evidence she has had of the evil effects of dust:—

"In the majority of cases the evil is very insidious, and the general symptoms produced by dust on the various respiratory organs are to the lay mind so similar to those produced by other causes that it is not always easy to trace the connection. The incessant 'sore throat,' the irritation of the bronchial passages, the frequent 'colds on the chest,' and 'hoarse voice' and 'morning cough' from which girls employed in dusty processes suffer are all symptoms which to casual observers might be easily accounted for in other ways. One or two sad cases of phthisis medically certified to be seriously aggravated, if not induced, by work in rope factories which came under my notice have emphasized in my mind the grave possibilities arising from work in these places.

"Such instances can seldom be fully traced except with infinite labour and patience. The worker falls into ill-health, and sinks away out of sight in no sudden or sensational manner so that attention is seldom attracted to the ultimate source of the trouble.

"The evil effects of asbestos dust have also attracted my attention, a microscopic examination of this mineral dust which was made by H.M. Medical Inspector clearly revealed the sharp, glass-like, jagged nature of the particles, and where they are allowed to rise and remain suspended in the air of a room, in any quantity, the effects have been found to be injurious, as might have been expected.

"As in china-scouring, so in a still greater degree in other dusty trades, the worker may continue for a very long time apparently unaffected, before the symptoms of the evil become marked.

"It is often impossible to bring positive proof of definite injury solely attributable to working in a dusty atmosphere, for except in extreme cases the symptoms are similar to those attributable to other causes; but the certainty of the danger can be clearly demonstrated, as, for instance, by examination of the dust particles. Even when the evil reaches such grave proportions as to be capable of easy and tragic proof as in the case of china scouring or flax preparing, there is always a certain proportion of "old workers"—the survivors of their mates—who are to be found in every unhealthy industry, and who, like the Circassian poison-eaters, appear to thrive on their unhealthy calling.

"In less obviously unhealthy conditions the only convincing proof of actual injury, viz., reliable comparative statistics of mortality, or of health-standards, is practically unattainable in the case of any given factory, at any rate with the time and opportunity at present at our disposal."

Although, in accordance with regulations, questions relating to fencing of dangerous machinery are referred by H.M. Women Inspectors to H.M. Inspectors in charge of districts (99 cases of dangerous machinery having been so referred in 1898), considerable attention has, as hitherto, been given to various illustrations of the need of increasing security for workers at their employment. Often valuable suggestions can be gathered from study of the registers of accidents which occupiers are bound to keep in workshops as well as factories, and some gross cases of neglect to keep these useful records, for example, in aerated water works and laundries, we made the subject of proceedings.

In one case, with a view to obtaining penal compensation for a poor old woman needlessly injured in a laundry, I proceeded against the occupiers, not only for failure to register and report the accident, but for failure to place such a barrier as would from the position of the machine—which was a self-acting collar ironer near the wall—have prevented the accident. Grossly careless management had neglected not only this simple precaution, but had allowed pegs to be hung for outdoor garments immediately behind the moving part of the machine. It was the accidental setting in motion of the machine, when the old woman had got behind it at the dinner hour for her shawl to go home, that caused the injury which disabled her for further following her occupation.

My attention has been called, by repeated reports from the Inspectors, to cases of injured workers being pressed to remain at work during the first three days after an injury which would not be severe if it was carefully attended to. Miss Squire especially reported serious consequences as following a comparatively slight accident at a tin cutting works. One girl she saw had lost a finger by an operation some time after the accident which caused the original injury, and it was the opinion of the surgeon that, if the girl had rested and been cared for she would not have suffered a loss which many are apt to forget is far more serious to a bread-earner, who has only her hands to depend upon, than to others. Hand presses, both in metallic capsule works and in pen-making works, are responsible for many of these minor accidents, which are often of grave consequence to the sufferer. I was much struck by the frequency of maimed and [illegible] in my first visits to pen

(1907)

Report of the Departmental Committee on Compensation for ...

Mr. H. Montague Murray, M.D., called and examined.

4076. (*Chairman.*) Are you a doctor in practice in London?—Yes. I am senior physician at Charing Cross Hospital.

4077. Are you able to give the Committee some information on the subject of fibrosis of the lungs produced by asbestos dust?—I have had experience of one case, which I had under observation for fourteen months.

4078. Is your evidence limited to that case?—I am afraid so, because at the time it occurred, which is seven years ago, I looked for statistics, but could find none, and since then I have not come across another case.

4079. Have you heard from any quarter that the disease is prevalent among those employed in the work?—One hears, generally speaking, that considerable trouble is now taken to prevent the inhalation of the dust, so that the disease is not so likely to occur as heretofore.

4080. Do you think it still may occur?—If there is dust, certainly.

4081. Have you any doubt in your mind that asbestos dust does cause fibrosis?—I think there is no doubt it did in this one case.

4082. Can you tell the Committee the particulars of that case?—The patient was a man 33 years of age. He had been at work some 14 years, the first ten of which he was in what was called the carding room, which he said was the most risky part of the work. He volunteered the statement that of the 10 people who were working in the room when he went into it he was the only survivor. I have no evidence except his word for that. He said they all died somewhere about 30 years of age. After he had been there 10 years he was put into another room, where there was much less dust. During the latter part of the 10 years he had had two attacks of what were diagnosed as bronchitis, which incapacitated him for a few weeks. In 1899, after he had been at work some time, he was sent to me, and I found he had interstitial pulmonary fibrosis, which was more like fibroid phthisis than anything else I had seen.

4083. What was the outcome of it?—He improved. He was ill for a month before he came to the hospital, but after being there two months he went back to his work. That was in the spring of 1899. He worked for some months, then became ill again, and was readmitted to the hospital in April, 1900, where he died.

4084. Was your diagnosis verified by a post-mortem examination?—Yes.

4085. Were there any tuberculous symptoms?—No; there were enlarged glands in his neck, but they were not tuberculous.

4086. If, after his first attack he had not gone back to his work, do you think he would have survived?—That I can hardly say, because his first attack of so-called bronchitis was some years before I saw him. The disease was so far advanced when I first saw him that it was simply a matter of time.

4087. (*Professor Allbutt.*) Will you describe what you found on examination of the lungs?—They were extremely tough and fibrous, especially the lower parts.

4088. What was their colour?—In parts a greyish black.

4089. Were there large and visible strands of fibre traversing the lung, or was it a finer fibrosis penetrating in all directions?—In the lower part the change was uniform, about the centre the grey areas were intermingled with reddish areas containing some air. In the upper part there was comparatively little change except increased toughness.

4090. Was there much pleuritic adhesion?—Yes.

4090*. Did you go further into any minute examination by microscope or otherwise?—Yes. I have here some photographs which were taken under Dr. Legge's direction from specimens prepared for me by Dr. Bosanquet.

4091. (*Dr. Legge.*) Can you tell the Committee what asbestos is?—It consists chiefly of magnesium and silica with some iron and lime.

4092. (*Professor Allbutt.*) Are these spicules spicules of asbestos?—Yes.

Mr. H. M. Murray, M.D.

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4093. Was there much dilatation of the bronchial tubes?—Not much.

4094. Might asbestos be found in the sputa?—Yes; we examined the sputa and found definite dust, but could not definitely distinguish it from other dust of similar character.

4095. Were there no chemical means of distinguishing it?—No, because in ganister disease there might be as much silica in the lungs. Portions of the lungs were analysed afterwards, but the analysis did not give any further assistance.

4096. There would be then no handy method at the service of a medical referee, would there, of deciding by the sputa whether a person was suffering from asbestos fibrosis or not?—I doubt it; I never heard of any.

4097. From your experience in that particular case, do you think by examination of the sputa you could distinguish another case if you came across one?—No: could give a probable diagnosis, but could not be tely certain the disease was not due to some other siliceous dust.

We have been told that there is something

Yes. When this man first came to the hospital he complained of shortness of breath. His pulse was and his respirations were 33.

4099. So that it is in accordance with your ex ence that there is something characteristic about t... far greater incapacitation of the patient than the comparatively few physical signs would account for?—Yes.

4100. Does your case illustrate this general rule?—Yes.

4101. (*Dr. Legge.*) Was the sputum examined for the presence of tubercle bacilli or not?—Yes. None were found.

4102. Did the condition of the lungs on the post-mortem examination suggest any tubercular cavities?—No

4103. In your experience at Charing Cross Hospital have you come across cases arising from any other dusty occupations which showed symptoms similar to these?—Not precisely the same: I saw two or three cases some years ago arising from brass dust, in which there were much the same symptoms, but the disease ran an acuter course.

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