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THE HEALTH AND SAFETY OF WOMEN IN INDUSTRY

UNITED STATES DEPARTMENT OF LABOR
FRANCES PERKINS, Secretary
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LETTER OF TRANSMITTAL

UNITED STATES DEPARTMENT OF LABOR,
WOMEN'S BUREAU,
Washington, August 13, 1935.

MADAM: I have the honor to submit for publication a revision and amplification of Women's Bureau Bulletin 18, Health Problems of Women in Industry, for which there is a constant demand.

The original bulletin was a reprint of an article by Mary N. Winslow, at that time editor of the Bureau, in The Nation's Health of May 1921. The present bulletin, prepared by Harriet A. Byrne, assistant editor, adds much material to Miss Winslow's report and summarizes accepted standards more modern and more general than were then available.

Respectfully submitted.

MARY ANDERSON, *Director.*

Hon. FRANCES PERKINS,
Secretary of Labor.

THE HEALTH AND SAFETY OF WOMEN IN INDUSTRY[1]

INTRODUCTION

In a message to Congress June 8, 1934, President Roosevelt stated that the chief objective of the administration was "the security of men, women, and children of the Nation." Shortly after this he appointed a Committee on Economic Security, to study the problem and formulate plans providing safeguards "against misfortunes which cannot be wholly eliminated in this man-made world of ours."

This committee made its report to the President in January 1935. In this report it stated that the primary aim of any program of economic security must be "the assurance of an adequate income to each human being in childhood, youth, middle age, or old age—in sickness or in health. It must provide safeguards against all of the hazards leading to destitution and dependency."

Prominent among the causes of destitution should be mentioned sickness, because of (1) the loss of earning power and (2) the cost of medical care. On an average, at all times, approximately 1 in 50 of all industrial workers are incapacitated for work by reason of illness. Each year more than one-eighth of all workers suffer one or more illnesses that disable them for a week. It is estimated by the National Safety Council that in 1933, a year in which employment was known to be at a low ebb, somewhat over 1¼ million industrial accidents occurred in the United States, 14,500 of them resulting fatally and 55,000 leaving some permanent disability. The economic loss resulting from such industrial injuries is estimated at well over half a billion dollars.

No special program of health has been made public by the Committee on Economic Security, though a general measure for meeting the health problems of families in low-income groups—that of a Nation-wide preventive program—has been suggested, as well as a health-insurance program. Some recommendations regarding accident prevention and compensation were made by the committee, which will be discussed in this report.

In the early years of this century the importance of women in industry became apparent. An investigation of the employment conditions of woman and child wage earners in 1907–9 aroused interested persons to the need of a Government bureau whose concern should be the problems of the working woman. However, it was not until 1918 that the Woman in Industry Service, which 2 years later became the Women's Bureau, was established.

[1] This bulletin is to replace No. 18, Health Problems of Women in Industry.

"To formulate standards and policies which shall promote the welfare of wage-earning women, improve their working conditions, increase their efficiency, and advance their opportunities for profitable employment", were the duties placed upon the Women's Bureau in the law creating it in the Department of Labor. To these ends it was authorized "to investigate and report to the said Department upon all matters pertaining to the welfare of women in industry", in doing which the Bureau has collected and published much valuable information on women workers, especially concerning their wages and hours, working conditions, personal-service facilities, and industrial accidents and disease.

Under the term "welfare", as interpreted in the law, the health of women in industry is a most important factor. Within recent years it has been recognized that efforts to prevent disease are not sufficient, the active promotion of health being a necessity. It is an accepted fact that healthy, contented workers are an employer's best asset. To accomplish this means more than considering merely the health of the individual worker; it involves guidance in placing the worker in the proper job and in assisting him in making any adjustments necessary to keep the job after it has been secured.

In a recent publication [2] of the United States Public Health Service on industrial hygiene the following statements appear:

> It is the feeling of public-health workers that the improvement of the general health status of the industrial worker is as much of a public-health problem as the control of communicable diseases, or any other phase of preventive medicine. As a result of the numerous studies * * * it is now established that morbidity and mortality rates are higher for the general industrial population, and that certain occupations are of first importance as factors in the causation of excessive sickness and mortality rates.
>
> A health department * * * is the only practical body equipped to conduct work of a preventive nature in industry.
>
> Occupational diseases are in a large measure preventable, and the degree of prevention exercised by a community will be reflected in the general health status of that community.

With the objective of the Administration, as mentioned at the beginning of this introduction, and the preliminary plans for the health of the Nation, as stated in the report of the Committee on Economic Security, it seems fitting that cognizance be taken of conditions under which women throughout the country are working and that a statement be made regarding the standards for their employment.

STANDARDS

Practically speaking, the entire program for the regulation of hours, wages, and conditions of work for women in industry is based on the power of the State to protect health. It is the recognition by the courts of the special significance to general welfare of the health of women, combined with the more serious effect on women than on men of long hours, low wages, and unhealthful working conditions, that has resulted in the upholding of laws that regulate conditions. With the legal sanction for regulation once given,

[2] U. S. Treasury Department. Public Health Service. The Potential Problems of Industrial Hygiene in a Typical Industrial Area in the United States. Bul. 216, 1934, pp. 29, 31, and 33.

legislation of one sort or another affecting conditions under which women may be employed has been put on the statute books of every State in the Union. These laws vary in the different States, of course, ranging all the way from a careful regulation of hours and wages and a very definite supervision and control of working conditions in such States as Oregon, California, Wisconsin, and Massachusetts to the simple requirement of seats for workers in Florida, West Virginia, and Iowa.

Though the theory justifying the power of the State to make these regulations has been so generally accepted, standards have varied to such an extent that no two States have the same regulations.

One of the earliest tasks undertaken by the Woman in Industry Service when it was organized was the formulation of definite standards for the employment of women in industry. These have served as a guide to many different groups working for the better protection of wage-earning women.

The standards thus formulated cover conditions in only a general way, but they are the fundamentals that apply to all industries and all occupations. Qualifications and elaborations must be instituted at times to meet special cases and peculiar conditions, but the fundamental standards necessary to insure health and efficiency remain unaltered. Briefly stated, the standards for the employment of women that constitute the creed of the Women's Bureau are these:

Hours

Time for recreation, self-development, leisure, by a workday of not more than 8 hours, including rest periods.
At least one and one-half days off in the week.
At least 30 minutes allowed for a meal.
A 10-minute rest period in the middle of each half day.
No night work.

Wages

An adequate wage, based on occupation and not on sex nor race, to cover the cost of healthful and decent living and to allow for dependents.

Working conditions

Cleanliness.
Good lighting, ventilation, and heating.
Guarded machinery, handrails, safe condition of floors, devices drawing off dust and fumes.
Prevention of overstrain and of overexposure to dust, fumes, poisons, and extremes of temperature.
Mechanical devices for the lifting of heavy weights and other operations abnormally fatiguing.
Fire protection.
First-aid equipment.
A chair for each woman, built on posture lines and adjusted to both worker and job; elimination of constant standing and constant sitting.
Pure and accessible drinking water, with individual cups or sanitary fountains.
Convenient washing facilities, with hot and cold water, soap, and individual towels.
Dressing rooms, rest rooms, and lunch rooms.
Adequate toilet arrangements—one toilet to every 15 workers.

General

A personnel department, responsible for the selection, assignment, transfer, or separation of workers and for the establishment of proper working conditions.
Women in supervisory positions and as employment executives where women are employed.

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Employees to share in the control of the conditions of employment by means of chosen representatives, not excluding women.

Opportunity for women workers to choose occupations for which they are best adapted as a means of insuring success in their work.

No prohibition of women's employment except in occupations proved by scientific investigation to be more injurious to women than to men.

No work to be given out to be done at home.

Cooperation with Federal and State agencies dealing with labor and employment conditions.

In this group of standards are found many recommendations that apply fully as strongly to men as to women. For example, there is no indication that bad ventilation in a workshop is a more serious menace to women's health than to that of men, nor that it has any distinctive effect on women. Insufficient ventilation will lower the efficiency and the ability to resist disease of both men and women, and it should be recognized as a problem for all employees in all industries under all conditions.

The prevention of glare by properly placing and shading lights is another working condition that is not particularly a woman's problem but instead is a problem for all in industry.

In fact, very few if any of these recommended standards can be said to apply only to women, and the Women's Bureau does not advocate that they should be considered as applying only to women. The important thing about them is that they apply *especially* to women. For all conditions in industry bear particularly heavily on women, and therefore good working conditions, hours, and wages have a more important relation to their health. Long hours in the factory are not so serious for the man, who is through work when he leaves his job at night, as they are for the woman, who in many cases has several hours' housework to do after she gets home. The married woman in industry who is forced to work because of economic necessity brought about by her husband's death, incapacity, or inability to earn an adequate wage for himself and his family, usually must take whatever job she can get, without too much question of wages or hours. But she is the one worker in all the group who most needs the protection of the law, for the care of her children and household will take many hours and much strength, and her health will suffer if hours of work are not limited.

WORKING CONDITIONS

Public interest in making the place of work safe was given great stimulus by the Triangle Shirtwaist Factory fire in New York City in 1911. After this disaster, in which almost 150 employees, chiefly young women, lost their lives, public opinion was aroused and investigations as to fire hazards and the prevention of fires by inspection and enforcement of preventives were initiated. As a follow-up of this interest in fire hazards attention was drawn to other hazards of industry. These have been overcome in varying degrees by establishing safeguards against occupational disease, industrial poisoning, overcrowding, and unguarded machinery.

Such protection against fire and certain industrial hazards is essential to the health of the employees, but in addition there should be guaranteed to the workers high standards of working conditions, which so affect them as individuals. Though industry itself and

others interested in security, both economic and industrial, have accomplished much in the way of guaranteeing health to workers, much remains to be done.

FACTORY PLANNING AND EQUIPMENT

Lighting

Of great importance in planning and equipping any industrial plant are the facilities for lighting. Adequate and proper lighting in work places is advantageous to both worker and employer. Daylight is the most desirable form of illumination and should be made use of whenever possible. Modern factories have availed themselves of daylight by building their factories in broad open spaces and by converting a large part of the wall area into windows. In connection with this, it should be mentioned that for industrial plants "poor lighting usually results if the ratio between floor and window area is greater than 6 to 1. In most modern daylight factories the ratio is between 5 to 1 and 3 to 1." [3]

As beneficial as daylight is, it may be glaring. Provision should be made to minimize this condition by using certain types of window glass, or window shades properly adjusted to meet the need of the workers.

Artificial lighting is necessary in most factories, electricity being almost universally used. In many plants, especially the modern ones, electric illumination is well planned and gives adequate light to all workers. However, an unshaded electric bulb with no reflector, placed with no regard to the work to be done, the height of the ceiling, color of the walls, or distance from the work place, frequently is the only light provided. The results of such lighting systems show themselves in reduced production, poor workmanship, accidents, and disease.

Whether the illumination be natural or artificial, if it is of the right kind it has the following beneficial effects: Reduction of accidents; greater accuracy in workmanship, resulting in improved quality of goods; increased production; less eyestrain; greater contentment of workers; greater cleanliness; more order and neatness in the plant; supervision of employees made easier.

In the bulletin of the Women's Bureau on lighting, the suggestions following are made:

SUGGESTIONS FOR EMPLOYERS, EMPLOYEES, AND STATE DEPARTMENTS OF LABOR [4]

To employers:

Decide that adequate light with protection from glare is essential for your plants and then secure it. The following suggestions may help you to do so:

1. Lighting is a technical problem. Consult a lighting expert in your community if possible. If not, ask for aid from your State department of labor.

2. Determine whether your plant illumination meets the standards of the American Standard Code of Lighting Factories, Mills, and Other Work Places. A copy may be secured from the American Standards Association and the Illuminating Engineering Society, both at 29 West Thirty-ninth Street, New York, N. Y., for 20 cents, or from the Bureau of Labor Statistics, United States Department of Labor, Bulletin No. 556.

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[3] National Safety Council. Industrial Shop Lighting. Safe Practices Pamphlet No. 22. 1930.

[4] U. S. Department of Labor. Women's Bureau. State Requirements for Industrial Lighting. Bul. 94, 1932, p. viii.

3. A foot-candle meter to measure the illumination level should be used at frequent intervals. Its use is a check on maintenance as well as on installation. Eyes adjust themselves to almost any light; visual estimates can not satisfactorily take the place of actual measurements.

4. Expert information and aid on lighting problems for both natural and artificial light can be secured from the following sources:

The Illuminating Engineering Society, 29 West Thirty-ninth Street, New York, N. Y.; General Electric Lighting Institute, at Nela Park, Cleveland, Ohio; Commercial Engineering Department, Westinghouse Lamp Co., Bloomfield, N. J.; New York Lighting Institute, Grand Central Palace, New York, N. Y.; Chicago Lighting Institute, 20 North Wacker Drive, Chicago, Ill.; the lighting service departments of many local light and power companies or electrical associations; the National Safety Council, Civic Opera Building, 20 North Wacker Drive, Chicago, Ill.

Bulletins on lighting problems for particular industries and the advice of lighting experts can be secured from these sources without charge. Some State departments of labor have exhibits of lighting equipment.

5. Use your lighting facilities wisely. Some one person who has been given instruction on lighting problems should be responsible for turning on the lights, adjusting window and lamp shades, watching the lighting in aisles, hallways, etc. Work places should be arranged to secure the most effective use of natural light.

6. After installing an adequate lighting system, plan to secure efficient maintenance. Cleaning windows, cleaning and repainting walls and ceilings, and replacing bulbs and broken reflectors are important phases of careful maintenance. This responsibility should be given to some person or persons in your plant.

To employees:

Your eyes are a valuable asset—protect them.

1. If the light on your work seems inadequate, request that it be adjusted.
2. If a light hurts your eyes, some condition of glare may exist; ask that it be corrected. It is bad to sit facing a glaring window. Light can be too bright as well as too dim.
3. The lighting facts given in this bulletin may help you.

To State departments of labor:

Proper illumination is necessary for health and safety. There are standards for good lighting that have been tested by experience—guessing is no longer necessary.

1. Several States have found lighting codes helpful guides and standards.
2. The foot-candle meter is used by some State departments of labor to measure the lighting level, usually in questionable cases.
3. While the entire field of lighting is highly technical and requires the experience of experts (some State departments of labor employ lighting experts), the basic requirements of good lighting, and the principles upon which these are based, are not difficult to understand. Inspectors with some information and training on this problem can improve lighting in places of employment.

Ventilation, heat, humidity, and clean air

Almost as important as lighting in making the best possible work place is the conditioning of the air. Ventilation should be adequate, heat sufficient but not excessive, humidity reduced, and air constantly moving, free from harmful gases or foreign particles. Rooms that are too cold, too hot, too humid, too dusty, or filled with stagnant nonmoving air are injurious to health. Excessive humidity, heat, and stagnant air reduce not alone the worker's vitality but her efficiency as well.

Two methods of ventilation are used generally by industry: (1) natural, secured by means of windows and other openings, and (2) mechanical systems, installed by technical engineers. Where windows are relied on it is well to open them at regular intervals, two or three times during the working period and at lunch time, to change the air. A temperature of 68 degrees Fahrenheit with humidity of 50 percent is said to be the most desirable for a workroom from the standpoint of comfort and efficiency of the workers.

In cases where it is necessary to install some method of mechanical ventilation two systems are commonly in use, one in which, by a vacuum system, the air is drawn out of the room, and the other a propulsion system where the air is driven in. Wherever necessary to install such systems, it is essential to secure the services of a technical expert, and to be guided by his instructions in their operation.

Where heat or humidity is excessive, exhaust systems should be provided, as they should also where the air contains poisonous gases or substances. Individual means of protection, such as respirators, should be used by workers exposed to harmful substances in the air about them.

Cleanliness

Cleanliness and order in the workroom have a beneficial effect on the health, efficiency, and contentment of the workers. They have the same effect as that produced on members of a family by good housekeeping in the home.

The necessity of frequent, thorough cleaning varies with the type of plant and the work pursued. In some plants daily cleaning of the whole place is absolutely necessary. Various cleaning methods are used—vacuum systems, sweeping, and scrubbing. Any method that scatters dust while employees are at work or during nonworking hours is to be discouraged. When the cleaning of floors is accomplished with a minimum of dust, labor is saved, as the equipment requires less cleaning.

Special attention should be given to removing dirt from windows and lighting facilities, since the amount of work accomplished is reduced where lighting is less efficient.

Noise and vibration

The problems of unnecessary noise and excessive vibration have not been given so much attention by experts as have those of lighting and ventilation. They are problems that should be thoroughly investigated by architects and technical experts in making plans for building and by engineers in designing machinery. One writer has stated that noise is often a sign of "wasted energy, of poor design, or of hurried ignorance."

Excessive noise and vibration are injurious to the health of individual workers as well as a menace to the neighborhood in which the plant is situated. The unavoidable effects of noise on the nervous system have long been recognized, and impairment of the auditory nerve has been known to result. Production may be reduced as much by weariness from excessive noise as it is by fatigue caused by muscular strain. Studies have shown that definite increases in the output of typists resulted when noise was reduced. Since this has been demonstrated, it certainly would seem that increased efficiency in other lines of work would come with a decrease in the noise produced.

With improved ventilating and lighting systems, some adequate provision should be made to do away with unnecessary noise and vibration. Noise-absorbent floors and ceilings and sound-proof walls should be included in specifications for all modern plants.

Stairways

Stairways should be wide enough to allow easy passing and the steps should be so constructed that walking is made easy. Wherever possible, elevators should be provided to decrease the amount of climbing required, especially when plants are sufficiently high to warrant installing them. Stairways and passages should always be clean and well lighted. Many injuries are caused by falls on slippery floors, on poorly lighted stairways, or in passageways. Stairways should be equipped with a separate system of lights so that any interference with the lighting system in the factory in a case of emergency will not affect the lighting of stairs and passageways.

Fire protection

As was mentioned in the introduction, the tragedy of a factory fire in New York City, nearly a quarter of a century ago, aroused public opinion to the need for protection against fire and other hazards incident to employment. All factories should be adequately protected against fire and equipped with fire extinguishers conveniently placed. Besides the stairways, previously described, special exits, well marked and known to be usable if and when needed, should be provided for emergencies. Fire escapes should be available on buildings of sufficient height to justify their installation.

Seating equipment

One of the health problems to which attention was given early was that of comfortable and hygienic seating and correct posture at work. In regard to this point the Women's Bureau has recommended the following:

> Continuous standing and continuous sitting are both injurious. A chair should be provided for every woman and its use encouraged. It is possible and desirable to adjust the height of the chair in relation to the height of machine or work table so that the worker may with equal convenience and efficiency stand or sit at her work.
>
> Seats should have backs. If the chairs are high, foot rests should be provided. It is generally understood that a good work chair must provide support for the back, a seat shaped to the body, and foot support (either the floor or a foot rest), and that the height and back must be adjustable. The measurements vary according to the individual and the type of operation to be performed.

The necessity for providing workers with chairs that will support the body so that the best working position can be maintained with the expenditure of a minimum of energy is becoming more generally recognized with the increasing realization of the harmful effects of fatigue.

Practically all the States, the District of Columbia, and the Territories of Puerto Rico and the Philippine Islands have laws that require some kind of seating accommodations for women workers. In fact, only one State—Mississippi—is without any law of this kind. Florida's law includes both male and female employees. In many of the States the laws apply to all or practically all occupations or industries, in a number to manufacturing and mercantile establishments, and in a few—Alabama, Maryland, North Dakota, and South Carolina—only to mercantile occupations.

Most of the States specify that " suitable " seats shall be provided, some designate " chairs, stools, or other contrivances ", a few provide that the seats may be permanent fixtures so adjusted as not to obstruct the work. One State, however—Kentucky—says that seats that fold are not a compliance with the law. Regulations in four States—Kansas, Minnesota, New York, and Ohio—specify seats with backs; California, Kansas, and Washington require foot rests, the first and last named stipulating individually adjustable foot rests; and the same two States—California and Washington—require adjustable seats at work tables or machines to permit the position of the worker relative to her work to be substantially the same whether she is seated or standing.

Many of the laws do not specify the number of seats to be provided, a few designate a " reasonable " or " sufficient " number, others require seats for all female employees or, in the case of standing jobs, 1 seat for every 2 or 3 workers.

The laws vary little as to the extent to which the seats may be used. By far the majority of the laws provide that employees be permitted to sit when not actively engaged in their duties or when sitting does not interfere with the proper discharge of duties. Others specify that the seats may be used as may be necessary, or to such extent as may be reasonable, or necessary, for the preservation of health.

Lifting or carrying heavy weights

There are so many ways in which a weight may be lifted—up or down, continuously or occasionally, by pushing or pulling; and the way of doing it—whether with the arms or back, with a sudden effort that may wrench or strain, or with a careful coordination of all the muscles that can be brought into play—may vary so with each individual, that the standard weight that can be lifted safely is difficult to arrive at. Notwithstanding this fact, some States have made laws regulating the employment of women with regard to lifting heavy weights.

In California, Massachusetts, Ohio, Pennsylvania, and Washington, women are not allowed to perform tasks that involve the lifting or carrying of heavy weights. In California, boxes, baskets, or other receptacles weighing with their contents 50 pounds or more must be equipped with pulleys, casters, or other contrivances so that they may be easily moved. This regulation applies to mills, workshops, restaurants, packing, canning, or mercantile establishments, or any other establishments employing women. Massachusetts has a law similarly worded that designates 75 pounds as the maximum weight. This law applies to manufacturing or mechanical establishments. The law in California also provides specifically against the carrying of any box, tray, or other receptacle weighing with its contents 10 pounds or over up or down any stairway or series of stairways that rises more than 5 feet from the base. Another California regulation applies to any occupation, trade, or industry, and specifies 25 pounds as the maximum weight to be lifted or carried.

In Washington, women in manufacturing and mercantile establishments are not allowed to lift or carry " an excessive burden." In Pennsylvania, the industrial board has ruled that women shall not be required or allowed to lift heavy weights in explosive plants

and that women working at permitted welding and cutting operations shall not be required or allowed to lift any material weighing more than 15 pounds. Ohio prohibits employment requiring the frequent or repeated lifting of weights in excess of 25 pounds.

Regulations regarding the work of women in core rooms have been set up by five States—Massachusetts, Minnesota, New York, Ohio, and Pennsylvania. Minnesota prohibits women from placing cores in ovens or taking them out. Minnesota and New York prohibit the making or handling of cores, the weight of which, including core box and plate, exceeds 25 pounds; and a similar restriction in Pennsylvania regarding the making or handling of cores specifies 15 pounds as the maximum weight. Massachusetts forbids the lifting of any core or cores upon one plate with total cubical contents of more than 1 cubic foot, or total weight of more than 25 pounds, unless assisted by mechanical appliances that limit to 25 pounds the physical effort involved. Massachusetts also requires that no woman shall work on any core with total cubical contents exceeding 2 cubic feet, or with total weight, including plate and core box or boxes, exceeding 60 pounds. Ohio provides that women employed in core rooms shall not lift any object weighing more than 25 pounds unless mechanical means are used that limit the physical effort to 25 pounds.

PERSONAL SERVICE FACILITIES

Drinking facilities

The subject of pure drinking water has been so well studied in connection with community needs that there is public sentiment against the use of the common cup and in favor of the sanitary drinking fountain or the individual cup. However, the majority of the State laws and regulations on the matter of drinking facilities do little more than prohibit the use of the common cup.

Comparatively few persons are aware of the dangers that exist in the serving of water by the ordinary drinking fountain. Tests of the sanitation of drinking fountains show that all types of vertical-jet fountains are easily contaminated and retain disease germs for some time, and that many angle-jet fountains may be contaminated by improper use. To avoid this, the flow of water in the fountain should be at an angle, so that it cannot fall back onto the orifice, and it should be equipped with an adequate guard to prevent face or hands coming in contact with the opening. Employers who would not offer their employees a common drinking cup will supply a vertical-jet fountain without realizing that it is a drinking facility with the same dangers as a common cup. Until recently any person who, recognizing this danger, has tried to buy a sanitary fountain has faced the problem of making a selection from the many types manufactured without satisfactory information. The Women's Bureau has met this situation and the resulting problems in its investigations of establishments and its interviews with employers. In an effort to bridge these difficulties the Bureau published a bulletin on sanitary drinking facilities: First, to call attention to the dangers to health that exist in insanitary drinking facilities, and second, to help employers to select fountains of sanitary design by making available to them the best standards that have been formulated.

The American Public Health Association's standards for the design and construction of drinking fountains, listing the features that are essential for their sanitation, are included in the following:

RECOMMENDATIONS FOR DRINKING-WATER SERVICE[5]

Source of water.—Should be absolutely pure. Consult local health department. Water not suitable for drinking should be so marked. Should not be in containers except where local supply is impure and bottled water is used.

Sanitary service.—Either bubbling fountains meeting the following standards[6] or individual paper cups furnished free by employer.

1. Fountain shall be of impervious material, as vitreous china, porcelain, enameled cast iron, other metals, or stoneware.
2. Jet shall issue from nozzle of nonoxidizing, impervious material set at an angle from the vertical. Nozzle and every opening in pipe or conductor leading to nozzle shall be above edge of bowl, so that nozzle or opening will not be flooded if drain from bowl becomes clogged.

Note.—It is understood that the angle be such that the water can neither fall back nor be forced back onto the point of discharge. The Women's Bureau desires to make this very emphatic.

3. Nozzle shall be protected by nonoxidizing guards to prevent mouth or nose of drinker from coming in contact with nozzle.
4. Jet of water shall not touch guard.
5. Bowl of fountain shall be free from corners difficult to clean or collecting dirt.
6. Bowl shall be so proportioned as to prevent unnecessary splashing.
7. Drain from fountain shall not have direct physical connection to waste pipe unless trapped.
8. Water-supply pipe shall have adjustable valve fitted with loose key or automatic valve permitting regulation of rate of flow of water to fountain so that valve manipulated by drinker will merely turn water on and off.
9. Height at drinking level shall be convenient to most persons using fountain. Step-like elevations may be provided for children.
10. Waste opening and pipe shall be large enough to carry off water promptly. Opening shall have strainer.

Proper use.—Hands, mouth, or face should not touch any part of faucet, bubbler head, or guards of fountains. Individual paper cups should be protected from dirt, supply should be adequate, and means of disposal provided.

Location.—Should be convenient, well lighted, clean.

Temperature.—Water should be cool but not iced. If ice is used for cooling, it should not come in direct contact with the water.

Maintenance.—Facilities should have frequent cleaning and disinfecting; also repair and adjustment as necessary.

Washing facilities

Adequate facilities for washing, in the form of stationary bowls or troughs equipped with running hot and cold water, soap, and individual towels, paper or cloth, should be provided. The number of bowls required varies with the type of work pursued, though some sanitary codes require that there be 1 for every 15 workers. Where conditions demand frequent washing of the hands, even more bowls should be available for use. Employees should be encouraged to wash their hands at least before eating, after using toilet facilities, and before leaving the plant to return home.

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[5] From Women's Bureau Bulletin 87, Sanitary Drinking Facilities, with special reference to drinking fountains. 1931.

[6] Summarized from Essential Features in the Design of Sanitary Drinking Fountains, final report of the joint committee on plumbing of the public health engineering section of the American Public Health Association and the Conference of State Sanitary Engineers, October 1930. U. S. Public Health Service, Public Health Reports, vol. 46, No. 4, Jan. 23, 1931, pp. 170–171.

Toilet facilities

As the Women's Bureau has published a bulletin on toilet facilities, excerpts from that publication may be given here.[7]

STANDARDS FOR INSTALLATION AND MAINTENANCE OF TOILET FACILITIES

There are certain principles commonly accepted as essential to the establishment of decent and hygienic conditions that should be taken into consideration in drawing up any law or regulation pertaining to the installation of toilet facilities. These principles already are the basis of numerous State laws and regulations and of the standards set by private corporations and establishments, but a number of States have failed to set up standards adequate for the needs of workers.

ADEQUACY OF EQUIPMENT

First of all it is essential, in order to prevent crowding and delay, that an adequate number of toilets in relation to the number of workers should be provided. The importance of this hardly needs to be argued and should be easy to accept. Failure to make such provision not only affects the comfort of workers but may have a direct bearing on their health and efficiency.

Employers should have the importance impressed upon them of the necessity for a sufficient number of toilets for all the workmen. * * * Fatigue is often dependent upon the absorption of toxins from the intestinal tract, and toxins are generated by retained accretions.[8]

In connection with adequacy of equipment, it is important to consider convenience of location, for adequacy is greatly affected by this. Toilets should be located as near as possible to the work place of those who use them, though it is always desirable to make the entrance inconspicuous from the workroom.

Standards of adequacy usually are expressed in the form of a required ratio of toilet seats to persons employed. * * * First-hand information in regard to the general condition in establishments has obligated the Women's Bureau to recommend the ratio of 1 seat to every 15 women employed, regardless of size of establishment.

PRIVACY

Almost as essential as adequate equipment is privacy, not only for each sex but for each individual. To insure such privacy it is necessary first of all to provide separate toilets for men and women. It is desirable that the two be remote from one another, though this is not always practicable. If toilet rooms for the two sexes adjoin one another, the separating wall should be of solid construction. Also, in cases where toilet-room entrances adjoin, employees generally prefer having them separated by a T-shaped or L-shaped screen. Moreover, even when the entrances do not closely adjoin they should be protected in some way so that the interior of the rooms cannot be seen when the doors are opened.

For the sake of privacy as well as to prevent contamination of the air in the workroom, the walls of all toilet rooms should extend to the ceiling or the rooms should be independently ceiled over. This regulation is necessary because of the tendency to install toilets in corners of workrooms with only dwarf partitions separating the two.

SANITATION

Walls and floors

In the interest of sanitation, it is important that walls and floors of toilet rooms be of material that is as nearly nonabsorbent as possible. Wooden floors absorb moisture and their use generally is discouraged; nor is Portland cement nonabsorbent unless treated with a hardening process. Some States advise the use of such materials as marble, tile, or glazed brick in both walls and floors but permit wooden walls and ceilings if these are painted with several coats of light-colored, nonabsorbent paint. Floors may be made of asphalt, concrete, tile or Portland cement, if treated with a hardening process to make them more nearly impervious to moisture.

[7] U. S. Department of Labor. Women's Bureau. The Installation and Maintenance of Toilet Facilities in Places of Employment. Bul. 99, 1933, pp. 4–11.

[8] Darlington, Thomas. Health and Hygiene in Industry. International Clinics, vol. II. Thirty-fourth Series, June 1924.

Fixtures

With the great improvements that have been made in sanitary equipment in recent years, it has been found possible to produce toilet fixtures that combine a number of features that make for sanitation—material that under a very exacting test has been found to be relatively nonabsorbent, from which toilet bowls can be cast; flushing devices that remove all particles quickly and thoroughly; seats constructed to prevent all unnecessary contact; and methods of ventilation through the fixture itself helping to prevent the escape of odors into the room. Certain standards regarding some of these points are included in the minimum requirements for plumbing recommended by the Bureau of Standards of the United States Department of Commerce, though most of the recommendations have to do with the way in which fixtures and pipes are installed. Certainly it should be possible for all establishments to have fixtures of the type recommended by this Government agency, since they are being manufactured by numerous firms.

Ventilation

For proper ventilation, a certain amount of window space opening directly to the outside air is considered desirable, though artificial ventilation may be adequate, and generally is permitted if certain specifications are followed. Where direct outside ventilation is required and details are specified, the minimum window space or skylight area considered essential for a toilet room with one seat varies from 4 to 6 square feet, and for each additional toilet seat an additional square foot of window space usually is required. Windows and skylights usually must be capable of being opened to one-half their area.

Lighting

Satisfactory lighting is important to the comfort of workers and the cleanliness of the room is greatly affected by it. Though natural light always should be arranged for, it is not sufficient unless all parts of the room and compartments are easily visible at all times, which is hardly possible without some form of artificial light.

Cleaning

The responsibility for the cleaning of toilet rooms should be delegated to special employees, and the cleaning should take place at regular and frequent intervals. Hot water and soap should be used. Frequent use of disinfectants in addition to soap is conducive to a sanitary condition, but disinfectants alone should not be relied upon.

Dressing and locker rooms

Provision should be made for the care of workers' clothes. Lockers should be supplied wherever possible, and if not lockers, clothes hooks with hangers so placed as to give ample space for street garments. Where special work clothing is needed, a dressing room should be furnished to afford privacy in changing to and from street clothes. Such a room should be well lighted, ventilated, and cleaned, and neatness and order on the part of employees should be required.

Rest rooms

Rest rooms vary greatly with the type of establishment. As a minimum, in every plant some provision should be made for a place where an ill person may lie down, and, better still, cots or beds should be furnished so that persons feeling the need of rest may avail themselves of this privilege. Rest rooms properly equipped should provide easy chairs as well as couches for the use of workers. If there is no room specially equipped for emergency illnesses, a first-aid kit should be installed in the rest room.

Lunch rooms

As good health is dependent to a large extent on the kind of food eaten, industrial managers are constantly becoming more conscious of the food needs of their workers. Not only does good food nourish the body, but the changed environment of the lunchroom has a beneficial effect on the worker.

The type of accommodation varies with the size of plant and with the distance from the factory to the workers' homes. Many plants have food prepared and sold in cafeterias or lunchrooms or at lunch counters, while others provide only a room in which the workers may eat the lunches they bring from home, in some cases preparing a hot drink for themselves. From experience it is considered that cafeteria service is best suited to the worker, since by that system he may choose with reason food to his personal liking and pocketbook. Food served should be varied, should offer a balanced diet, and should be low in cost. Where good food well cooked is available to the worker at a nonprofit price, the results should be a healthy group of workers and as a result of this an optimum production for the employer.

INDUSTRIAL HAZARDS

Accidents

The following recommendations made by the Committee on Economic Security were formulated in an endeavor to meet more adequately the hazards of industrial accidents:

(1) The Department of Labor should further extend its services in promoting uniformity and raising the standards of both the safety laws and accident-compensation laws of the several States and their administration.

(2) The four [9] States which do not now have accident-compensation laws are urged to enact such laws and the passage of accident-compensation acts for specified workers is recommended.

The Women's Bureau is publishing a series of reports on industrial injuries to women. The first gave the data available regarding such injuries from 1920 to 1927, the second was for the years 1928 and 1929, and the latest reports injuries to women during 1930 and 1931. Even in the last named, figures by sex were available in only 16 of the 48 States. Though accidents are relatively fewer to women than to men, the number of women injured is very large. In New York in 1931, for example, close to 9,400 women were compensated for accidents. For women in the 5 States that gave reports by industrial group, from not quite one-half to more than one-half of the injuries were in the manufacturing group; in 2 of the 3 States reporting the specific industry the largest number were in food manufacturing.

Many injuries are the result of falls. In 4 States in which causes of accidents to women over a 2-year period were studied, at least one-fifth were due to falls. And falls result in longer periods of disability than do other types of accidents to women.

A detailed study by the Women's Bureau of the reports of more than 3,000 accidents to women in three States showed that over two-thirds had affected the upper extremities. Among the machines

[9] This number has since become two.—Editor.

that injured women's fingers, hands, and arms were punch presses in metal factories and machine shops, power sewing and knitting machines, and cutting machines, of many types. Girls and women were found to have been injured by taking lumber from a saw, using an automatic cigar machine, cutting leather in a heel factory, shaving soap in a soap and perfume factory, operating a flat-work ironer in a laundry, packing food in bottles, carrying or lifting heavy weights, and in many other ways. It is possible to guard most of these machines so that fingers or other members cannot be maimed, and proprietors are coming to realize that it is greatly to the interest of industry and society that such accidents shall not occur.

Though money compensation for accidents is now given in most of the States, in many cases it is only a very slight reimbursement for the injury suffered. Far better than money compensation would be the assurance that every known precaution to prevent accidents had been taken.

Disease

Where factory conditions are good, there still exists the possibility of disease in the manufacturing processes. In many instances the materials used are harmful in themselves, and in other cases the process generates the disease-producing substance. There is constant progress in the elimination of harmful materials, but at the same time new chemical compounds for use in industry appear on the market. Eternal vigilance is necessary where substances known to be poisonous are used, and employers must be on the alert to recognize danger in unfamiliar substances. The harmful effects of new materials may not be apparent for years, and the tracing of illness to the real cause is difficult.

Women are affected by certain industrial poisons more seriously than men are. Further, they are exposed to an increasing number of hazards by reason of the widespread use of compounds in their occupations.

Among the hazards in manufacturing, dust occupies a place of increasing importance. Wherever the body is exposed dust settles, and it enters the mouth and nose and reaches the lungs. Persons employed in occupations generating dust are likely to be affected with pulmonary or bronchial troubles. Tuberculosis figures show death rates for workers in certain dusty trades to be far above the average.

According to a recent publication of the United States Bureau of Labor Statistics,[10] lead poisoning is a distinct hazard in approximately 150 occupations, including several groups with large numbers of women, such as pottery workers, printers, and enamelers.

Authorities hold that women not only succumb to lead more quickly than men do, but suffer more severely from its effects.[11] Lead poisoning is especially dangerous to women during child bearing; it is likely to result in sterility, miscarriage, or stillbirth.

A few years ago the Women's Bureau made a study of women doing vitreous enameling, chiefly in the stove industry, where spray-

[10] U. S. Bureau of Labor Statistics. Occupation Hazards and Diagnostic Signs, by Louis Dublin and Robert J. Vane. Bul. 582, 1933, p. 39.

[11] Hamilton, Alice. Industrial Poisons in the United States. New York, 1925, p. 8.

ing and brushing are the principal occupations. The women were exposed to lead poisoning, both fumes and minute particles, in many of the plants, and of those interviewed whose occupation was spraying the enamel about 14 percent had five or more symptoms of poisoning.

In a later publication [12] Dr. Hamilton states that the fact "that lead poisoning is brought about far more rapidly and intensely by the inspiration of lead-laden air than by the ingestion of lead, is of the greatest practical importance. There can be no intelligent control of the lead hazard in industry unless it is based on the principle of keeping the air clean from dust and fumes." This may be accomplished by adequate ventilating facilities and by exhausts to carry away dust and fumes. Individual protection in the way of respirators, helmets, and other clothing will help to prevent the absorption of lead.

Another harmful poison to which many women are exposed is benzol, used to a great extent in such important industries as the manufacture of rubber tires and shoes, the leather and the shoe industry, and a number of others. During a recent survey of the shoe industry by the Women's Bureau inquiries were made as to the use of benzol as a quick-drying solvent, especially of cements, and it was found that frequently its presence or absence was not known, though in some cases information regarding it was required by law. In the canning industry benzol is used in sealing cans. The use of a rubber in which benzol is present had supplanted the poisonous lead formerly used for sealing cans, but investigation has shown that the tendency is to use less benzol in the canning industry since its harmful qualities have been understood. Preventive measures consist chiefly of a system of exhausts, carrying off the fumes as close as possible to the point of origin.

The following general instructions to prevent industrial poisoning are from a Bureau of Labor Statistics bulletin on occupational hazards.

To prevent industrial poisoning these precautions should be taken:

Personal cleanliness must be maintained.
Workers must be instructed as to the toxicity of the substance handled.
Frequent medical examinations of workers must be made to detect early symptoms of disease.
Workers should not be allowed to eat in workrooms where poisonous substances are handled.
Work clothes should be removed at end of day's work.
Proper lavatory facilities should be provided.
Work clothes should receive special attention. The use of gloves and boots are often necessary.
Mechanical devices for confining the poisons are of prime importance.
Fumes and gases should be taken care of by proper ventilation, the use of exhaust systems, fans, and blowers.
Persons who work in an atmosphere polluted by poisonous fumes and gases should wear gas masks properly suited to the conditions.

The ordinary infectious diseases may be caused in industry by using materials containing germs, contact with individuals suffering from some disease, or by the use of common equipment, towels, or drinking cups. Though much progress has been made in requiring each individual to have his own equipment, towels, and drinking cup, there

[12] Hamilton, Alice. Industrial Toxicology. New York, 1934, p. 21.

are still far too many cases of disease caused by their common use. Frequently infections result from injuries, even in spite of immediate attention. When such infections occur, the healing period is prolonged, permanent disability often results, or the degree of impairment may be increased.

WOMEN'S WAGES

Perhaps the two most important health measures that industry can institute for all workers, but particularly for women who are not organized so that they can make their own demands and who are massed in the low-paid industries, are a short working day, one of 8 hours or less, and the payment of a living wage. Long hours of work and a low wage—the lot of the average woman worker—are great menaces to health. Standards of earnings and working time, such as minimum-wage and maximum-hour legislation, are instrumental in warding off malnutrition and in insuring rest and recreation, thus building up resistance to fatigue.

Several theories concerning women and their need of earning money have been proved fallacious. Among these should be mentioned the "pin-money theory", the suggestion that women living at home need less money than those who do not, and the supposition that women are transients on their jobs.

Standard wages

The general standard recommended by the Women's Bureau for the payment of women's wages may be repeated here:

Wages should be established on the basis of occupation and not on the basis of sex or race. The minimum-wage rate should cover the cost of living for dependents, not merely for the individual.

It is a well-known fact that the purchasing power of the dollar varies with cost of living, so that what is adequate for maintaining a proper standard of living in one year may be insufficient at another time.

Current wages

Women's earnings are low; pay envelops of $7, $6, and even less are still received by many women. Such wages are due partly to the belief that "women's work" has little economic value, though many of their occupations require great dexterity and skill.

The method of payment—time or piece—influences greatly the amount earned. If workers are paid by the piece, those who work rapidly earn more than the slower workers. However, piecework earnings are very irregular, depending as they do on the flow of work. A time rate guarantees a greater certainty of earnings. Regardless of method, whether time or piece, the amounts actually earned frequently are below what the rates would indicate, many factors—chiefly absence from work, whether voluntary or involuntary—serving to reduce them. In practically all lines of women's work in industry higher wages are deserved and should be paid.

Cost of living

Estimates of minimum costs of living for one woman, secured from various sources, are given below. For an industrial woman in

New York City the cost of room and meals alone in 1929 was given as $14.69 a week, according to a report of the Industrial Commission. This allowed nothing for clothing, doctors' bills, or the many incidental expenses generally considered necessities. Other estimates of decent-living budgets, made by the Young Women's Christian Association in 1930 for various cities, are as follows: Boston, $15; Chicago, $20; Kansas City, $16; New Orleans, $9.96; Philadelphia, $21. In 1928 the Bureau of Labor Statistics in Texas reported $15 a week as the least a woman could "exist" on, excluding any expenditure for illness or recreation. The Consumers' League of Cincinnati estimated that a woman's minimum living cost in 1930 was $17.50. The Industrial Commission of Colorado, in its report for 1928–1930, considered $17.20 the least on which a woman could live.

Earnings in 17 States surveyed by Women's Bureau

Despite these facts as to the minimum cost of maintaining a healthful and decent standard of living, it is still a well-known fact, as already stated, that many women are paid amounts far below even the lowest estimated cost. State surveys by the Women's Bureau from 1920 to 1934 yielded wage figures for about 180,000 women, almost all white, in 17 States. The medians of the week's earnings—half the women receiving more and half receiving less—may be classified as follows: Under $9, Alabama (1922) and Mississippi (1924); $9 and under $11, Kentucky (1921), South Carolina (1921), and Texas (1932); $11 and under $13, Arkansas (1922, 1932–33), Delaware (1924), Georgia (1920–21), Kansas (1920), Michigan (1934), Missouri (1922), and Tennessee (1925); $13 and under $15, New Jersey (1922), Ohio (1922), and Oklahoma (1924); $15 and under $17, Florida (1928) and Rhode Island (1920). Conditions such as these exist throughout the industries where women are employed, and the standard of living that a wage of around $12 a week must require certainly should be recognized as one that will sap the health and vitality of a large group of workers.

This is particularly true when the woman worker is recognized as a provider not only for herself but for dependents. The responsibilities of the wage-earning woman and her contribution to the support of others—mother, father, sisters, brothers, husband, children—have not yet received full recognition from industry and the public. Yet every investigation that touches wage-earning women piles up the evidence that women are working more often than not to eke out a husband's or father's insufficient wage and make it adequate for the family needs, or to earn the living that formerly had been provided by a husband or father who has died or been incapacitated.

Minimum wage

The principle of a minimum wage for women—the setting by law of a figure below which the wages of adult experienced women may not fall—is becoming more generally recognized in the United States. Sixteen States have minimum-wage laws, and bills supporting such legislation have been introduced and are under consideration in several other States. If minimum-wage legislation for women were Nation-wide, a certain degree of economic security would be assured them and their families. When industry does not pay women a

living wage for the work they do, the community suffers. The effects of low wages show themselves in the real poverty of working women and their families, forced to exist at low standards, seriously undermining their health, and making it necessary to supplement their earnings by public relief. The beneficent results of a living wage, to present and future generations, would be immeasurable.

WORKING TIME

As already mentioned, the hours of work and the wages paid are factors within the control of management that have a very direct effect on the health of women workers. Most women in industry, unlike most men, have heavy responsibilities outside their working hours. Generally they launder and care for their own clothing and in many cases the clothing of others; large proportions do their own housework and prepare the meals for themselves or a group; where there are children, employed women share in their care or have that entire responsibility. With these facts in mind, the hours spent in work outside the home are seen to form only a part of the working day of women in industry.

Daily hours

With the increased productivity of industry due to the use of improved machinery, to better planning, and to greater efficiency of management and workers, the trend has been toward a reduction in the working day and week. In many cases the decrease in production is not marked, if it appears at all, as workers frequently produce as much in a shorter work period, due to the lessened fatigue.

In its standard for the employment of women, the Women's Bureau recommends that daily hours shall not exceed 8, and that at least 30 minutes shall be allowed for lunch. It also recommends that a rest period of 10 minutes be allowed in the middle of the morning and the afternoon without increase in the daily hours.

A day shorter than 8 hours is a probability of the future, suggested by the plans for a 30-hour week for industry, in practice in some plants and planned for others in the scarcity of employment.

Speeding.—Legal regulation of the hours of work is considered by all thinking persons as real progress in protective legislation. In many cases the effect has been beneficial, but in some others, including certain large woman-employing industries, a reduction of hours has caused employers to require of all workers the same output under considerably shortened hours as was their average with a longer day. Different methods of achieving this have been tried. Among these should be mentioned increasing the speed of the machinery and increasing the number of machines that each worker must operate. As a result, the less-adaptable women have suffered from nervous strain that has caused illness and loss of time.

Fatigue.—Fatigue has been defined as a diminished capacity for work which is the result of previous work. It has a larger share in the promotion of illness than is generally understood. Many writers on the subject have shown the harmful effects of fatigue, both on the worker and on her output. In two works on fatigue, one by Josephine Goldmark and the other by a committee of the British Ministry of Munitions, arguments for a shortened working day have

been given. They both present the fact that efficiency is reduced by fatigue, and show that output can be increased when the workday is shortened or when time to rest is granted.

Weekly hours

Even more important than short daily hours are reasonably short hours of work in the week. In cases in which a worker might withstand occasional long days, a long week produces cumulative fatigue that cannot be overcome. The standard recommended by the Women's Bureau is that with the maximum 8-hour day should come the maximum 44-hour week; in other words, there should be at least 1½ days of rest in 7.

At the time of writing, this standard is somewhat out of date, considering that the maximum hours set by more than three-fourths of the codes for productive workers under the N. R. A. by July 1934 were 40 or less. The trend in industry is most certainly toward reducing hours rather than increasing them.

Irregularities of piecework

In any discussion of time worked, attention should be called to the evil in many plants under which supposedly regular workers on piece rates are forced to spend hours in waiting for work. At such idle times, of course, they earn nothing. This results not only in reduced earnings but in a very impaired morale among the workers.

Night work

Even more serious in its harmful effects than a very long working day is work done at night. The deleterious effects of night work are emphasized by physicians, insurance actuaries, and other scientific investigators. The two statements following were made by authorities in the medical profession: "Outside of great emergency or absolute industrial necessity, all night work should be abolished, and more so for women than for men", and "It is unnatural for most forms of life to work at night and attempt to sleep in the day."

Night work is especially harmful because of the loss of sleep that ensues, causing excessive fatigue. For the woman who works at night the strain is very great, not only because of her different physical make-up but because, as previously described, her work does not end when she leaves the factory. In addition to this, night workers lose much in social contacts. Night workers prove to be less efficient, due to the continued loss of sleep and to the fact that all work has to be done by artificial light. Accidents are more liable to occur at night, due to increased fatgue as well as to artificial light.

Vacations

It is generally conceded that vacations with pay are a worth-while investment on the part of employers, but in spite of this a large proportion of employers grant no such privilege. From all accounts, vacations are extended to only a small proportion of industrial workers, but the tendency to allow them is increasing. In a study published in 1927 it was estimated that more than a million industrial workers in the United States were given vacations with pay. A study made by the Bureau of Women in Industry in New York State showed an increase of 7 percent in the proportion of plants granting vacations with pay in 1930 as compared with 1925.

Sick leave with pay

Sick leave with pay is not usual for industrial workers. Different forms of group insurance or of sick-benefit or mutual-aid systems are available in some of the large organizations, but generally in small plants nothing of the sort exists.

PROTECTION OF THE WORKER IN PLANT AND AT HOME

With definite standards established for the physical condition of work places, hours of work, and earnings, and a minimization of industrial hazards affecting workers, greater interest should be manifested in the workers themselves. Many different factors are responsible either independently or in a related way for the physical and mental well-being of the individual. As already stated, a healthy, contented body of workers is the best asset an employer can have. Insecurity of employment and uncertainty of health each have a very damaging effect on the workers. It is with the hope of alleviating some of the misery connected with the evils of both of these that the Committee on Economic Security has set as one of its objectives "The assurance of an adequate income to each human being * * * in sickness or in health."

In the Social Security Act, recently passed by Congress, an attempt will be made to lighten the burden for the aged, the unemployed, mothers, and children.

Physical examination

As direct consequences of long hours and low wages, fatigue and malnutrition result, and these two frequently are the forerunners of more serious trouble. To assist workers in maintaining their good health or to advise them in the case of disabilities of which they may not be aware, physical examinations should be given by qualified physicians to all new employees. Treatment should be advised for any physical defect or illness found to exist at time of examination so that a cure may be accomplished wherever possible. As a follow-up of this first examination others should be given periodically as a matter of health preservation, especially where the work done involves recognized or possible hazards.

Health maintenance and prevention of disease are accomplished in various ways. To meet emergencies of illness as they arise, a well-equipped first-aid kit should be maintained. Other measures for preservation of health provided by some firms include talks, bulletins, and posters on health problems, and classes designed to give education along health lines. In some plants visits to ill employees are made by industrial nurses or others interested in the health of the workers.

Placement of workers

Besides seeing that a person is physically fitted to accept a position, it is essential to see that he is mentally well equipped. To gain some knowledge of the mental ability of applicants for jobs, various tests have been devised that show the individual's ability. They have been developed during the past 20 years or so, and consist of so-called "intelligence tests, achievement tests, diagnostic tests,

mechanical aptitude tests, and others." Use is made of these tests in schools to help teachers and counselors to advise the pupils in the course of study to be pursued, and also in industry by persons specially trained to help the workers. From the results of such tests it is possible to decide the kinds of work for which applicants are best fitted.

To make effective the proper placing of workers in the jobs for which they are best fitted and their progress in such jobs, various plans are followed in different plants. In large organizations this is accomplished through the personnel departments, and in small plants through the supervisors or foremen. It is advisable to have women in these positions where women are employed.

Until the depression set in, industry was becoming more conscious of its obligations to workers. More and more was the human factor being recognized. Workers themselves, through education and organization, were setting up standards of work and living. Though there has been a cessation of much of this constructive work during the past 5 years or so, it is hoped that what had been accomplished will not be lost and that it will result ultimately in a more efficient life for this important group of workers.

Industrial home work

The use of the home as a workshop, thereby greatly reducing the cost to the manufacturer of products made there, has been a practice ever since the beginning of the modern industrial system. With the recent attempts to regulate hours and earnings for factory workers, serious difficulties have arisen through the competition of home workers. Attempts have been made to regulate hours and earnings of these workers, but they have not been successful. In cases of rush orders, home workers frequently extend a very long day far into the night so as to finish a special job in the time set. The harmful effects of such hours, resulting in fatigue and nervous strain, need not be stressed here.

In addition to these factors affecting the home workers themselves, the conditions of homes in which work is carried on are far from ideal. Inspection of homes to insure healthful conditions as well as enforcement of regulations of hours and earnings has not proved very successful.

For these reasons it is the desire of most informed persons that all home work be abolished. This has been brought about to some extent by the regulation or prohibition of home work by 118 codes under the N. R. A.

In an endeavor to alleviate any hardship caused by such regulation or prohibition, an Executive order was issued by the President as of May 15, 1934, allowing the granting of permits to do work at home, in an industry in which it has been abolished, to persons so handicapped that they cannot work in a factory or needed at home to care for invalids.

The Women's Bureau has from time to time made investigations and published reports on industrial home work, the earliest of which was Home Work in Bridgeport, Conn., published in 1920. Within the past few years several surveys of home work have been made by the Bureau. Four of these were significant parts of larger studies concerned with Connecticut, Texas, Puerto Rico, and immigrant

women. The other three were specifically on industrial home work—one on southern mountaineer handicraft, another on hand-made handkerchiefs, and the third on home work in Rhode Island, chiefly in the lace industry. An extensive survey of home work was carried on during 1934 by the United States Department of Labor, and an analysis of the various types of home work known to be done in this country, entitled "The Commercialization of the Home Through Industrial Home Work", has been prepared by the Women's Bureau.

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WOMEN'S BUREAU BULLETINS SUGGESTED FOR READING

3. Standards for the Employment of Women in Industry. 1928.
87. Sanitary Drinking Facilities, with special reference to drinking fountains. 1931.
94. State Requirements for Industrial Lighting: A handbook for the protection of women workers, showing lighting standards and practices. 1932.
99. The Installation and Maintenance of Toilet Facilities in Places of Employment. 1933.
114. State Reporting of Occupational Disease, including a survey of legislation applying to women. 1934.
129. Industrial Injuries to Women in 1930 and 1931 Compared with Injuries to Men. 1935.

Leaflet—Why legislate living wages for women workers?