

Occupational Diseases in New England Textile Industry

BY ELIZABETH SHAPLEIGH, M. D.

It is clearly pointed out by all authorities on industrial disease that the mortality is high in all dusty trades, including the textile industry. Nevertheless, before measures of amelioration can be taken, there must be secured detailed, accurate information of the conditions under which the work is carried on and the degree of ill health among the workers. With this end in view, I will describe some of the unsanitary conditions in the Lawrence textile mills and their effect on the workers.

The city of Lawrence, Mass., outranks every other city in the Union in the manufacture of woolen and worsted goods. Out of a total population of 85,892, approximately one-half of the men and women over 14 years of age are employed in this industry. This offers an exceptional opportunity to investigate industrial disease.

Facts From Public Records.

Data have been obtained by personal observation in the mills, from various public records and reports, and eminent medical authorities. The vital statistics tabulated in this paper are taken from the records of the city of Lawrence, Mass., for the years 1903-1911 inclusive.

The essential elements in the sanitary arrangements peculiar to textile mills are a proper regulation of the ventilation, the temperature and the humidity, besides a proper disposal of the fine organic dust generated during the process of cloth-making. When neglected, as they now are, these four factors combine to produce unhygienic surroundings, and markedly affect the health of the worker.

Unsanitary Working Conditions.

Let us consider first the high degree of humidity maintained in the weaving room. A certain amount of moisture is necessary in order to soften the sizing on the thread so that it may be more easily manipulated in the process of weaving. This sizing, by the way, adds to the weight and so is wrong from a moral point of view. Besides, the flocculent dust which it produces is inhaled and, therefore, harmful to the operative. To obtain the required humidity, steam is artificially introduced at regular intervals by steam jets near the ceiling. At times it is so excessive as to cause perceptible dampening of the clothing of the worker.

Danger to Workers.

Added to this is the high temperature, kept at about 84 F. in winter and frequently rising to 130 F. and over on a hot summer day. It is easy to understand how, with garments saturated with perspiration and moisture, the workers upon leaving such an atmosphere and proceeding home on a cold winter evening become thoroughly chilled. This causes them to be especially susceptible to bronchitis, pulmonary complaints, and to rheumatism. Moreover, the hot, moist air is enervating and unfit to bear fatigue. It is difficult to estimate the full effect, for neurasthenia, the bane of the overworked and underfed, does not leave a definite trace on the mortality records.

Insufficient Ventilation.

Furthermore, the ventilation is insufficient. A draft of air causes the thread to break. Consequently, the windows are rarely opened except in summer. From good authority we learn that the room is never ventilated after work hours.

All that has been said about heat and moisture in the weaving room applies equally to the dyehouse. There the moisture is so great that it condenses on the walls, floor, and even on the hair of the dyers. The constantly wet cement floors cause the bare or shoe-clad feet of the dyer to be always wet and cold, a predisposing cause of respiratory disease and rheumatism. The inhalation of the arsenical fumes from the aniline dye likewise has an injurious effect.

Dangers From Dust.

The fine particles of fiber thrown off in the process of carding and spinning are suspended in the air like a thick misty cloud, which obscures the vision. These particles settle on the hair and garments of the operatives. They fall on their face, cling to the eyebrow and fringe the nostrils, irritating the delicate mucous lining. In the carding-room this dust is excessive. It hangs on the machinery and drops from it in large masses, covering the floor.

This fine organic dust irritates the delicate membranes lining the nose, throat, larynx, and bronchial tubes. In the smaller bronchi and air cells of the lungs the dust induces a low form of inflammation which ends in the transformation of the spongy substance of the lung into hard unyielding fibrous tissues quite unfit for the purpose of respiration. This fibrotic lung disease is termed pneumoconiosis. On microscopic examination of the sputum, fibers of the cotton or wool may be found.

Pneumonia Deadly Plague.

The rate of mortality from pneumonia among weavers is 17.9 per cent, as compared with 12.6 per cent among spinners. Among dyers it is higher than that shown in any other room (17.8 per cent). Mortality from tuberculosis is greater among spinners and combbers. It is 27.2 per cent in the first and 33-1.3 per cent in the latter, as compared with 18.4 per cent among weavers. The death rate from tuberculosis is also high among dyers. Another noteworthy fact is the high mortality from

respiratory diseases, including pulmonary tuberculosis. According to the statistics it is 46.9 per cent among dyers and 53.3 per cent among combbers.

Tuberculosis Prevalent.

A study of the mortality from tuberculosis, pneumonia and from total causes of death of spinners, at specified age periods, discloses that 50 per cent of the deaths of spinners from tuberculosis occur before the 25th year, and 75 per cent before the 35th year. Deaths from pneumonia occur at a much later age. Only 20 per cent occur before the 35th year and 40 per cent between the 36th and 65th years.

Of all those persons engaged in spinning as a trade, 36.6 per cent die before they have worked ten years. Out of a hundred deaths 36 die before they are 25 years of age, and 52 before they are 35 years of age. That is, over one-third die just as they attain maturity, and over one-half as they reach the most productive years. It is very rare that a spinner lives to be 70 years of age.

Thousand Workers Die.

Among the various occupations carried on in the city of Lawrence, Mass., the one showing the greatest mortality from tuberculosis is the textile industry; 27.1 per cent of all operatives die from infection by bacillus of tuberculosis. There have been 1010 recorded deaths of textile operatives in the city during the last nine years (1903-1911) and 274 of them have been due to tuberculosis. Whereas, from the 21 recorded deaths of manufacturers there has not been a single death from that disease. Mortality from tuberculosis in the professional class was 9.7 per cent, or only one-third of that among operatives. The farmers show a consumptive mortality of four-fifths of 1 per cent, and the day laborer 12.8 per cent, while the skilled trades range between this low mortality on the one hand, and the high mortality among operatives.

Death Rate High.

Mortality from pneumonia is high among all classes of operatives, but rates the highest among the dyers (18.8 per cent). The death rate from the various forms of respiratory trouble show the lowest record among farmers, 2.6 per cent, and the highest among textile operatives, 41 per cent. Death from respiratory trouble occurs only one-third as often among textile manufacturers as among textile mill employees.

Bad Housing Conditions.

Philanthropists and social workers lay much stress on housing conditions—poor ventilation, dark rooms, crowded tenements—as causes of tuberculosis among the poorer portion of the working class. In comparing the mortality statistics of the unskilled laborer with that of the operatives, we find the longevity much greater. These two classes of workmen live in similar home environment, in the same poverty-stricken condition, yet only 12.8 per cent died from tuberculosis, and only 29.6 per cent from respiratory trouble. The mortality from consumption among day laborers, then, is only one-half that among mill operatives. Furthermore, the death rate from respiratory trouble is only 29.6 per cent, as compared with 41 per cent among operatives in general, and 53.3 per cent among combbers. It would be interesting and instructive to collect additional data along this line.

Operatives Die Young.

A study of the figures will show the average longevity in the most important occupations in the city of Lawrence, according to the mortality records of that city for the years 1903-1911, inclusive. Lawyers and clergymen head the list with an average length of life of 65.4 years. Manufacturers come next with a longevity of life of 68.5 years, and the farmer with 57 years. Operatives have the shortest life-span. From the mortality record of 1010 operatives, the average length of life was found to be 39.6 years. The average longevity of the spinners is three and two-fifths years less, or 36 years. On an average, a spinner's life is 22½ years shorter than that of his employer, the manufacturer.

Laborers Live Longer.

Another significant fact is that the longevity of the laborer is considerably greater than that of the textile operative. From 373 deaths among laborers the average length of life was 47.6 years, while that of the operative is eight years less, and of the spinner 11 3-5 years less. Bear in mind that the former reference was made to the fact that although living in practically the same home environment the mortality from tuberculosis and respiratory disease was much less than that among textile operatives. The men and women in these various occupations lived and worked in the same city, subject to the same climate and the same atmospheric variations.

Workers Are Young.

The report on the strike of textile workers in Lawrence, Mass., in 1912, which was prepared under the direction of Charles P. Neill, Commissioner of Labor, shows that approximately 11.5 per cent of the total mill employees are under 18 years of age. Among the foreign population it is the custom for a boy or a girl to go to work in the mill as soon as possible after the 14th birthday. Many of these, when beginning work, suffer from a malady known as "mill fever," the symptoms of

which are nausea, vomiting, headache, and rise of temperature. Usually the indisposition lasts only two or three days. It is attributed to the inhalation of dust, the stifling atmosphere and disagreeable odor of the oil.

Boys and Girls Die Rapidly.

From the mortality statistics we learn that a considerable number of these young boys and girls die within the first two or three years after beginning work. With very few exceptions, death is due to tuberculosis, pneumonia, or typhoid fever.

Data with regard to the consumptive mortality per 1000 operatives could not be obtained, because of the inaccurate and incomplete mortality record of the city. For instance, a large number of women work in the mills, either before or after marriage, and contract tuberculosis and die. Because they are married their occupation is recorded as "at home" or "housewife." The significant fact that they have worked in the mill is lost and it becomes impossible to trace the true cause of their contracting the disease. Again, a number of young men and women who have been out of the mill, ill with tuberculosis for several months or years, are recorded as "at home." Here again their occupation is not recorded and the reason for their contracting consumption may not be attributed to the real cause. Again, in statistics of various trades and professions, the word "retired" is often used instead of stating the former occupation as well. This simple addition would facilitate matters, and permit of greater accuracy.

Preventive Measures Demanded.

The high mortality in the textile industry can largely be averted by the introduction of a few simple devices. A careful and thorough regulation of the ventilation, humidity, and temperature must be insisted upon. It is a known fact that thought for the welfare of the worker is not considered in the regulation of these conditions. Temperature is maintained much higher, necessitating a greater degree of humidity in the weaving rooms of this country than is permitted abroad. England and Germany have stringent laws requiring modern appliances about the machines, whereby the dust is carried off from the point of production by ventilating flues, hoods, shafts, fans, etc.

Introduction of these simple devices would make an appreciable difference in the mortality from tuberculosis and other respiratory diseases. It is hoped that in the near future the textile operatives in the United States may work under the same hygienic conditions as now exist abroad.

LOCOMOTIVE ENGINEERS WIN

Board of Arbitration Urges Reforms in Railroad Service.

"One of the concrete issues involving labor and capital last year was the controversy between the locomotive engineers and the railroads of the territory east of the Mississippi River and north of the Potomac and Ohio," says the Review of Reviews. "This controversy was settled by the plan of leaving the points at issue to a board of arbitration. The report of the board was not announced until late in November. The engineers had demanded a standardizing of their pay on all the roads, together with a large increase in average compensation for each of several classes of service.

"While the award of the board did not go nearly as far as the demands of the engineers, it made marked advances in the direction of wiping out surviving anomalies and giving a standard character to the important public service rendered by the man who drives a locomotive. The plan adopted was to fix the minimum wage for men in the passenger service, the fast freight service, the local service, and so on. Many improvements were made in the rules governing conditions of work. Apart from the award in the concrete issues before them, the arbitrators felt it necessary to emphasize the serious public aspects of the controversy. A strike of locomotive engineers on all the railroads would paralyze business and cause untold human misery and financial loss. The public has interests and rights that require the continuous operation of such public utilities as railroads. The arbitrators urged that railroad strikes should be wholly superseded by some method, provided by law, for the just settlement of differences between the men and the companies.

"It was proposed that a wage commission, somewhat analogous to the present Interstate Commerce Commission, should have cognizance of all labor disputes upon interstate railroads, with a view to settlements that would lead to the abandonment of strikes. But while railway employees deplore strikes, they are very reluctant to surrender the leverage that their strong unions and brotherhoods have given them. Their service is arduous, but highly responsible. The public must see that their pay is just and that their conditions of life and work are such as to bring contentment."

PACKING HOUSE MEN ORGANIZE

Massachusetts Union Workers Get Wage Concession.

For some time the American Federation of Labor has been endeavoring to organize the men employed in the packing houses of Boston, Mass. Success has been attained in large degree, and as a result of the organization of a large per cent of the employees in this industry an increase in the wage rate has been announced by some of the packing companies. The management of the packing houses in Cambridge recently announced an increase of \$1 per week to all employees. Fifteen thousand persons will participate in this increase in wages.

CONVICTED MEN MAY GIVE BAIL ON APPEAL

Court at Indianapolis Passes Sentence and Men Are Husted to Prison; Court of Appeals Grants Bail for Each of the 38 Defendants.

Following conviction at Indianapolis sentence was passed on the 32 men charged with the dynamite conspiracy, Monday. The men were hastened to the Federal prison at Fort Leavenworth, Kansas, to begin serving their sentences. On Friday the United States Court of Appeals at Chicago granted a stay of execution and fixed the bail of each defendant at \$10,000 for each year of sentence. The terms imposed on each defendant is shown below:

Seven Years.

F. M. Ryan, Indianapolis, president of the International Association of Bridge and Structural Iron Workers.

Six Years.

H.S. Hoek, Indianapolis and Detroit, secretary treasurer of the Iron Workers.

J. T. Butler, Indianapolis, international first vice-president of the Iron Workers.

Olaf A. Tveitmo, San Francisco, secretary of the California Building Trades Council.

J. E. Munsey, Salt Lake City, Utah, business agent of the Salt Lake Iron Workers' Union.

E. A. Clancy, San Francisco, former member of the Iron Workers' executive board.

Frank C. Webb, New York, former member international executive board of the Iron Workers.

Michael J. Young, Boston, business agent Iron Workers' local.

Patrick A. Cooley, New Orleans, La., member general executive board Iron Workers.

Four Years.

Peter J. Smith, Cleveland, former business agent of the Iron Workers.

John H. Barry, St. Louis, former business agent.

Three Years.

H. W. Legleitner, Pittsburgh, former member international executive board of Iron Workers.

Charles Beum, Minneapolis, business manager local Building Trades Council.

Michael J. Cunnane, Philadelphia, business agent Iron Workers' local.

W. E. Reddin, Milwaukee, financial secretary and business agent of Iron Workers' local.

W. J. McKain, Kansas City, business agent of Iron Workers' local.

M. J. Hannon, Scranton, Pa., business agent Iron Workers' local.

George (Nipper) Anderson, Cleveland, walking delegate Iron Workers.

Ernest G. W. Basy, Cincinnati, former business agent Indianapolis local, No. 22.

Edward Smythe, Springfield, Ill., financial secretary of Peoria Iron Workers' local.

W. Bert Brown, Kansas City, delegate for Kansas City Iron Workers' local in 1910.

M. L. Pennell, Springfield, Ill., president of Springfield local Iron Workers, 1909-10-11.

Paul Morris, St. Louis, business agent of the Iron Workers' local.

Two Years.

Frank J. Higgins, Springfield, Mass., New England organizer for the Iron Workers.

Fred J. Sherman, Indianapolis, business agent Indianapolis Iron Workers local.

Frank K. Painter, Omaha, business agent of Iron Workers' local.

R. H. Houlihan, Chicago, financial secretary Chicago Iron Workers' local.

One Year and One Day.

William Shupe, Cincinnati, former business agent Iron Workers' local.

James E. Ray, Springfield, Ill., president Peoria Iron Workers' local.

William Bernhardt, Cincinnati, financial secretary, Cincinnati Iron Workers' local.

F. E. Phillips, Syracuse, N. Y., secretary treasurer Iron Workers' local.

Charles W. Wachmeister, Detroit, former business agent and former president Iron Workers' local.

Fred Mooney, Duluth, financial secretary Duluth Iron Workers' local in 1910.

Sentence Suspended.

Patrick F. Farrell, New York, former member international executive board Iron Workers.

James Cooney, Chicago, one of the business agents of the Workers' local.

James Coughlin, Chicago, former business agent Local No. 1.

Frank J. Murphy, Detroit, walking delegate Iron Workers' local.

Hiram R. Cline, Muncie, Ind., general organizers of the United Brotherhood of Carpenters and Joiners.

Suicide in Comfort.

The following story is told about the only Irishman who ever attempted suicide:

"The man was found struggling furiously in midair. He had fixed one end of a rope about an oak and the other end about his waist. His rescuer found him spinning and kicking and groaning lustily, eight feet above the ground.

"But, Pat," the rescuer said, after cutting the Irishman down—"but, Pat, why didn't you tie the rope around your neck instead of around your waist?"

"Sure," Pat replied, "sure an' I tried it around me neck first, but I couldn't breathe."

LABOR TRIAL UPHELD.

Imported Labor Decision by Supreme Court of New Jersey.

An opinion of importance to labor and secret organizations, with respect to trials of members by the domestic tribunals of such institutions, was handed down in the supreme court of New Jersey when a writ of mandamus sought by Palmyra Coda to require the United Hat Trimmers' union of Orange to reinstate her was refused. The opinion was written by Chief Justice Gummere. The woman was dropped from the union for her refusal to pay a fine of \$25 for violation of the constitution relating to discipline. The sole question involved in the appeal was whether or not Miss Coda received a fair trial by the union. In holding that the rights of the appellant were preserved in the trial the chief justice says:

"Although technicalities were not followed, the substantial rights of the relator were observed. The proceeding was not arbitrary, but, on the contrary, was conducted with the evident desire to get the truth and to act fairly toward the relator. Where the domestic tribunals of these associations of working people are conducted in a spirit of fairness and the substantial rights of their members protected courts of law should go slow to interfere merely because technicalities or the refinements of legal proceedings have not been followed.

"These people are artisans, not lawyers. Where no trial procedure is provided by the constitution or bylaws it is enough if a member charged with a breach of internal discipline has accorded to him or her the substantial rights that the ordinary principles of justice require. These, we think, were accorded to the relator. Our writ of mandamus will not issue."

SAFEGUARDS WORKERS.

Gompers Commends Illinois Occupational Disease Law.

In his annual report to the American Federation of Labor President Gompers of that organization gives Illinois credit for one of the useful laws in effect in that state that benefit workers. This is how Mr. Gompers phrases it:

"The most complete occupational disease law passed by any of the states was that enacted by the state of Illinois. . . . It was formulated by a commission which inquired into existing conditions and sought expert information. After this valuable knowledge had been secured the commission drew up devices for the prevention of occupational diseases among people working with poisonous and injurious materials. Some of these devices required that special attire shall be furnished the employees while they are at their work, and that monthly medical examinations shall be made of the workers who are exposed to the hazard of disease. Washing and dressing rooms will be provided for them and special precaution taken in connection with the preparation of materials upon which they work.

"The Illinois occupational disease law has been approved by the supreme court of the state. It is not only the first law of this character which has been enacted, but it is so good and so broad in its scope that I recommend that all state federations of labor should obtain a copy of that law for study, with the purpose in view of having similar legislation enacted in their respective states."

Want Less Child Labor.

Advancement toward stricter regulations governing the employment of children is slow in some states. In Pennsylvania, which is notably backward in protecting its child population from being sent into the mines, glass factories and textile mills, progress is made at snail's pace. During the present winter an effort is to be made, however, to improve conditions somewhat. Children under sixteen in the elementary schools will be compelled to pass the fifth grade before being allowed to go out into life, according to a section in the child labor restriction bill which the Pennsylvania Child Labor association will send to the legislature. As the law now stands a child is permitted to leave school at the age of fourteen on passing a simple test in reading and writing.

TRADE UNION NOTES.

A woman is chief factory inspector of Switzerland.

An international labor congress will take place in Austria in 1913.

Local trade unions in Massachusetts numbered 1,282 and had an aggregate membership of 191,038 at the close of 1911.

Wages in Japan have risen on the average more than 50 per cent in the last ten years. During that time the average price of commodities has increased about 33 per cent.

"This office is satisfied at this time," said State Labor Commissioner John P. McLaughlin of California, "that the eight hour law for women in this state is pretty generally observed."

By the provisions of a new ordinance in Minneapolis, Minn., no girl under the age of sixteen years may take part in any public theatrical unless she has the consent of twelve women representing as many organizations.

The Bakery and Confectionery Workers' International Union of America organized during the fiscal year ended Sept. 1 last 22 new locals, initiated 4,510 new candidates and issued 548,101,500 union bread labels.

HOD CARRIERS LABORERS.

Jurisdiction Is Asked Over Classes Long Ignored.

By a heavy majority the members of the International Union of Hod Carriers, Laborers, and Steamfitters have voted to extend jurisdiction to cover many classes of workers that have formerly belonged to other organizations, thus taking the first step toward the unionization of certain workers in construction building trades along industrial lines.

As a result of action that has just been taken by the organization, all common laborers engaged in construction, street and sewer work, and the like are now eligible to become members of this body, which formerly included none but hod carriers and building laborers.

It is expected many workers who have heretofore been members of the Federal Labor Union and of the Cement Workers' Union will now become members of the International Union of Building and Hod Carriers and Helpers.

White Peacemaker.

Perceval L. Ross, former Idaho cowboy and now artist at Paris, has returned to this city with a commission from Clara Mackay to go to Aiken, N. C., and paint some of the latter's valuable blogs.

UNFAIR PUBLICATIONS.

List of publications "unfair" to the typographical unionists would do well to cut it out and use it in a conspicuous place:

American Baptist, Louis.
American Black, Buffalo.
American Farmer, Rochester.
American Printer, New York City.
Animal Friends, New York City.
Biblical World, Chicago.
Black Cat, Boston.
Blue Book, Chicago.
Boston Cooking School Magazine, Boston.

Catholic Standard Times, Philadelphia.

Catholic World, New York City.

Christian, Boston.

Christian Advocate, Boston.

Christian Advocate, Cincinnati.

Christian Advocate, Louisville.

Christian Endeavor, Boston.

Christian Observer, Louisville.

Commercial Poulterer, New York.

Congregationalist, New York.

Critic and Literary Digest, New York.

Epworth Herald, Boston.

Evangelical Messenger, Cleveland.

Every Woman's Magazine, New York.

Farm Journal, Philadelphia.

Farm Poultry, Boston.

Farmers' Home, Louisville.

Farmers' Wife, New York.

Fashion World, New York.

Ferry's Seed Publications, Detroit.

General Electric, Schenectady.

Green Book, Chicago.

Household Companion, Boston.

Industrious Hen, New York.

Iowa Homestead, Moines.

Junior Christian Endeavor World, Boston.

Ladies' Home Journal, Philadelphia.

Larkin Eden Magazine, Buffalo.

Lippincott's Magazine, Philadelphia.

Literary Digest, New York.

Little Folks, New York.

Metropolitan Magazine, New York.

Modern Priscilla, Boston.

National Printer Journalist, Chicago.

Our Lumb, Boston.

Pacific Reporter, St. Paul.

Pentecostal Herald, Louisville.

Popular Medicine, Chicago.

Poultry, Peot, Ill.

Poultry Herald, St. Paul.

Presbyterian, Philadelphia.

Printing Art Magazine, Mass.

Reliance Poultry Journal, Quincy, Ill.</