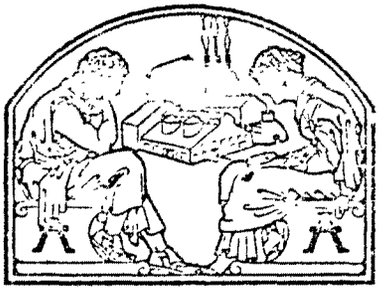
Literature Abstracts

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Industrial Health News



Issued Monthly By

INDUSTRIAL HYGIENE FOUNDATION

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FOUNDATION FACTS

Foundation Facts is a monthly news-letter issued to industrial concerns holding membership in Industrial Hygiene Foundation. The Foundation is a combined research and service institution to protect the health of workers in industry.

Vol. 4. March, 1942 No. 3.

Production Means Protection and Viceversa

With war on wheels and wings, industrial production becomes synonymous with America's protection. But production in turn demands protection, protection of the health and safety of workers who man the machines, the warriors in overalls. Increasing production tends to increase health hazards, hence health protection must be speeded to insure maximum production. The average worker can't continue to lose about 8 days a year through illness -- some 7 times the loss caused by accidents.

Recent WPB announcements state that about 10 million more workers "must be put into war production this year" and two million of these must be new workers, men and women not now engaged in production." The Foundation's function is to help its member companies keep protection in step with production and one of the first steps is an industrial hygiene survey which helps locate and eliminate any health hazards in the work place. These surveys are as essential in maintaining healthful working conditions, as inventories are in maintaining a "healthy" business.

Two New Members and 16 State Subscribers

Two more companies have taken out Foundation membership recently, the KOPPERS COMPANY and the DOMORE CHAIR COMPANY. Meanwhile, 16 state and federal agencies have subscribed for the Foundation's publications under a new classification recently created by the Board of Trustees. Publications were previously furnished to governmental agencies on a complimentary basis. The new arrangement was dictated by rising costs and by the growth of industrial hygiene activities among governmental agencies, universities and other non-employer groups. States now subscribing for bulletins are: Connecticut, Georgia, Idaho, Illinois, Iowa, Kansas, Michigan, Missouri, Montana, New York, Texas, Utah, Vermont, Virginia, West Virginia and Wisconsin.

Health Posters Available: The National Tuberculosis Association advises that its monthly bulletin board poster service is available to Foundation members "for the asking", through their local tuberculosis associations. The posters, striking presentations, deal with such basic health subjects as sleep, colds, sanitation and proper food.

On the Subject of Food: The development of facts can't always keep pace with developments in communications. For instance, the vitamin story has been overtold in some quarters, as management and labor should know. The Journal of the American Medical Association makes some pointed comments on this subject in a recent issue. See abstracts of this report, of the recent Army tests, and kindred data in our March issue of the Industrial Hygiene Digest.

Preliminary programs for the annual meeting of the American Association of Industrial Physicians and Surgeons, and the American Industrial Hygiene Association, which will be held at Cincinnati, April 13-17, will be mailed to Foundation members with the March Digest.

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Vol. VI.
No. 3.

Industrial Hygiene Foundation,
4400 Fifth Avenue, Pittsburgh, Pa.

INDUSTRIAL HYGIENE DIGEST
Literature and News

News Items

244 Course in Industrial Hygiene.
The Harvard School of Public Health will again give a course in Industrial Hygiene, from April 27 to August 1, 1942, which is open to physicians and engineers who desire training in this field. The course will be essentially the same as that given during the past year to three groups of Navy Medical and Engineering officers. Credit toward a graduate degree in public health or engineering will be given those who successfully complete the work. The tuition charge for the course is $200.00. Further information can be obtained from Cecil K. Drinker, M.D., Dean, School of Public Health, Harvard University, 55 Shattuck Street, Boston, Mass.

245 Industrial Health Meetings.
Two meetings of high importance in the field of industrial health are scheduled for next month. The fifth annual meeting of the National Conference of Governmental Industrial Hygienists will be held in Washington, April 9-11.

The 27th annual meeting of the American Association of Industrial Physicians and Surgeons and the third annual meeting of the American Industrial Hygiene Association will be held at Cincinnati, April 13-17. (A copy of the preliminary program for the Cincinnati meeting is enclosed for the information of Foundation members.)

246 War -- Ally of Tuberculosis.
A possible rise in the tuberculosis death rate as a result of the war emergency is predicted by Dr. Robert E. Plunkett, general superintendent of tuberculosis hospitals, in his annual report for 1941. Intensified industrial programs involving long hours and strenuous labor, shifting populations and the consequent overcrowding of living quarters, the acceleration of social life incident to higher wages -- these and other conditions created by war are exacting a toll in loss of rest and relaxation which are essential to continued good health. Many persons unaccustomed to these deviations from normal living are "burning the candle at both ends" inviting physical breakdown and paving the way for tuberculosis.

Dr. Plunkett points out that most of the countries which have already been at war for more than two years have experienced an increase in tuberculosis death rates. Unless we quicken the tempo of control activities, we may be faced with a similar misfortune. X-raying of persons who have been in contact with a case of tuberculosis, of workers in war industries, of individuals in the lower economic brackets and other population groups in which tuberculosis plays the greatest havoc is more important than ever before. The number of new cases of tuberculosis reported in 1941 in New York State, exclusive of New York City, was 5415, an increase of approximately 250 over the number reported in 1940, according to

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provisional figures. It is estimated that the resident tuberculosis death rate will again be lower than that of the previous year, 34.1 per 100,000 compared with 36.2 in 1940. Health News. N.Y. State Dept. of Health, 19, 24-25 (February 9, 1942).

247 New Haven Industrial Medical Service.
New Haven County physicians in cooperation with the Department of Preventive Medicine of the Yale School of Medicine have approved the creation of an Industrial Medical Service in factories which do not now have adequate medical service. Plans have been drawn up for the organization of the service in five plants in New Haven County, each having a personnel of not more than 300 persons. The service will consist of a director, who shall be a physician trained in industrial medicine and is to be responsible for administration and for meeting problems in industrial hygiene, and a nurse trained in industrial medicine. A grant to defray some of the initial expenses has been made by the New Haven Foundation. "It is estimated that two years will be required to determine whether this service is justifiable and worth continuing or not. At the end of this period the Section of Preventive Medicine of the Yale School of Medicine will review the project. The opinion of the New Haven Medical Association will be solicited at that time." Science, 95, 187 (February 20, 1942).

Legal Developments

248 Common Law Action Against Employer. Silicosis, An Occupational Disease. Former Disallowance of the Claim by the Commission. Sufficiency of Plea of Compliance with Act.
The appellants, dependents of a workman whose death is alleged to have been caused by silicosis, after having had their claim under the Compensation Act disallowed, have filed this suit at common law against the employer, with an allegation of negligence on its part causing the fatal condition. The employer pleaded in bar its full compliance with the Act, and the plaintiffs filed a replication that the injury and death were not covered by the Act. The sufficiency of this replication was denied by demurrer, the demurrer was sustained, and from judgment on the demurrer for the defendant the plaintiffs have appealed.
The Commission found and determined that it was not the result of an accidental injury arising out of and in the course of the employment within the provisions of the Act, and disallowed the claim. This final exclusion from the operation of the Act, it is argued, leaves unobstructed a right of action for damages at common law. The negligence alleged is a failure of the employer to furnish the deceased with a reasonably proper and safe place to work, and to avoid exposing him to unnecessary danger while engaged in his work, with the result that silicosis brought on the death. It is agreed that silicosis is an occupational disease, and at the time of the decedent's death, the results of occupational diseases were not compensated under the Act. Acceptance of the present appellants' contention would require an overruling of the decision in Victory Sparkler Co. vs. Francks, 147 Md. 368, notwithstanding its thorough study, and notwithstanding the continued application of its rule during the years intervening before passage of the Act of 1939. And the court does not find justification for that action. Judgment affirmed. State ex rel Wilson et al v. North East Fire Brick Co. Md. Ct. of App. Decided February 4, 1942. (CCH).

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249 Silicosis of Foundry Worker. Foundry Work as Promoting Silicotic Condition. Causal Relation with Tuberculosis.

Applicant had worked as a molder in foundries for some twenty-five to thirty years. The last fifteen or sixteen years of his employment was at plaintiff's foundry. He had his right leg amputated above the knee because of tuberculosis of the knee joint. Applicant had had tuberculosis during childhood and this left a primary focus in the lung. An x-ray of applicant's chest was taken in 1932 and this disclosed a disputed stage of silicosis, as well as the old tuberculous infection. The examiner found that applicant's silicosis resulted from his occupation as a molder and his employment at plaintiff's foundry; that the silicosis was a material factor in reactivating the pulmonary tuberculosis; and that applicant suffered from an occupational disability. The first attack upon the findings is that there was no substantial evidence that work at plaintiff's plant contributed to produce applicant's silicosis. It was virtually conceded upon the record that plaintiff's plant was an ordinary foundry; and that persons working there were subjected to silica dust. It was inferred that work for this employer had tended to promote the silicotic condition. It appears to us that this is a legitimate and substantial inference. A more difficult problem is the causal relation between applicant's silicosis and the clinically active tuberculosis ultimately developed by him. There is positive evidence by applicant's doctors that the silicosis was a material factor in keeping pathologically alive the tuberculous lesion or lesions in applicant's lung; that the presence of silicosis predisposed applicant to reactivation of the tuberculosis, either spontaneously or by contact with germs of the disease. Upon the evidence, the commission was entitled to find that silicosis was a material causative factor.

Judgment affirmed. Milwaukee Malleable and Grey Iron Works et al. v. Industrial Commission of Wis. et al. Wis. Supreme Ct. Decided February 10, 1942. (CCH).

250 Tubercular Pneumonia. Silicosis. Post-Mortem on Part of Body.

Appeal from an award in favor of dependents of Tallis Turks. The cause of death was tuberculosis pneumonia, associated with silicosis. Appellant insists that there is no evidence that a quantity of silica was present necessary to cause silicosis according to the standard of the United States Department of Labor. There is no requirement that such proof be made. The evidence is ample that silica was present in sufficient quantity to cause silicosis and result in death.

Turks died August 3, 1939. An autopsy was performed on October 23, 1940, on decedent's lungs, the body having been interred. Appellant contends that the entire body had to be produced. The statute does not require an examination of more of the body than is needed to discover the cause of death. Award affirmed. Harbison-Walker Refractories Co. v. Turks et al. Ind. Appellate Ct. Decided March 4, 1942. (CCH).

251 Paralysis. Neurosis. Post-traumatic Hysteria. Anxiety Neurosis. Shock. Disease Resulting from Injury.

Appeal from an award of the Industrial Commission for temporary, and permanent partial disability. It is the contention of respondent that petitioner's condition is one of functional paralysis caused by an anxiety neurosis induced by the accident alone and not by the injury, and that such a condition is not compensable. All the parties agree that it is post-traumatic neurosis of some kind. The commission was justified in believing that the condition was what is known as post-traumatic hysteria, rather than anxiety neurosis, and this former class of neurosis commonly arises from shock resulting from some accident.

Does this show a "disease resulting from an injury"? The answer depends upon whether shock is legally an injury. A nervous shock caused by an accident is a compensable "injury." Since a shock is a compensable injury, and neurosis is a

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disease, a hysteria neurosis caused by a shock is a "disease resulting from an injury." Petitioner's neurosis was the result of traumatic shock and was not due to a deep-set fear or apprehension. Award affirmed. American Smelting and Refining Co. v. Industrial Commission of Arizona et al. Ariz. Supreme Ct. Decided March 9, 1942. (CCH).

252 "Freon 12" Poisoning. Fumes from Air Conditioner. Employee. Control. Traumatic Injury. Work Partly within and without Ohio.
The decedent, Krull, a welder, was hired by the Carlson Electric Co. to repair an air conditioning unit, refrigerated by "Freon 12," a chemical containing poisonous elements. The Carlson Company transported Krull from Ohio to Pennsylvania where the welding was done, in closed quarters. While the unit had been drained, Krull's torch vaporized the fluid, and he became ill several hours thereafter. He subsequently died and, upon appeal from an order of the Industrial Commission denying compensation, compensation was awarded by the lower court. This appeal followed. The test of Krull's status is whether the Carlson Electric Co. had control over the means and method of performing the work as well as over the result. Carlson Electric Co. procured some of the material used in the welding operation, and had control of the time, place and manner of doing the work, which was required to be done as directed by its inspector. The term employee means every person who may be directed by any employer, in consideration of profit, to engage in any employment, or to go, or work, or be at any time in any place of employment. The traumatic injury was the breaking down of the blood structure and lung tissues resulting from a poisonous gas. If an Ohio-hired, injured or killed Ohio employee of an Ohio employer is required to perform part of the work in Ohio, though a portion of the work is to be performed in another state, he or his dependents can recover under the Workmen's Compensation Act. The evidence established that Krull prepared flux for the job in Ohio, the day before the injury was received. Thus, part of the work was performed in Ohio. Judgement affirmed. Krull et al v. Industrial Commission of Ohio. Ohio Ct. of App. Decided December 3, 1940. (CCH).

253 Silicosis. Time and Conditions of Employment Disputed. Summary Judgment Erroneous.
This is an appeal from a summary judgment for the defendant entered in an action for permanent partial disability from silicosis, acquired while working in the appelee's limestone quarry. The question was whether the plaintiff's alleged condition was due solely to exposure before September 1, 1935. The appellant alleged and testified that the disease was wholly contracted when working for the appellee before September 1, 1935 and that in his subsequent work he was not exposed to the hazards complained of. The appellee filed affidavits that its records disclosed that there was no substantial change in the conditions under which the appellant worked. With the material fact as to whether or not the appellant had been exposed to a dust hazard during the time he worked for the appellee after September 1, 1935 left as uncertain as it was, it was error to grant the motion for summary judgment. Judgment reversed and cause remanded. McElwain v. Wickwire Spencer Steel Co. N.Y. U.S.C.C.A., 2d Cir. Decided February 21, 1942. (CCH).

254 Dermatitis. Finding of Poisoning by Either or Both of Two Substances Sustained. Evidence.
Claimant, in the performance of her work, was required to use formalin, creosol compound, wood alcohol, and mercury. She developed dermatitis, for which an award was made. When away from her work her condition cleared, but when she went back there would be a recurrence. Medical experts stated that various factors might have contributed to her condition. They listed as pertinent to her condition mercury and wood alcohol. Claimant's employers challenge the

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industrial commission's finding that claimant became disabled by reason of an occupational disease due to contacting mercury and/or wood alcohol in the course of her employment, on the ground that the finding does not specify one of the occupational diseases. The burden of proof in a compensation case is upon the employee, and a recovery cannot rest merely on speculation; but if the proof furnishes reasonable bases for an inference that the injury was the cause of employee's ailment, it is sufficient. Such proof was furnished and the findings are sustained. Where legal cause and harmful effects have been shown by competent evidence, liability follows although other causes may have lent their aid. The facts inevitably lead to the conclusion that employee suffered mercury and/or wood alcohol poisoning. Order affirmed. Kvernstoen v. Nelson et al. Minn. Supreme Ct. Decided February 20, 1942. (CCH).

255 Occupational Disease. Heart Disease Aggravated by Employment. Validity of Court Order Referring Case to Non-Existing Medical Board.

Appeal by claimant from the order of the Court of Common Pleas of Delaware County, to March Term 1941, No. 42. No. 164. Claimant filed a claim alleging that her husband's death was the result of an occupational disease. Defendant denied that death occurred as the result of any occupational disease and alleged that his death was caused by a decompensated rheumatic heart disease, unconnected with his employment. The referee found that the claimant's husband died of rheumatic heart disease, aggravated by carbon disulphide poisoning contracted while employed by defendant, and awarded compensation. The board affirmed the award. Defendant appealed to the court below, which remitted the case with directions to submit medical questions to the Medical Board. Claimant appealed.

Although two years and five months have passed since the Act of 1939 became effective, no medical board has been appointed to perform the functions given it under the act. Therefore, the courts cannot direct the Workmen's Compensation Board to refer medical questions to the determination of a board that does not exist. Workmen's compensation cases cannot be indefinitely suspended. The Occupational Disease Act of 1939 makes the Workmen's Compensation Board the ultimate fact finding body and provides that the Board shall accept the findings of the medical board as conclusive. Until there is a medical board, the Workmen's Compensation Board can make its own findings. Order of the court below reversed, and record remitted to that court to determine whether the findings of the Board are sustained and whether they support the award. Plaugher v. American Viscose Corporation. Penna. Superior Ct., East. Dist. Decided February 28, 1942. (CCH).

256 Frostbite. Aggravation of Pre-Existing Disease.

Appeal from the Judgment of the Court of Common Pleas No. 6 of Philadelphia County, as of June Term 1940, No. 4818. No. 78 The Claimant, was employed as a butcher in a refrigerator room of defendant's meat packing plant, for approximately three years prior to September 8, 1936. On that date he was obliged to quit work by reason of the painful condition of his feet and has been totally and permanently disabled ever since. Later, claimant required hospitalization, and both legs had to be amputated. He sought compensation under our Workmen's Compensation Act upon the theory that the loss of his legs was caused by an injury by an accident in the course of his employment, within the meaning of Section 301 of the statute, 77 PS Section 411, by having his feet frostbitten as the result of exposure to excessive cold. The referee made an award upon the theory that claimant's job required him to work, with wet feet, in a refrigerator room in which the temperature was very low and colder than usual on September 8, 1936; that he had Buerger's disease prior to that date; and that the temperature of the room was a contributory factor in producing the disease and precipitating the gangrene he subsequently developed. The board set aside

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the findings of fact of the referee and found that the room in which claimant worked was no colder on September 8, 1936, than it had been on many previous occasions; that the amputations of claimant's legs were caused by a natural affliction, to wit, Buerger's disease, and not because of any accident, within the meaning of the statute; and that the wet floor and the atmospheric condition in the refrigerator on September 8, 1936, was not a contributing factor in aggravating the Buerger's disease and bringing about the amputations. The award of the referee was set aside and an order of disallowance of compensation entered. Claimant then appealed to the court below which dismissed his exceptions and entered judgment in favor of the employer. This appeal by the claimant followed.

The single question of law presented is whether the substituted findings of fact of the board are supported by substantial competent evidence. Under the testimony presented the board was fully warranted, in the exercise of the powers exclusively committed to it, in setting aside the findings of the referee and substituting its own to the effect that appellant when stricken was not working under any abnormal or unusual conditions. Moreover, the findings of the board that there was no connection, either by way of causation or aggravation, between the wet floors and atmospheric conditions under which appellant was working when disability overtook him and the pre-existing Buerger's disease with which he had admittedly been suffering for a long time, are supported by substantial competent testimony. Judgment affirmed. Lakott v. Armour and Co. Penna. Superior Ct., East. Dist. Decided February 28, 1942. (CCH).

257 San Joaquin Valley Fever. Salesman's Infection Arising out of and in the Course of Employment. Causal Connection.

Petitioner, the insurance carrier, seeks to annul an award to the employee, Ehrhardt, for disability caused by the disease known as San Joaquin Valley fever. Ehrhardt is a travelling salesman engaged in selling the employer's products in California, Arizona, New Mexico and Texas. The Industrial Accident Commission found that Ehrhardt contracted the disease while in San Joaquin Valley on the business of his employer. The evidence supports that finding. Considering that the disease is endemic in San Joaquin Valley, that the spores causing it are found there, that it is acquired by an inhalation of those spores, that Ehrhardt had not been in San Joaquin Valley except in the course of his employment, that physicians testified that the disease was contracted there and that the probabilities were one hundred to one that he contracted it there, it cannot be said that the Commission was not justified in its conclusion. There must be a causal connection between the employment and the injury; the mere fact that the injury occurred while the employee was in his master's service is not sufficient. The opinion of medical witnesses that Ehrhardt contracted the disease in the San Joaquin Valley while there in the service of his employer, satisfies the requirement. Circumstantial evidence is sufficient to support an award of the Commission. Award affirmed. Pacific Employers Ins. Co. v. Industrial Accident Commission of the State of California et al. Calif. Supreme Ct. Decided February 27, 1942. (CCH).

258 Tuberculosis Claim not Allowed.

A laborer employed by a Central Ohio electric plant applied for compensation, alleging that he had been forced to quit work on March 13, 1941, as a result of pulmonary tuberculosis contracted while in the course of his employment. He attributed his condition to being repeatedly drenched with cold water while "shooting tubes" in a condenser. The employer declined to certify the application and it was referred for investigation. The investigator found that the claimant was 19 years of age, recently out of high school and had worked for this employer only a few months. Normally, he worked as a laborer assembling turbines

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but had been assigned to cleaning the condensor, a part of the turbine, an operation which is of such a nature that the operator gets drenched with water. As the result of this exposure, the claimant alleges he developed pneumonia and after six weeks returned to work. In about ten days he began to feel badly and was sent to the Tuberculosis Clinic for treatment. While the medical department held that evidence of a specific injury was lacking and that it medically disapproved what appears to be an occupational disease claim, the claims reviewer was inclined to the opinion that the circumstances warranted approval of the claim as an injury claim rather than an occupational disease claim. The Commission inclined to this opinion and ordered that the claim be allowed as an injury claim. Ohio Ind. Comm. Monitor, 15, 29 (February, 1942).

259 Irritation by "Procite".

The claimant in this case, employed for several years as a tipple man by a coal company, applied for compensation, alleging that he had been disabled as the result of chemical burns arising from the handling of a preparation known as "Procite." The employer did not certify the application, but the company's safety director informed the investigator that several other employees had complained of the irritating effects of the chemical, which was used in the treatment of coal. In the claimant's case, inhalation of the fumes caused a burning sensation in his nose and eventually burned a hole in the nasal septum. While the medical investigator reported there was no necessary disability involved, the claims investigator held that the record indicated the claimant had lost some time as a result of an operation on his nose. He recommended that the claim be allowed and the Commission so ordered. Ohio Ind. Comm. Monitor. 15, 29, (February, 1942).

260 Fatal Heat Stroke of Craneman.

In this case, a cupola craneman was overcome by heat while changing a cupola on August 8, 1941. He left no dependents and the question before the Commission was a matter of medical and funeral bills, the victim of the stroke having succumbed the following day. The claim investigator found that on the day the decedent suffered the attack he was working under conditions of unusual heat. The excessive outside temperature emphasized the artificial heat conditions attending the job. He suggested in his report that it was obvious that the claimant did not suffer a specific accidental injury in the ordinary accepted meaning of this term, for there was no trauma, no slipping or falling and no overexertion. "There are two lines of reasoning," he said, "as to whether or not exposure to heat, which is not unusual exposure to the party exposed, if the heat is greater than that to which the ordinary public is exposed, constitutes a compensable injury within the meaning of the Workmen's Compensation Law." Citing a number of court decisions in similar cases, the reviewer was of the opinion that the claim should be recognized as compensable. The Commission ordered the claim allowed and that medical and funeral bills be paid. Ohio Ind. Comm. Monitor. 15, 28 (February, 1942).

261 Working in a Confined Area Exposed to Sun Causes Heat Prostration.

The employee sustained a heat stroke while at work digging a pier footing. The pier footing was about eight by eight feet in area and was being excavated within a larger excavation of about forty by fifty feet that was about ten feet below the surface of the surrounding ground. The employee had been at work about 3 1/2 hours in the afternoon when he was stricken. The evidence showed that it was a clear sunny day, which was unseasonably hot. An award was granted. The Court held that the employee had suffered a compensable injury that "arose out of and in the course of employment" since he had been exposed to a degree greater that that of other persons in the vicinity. Zucchi's Case. (Mass.) 37 N.E. (2d) 614 (October, 1941). Occup. Hazards 4, 27 (February, 1942).

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262 Vacuum Cleaner Workman Gets Award for Dust Disease.
The employee worked for an employer engaged in the business of cleaning and repairing old vacuum cleaners. The employee contracted a dust disease, and it was held by the Industrial Board, and affirmed by the Appellate Division of the New York Supreme Court, that an award should be granted for the resulting disability. Sturosky vs. Straussman. (N.Y.) 30 N.Y. Supp. 2nd 886 (November, 1941). Occup. Hazards. 4, 27 (February, 1942).

263 Dermatitis Award Refused.
The evidence in this case showed that a florist's employee developed a skin rash characterized as dermatitis which came from handling flowers in connection with his work. The skin condition was not covered by the New Jersey Workman's Compensation Act. The Court stated that the employee had not suffered an "accident" nor an "accidental injury" and was not entitled to compensation. Van Orden vs. Dave's Flowers Inc. (N.J.) 23 Atl. 2nd 387 (December, 1941). Occup. Hazards. 4, 22 (March, 1942).

264 Silica Dust Aggravates Tuberculosis.
An employee who previously had tuberculosis worked for two years as a rock crusher. The action of silica dust, to which the employee was exposed in his work, aggravated and lighted up his latent tubercular condition and caused his death.
The Court held that this unexpected action of the silica dust constituted an "accidental injury." The fact that the employee had a predisposition to tuberculosis did not bar his right to compensation. An award was granted. Dobbs vs. Bureau of Highways. (Idaho) 120 Pac 2nd 263 (December, 1941). Occup. Hazards. 4, 22 (March, 1942).

265 Outline of State Agencies Administering Labor Laws. Bull. No.49, pp. 186. Div. of Labor Standards. U.S. Dept. of Labor. Washington, 1941. For sale by Supt. of Documents, Washington, D.C. - 40¢.
This bulletin is designed to acquaint individual workers, labor organizations, employers, State and Federal administrators, community groups, and students with the general subject matter of State labor laws and the agencies administering them. No attempt has been made to analyze the laws in full. The brief listing of subjects, however, suggests certain standard types of laws. At the end of the pamphlet will be found a list of the chief executive officers of the agencies. The outline is looseleaf form, so that revisions, which are to be issued at least once a year, may be easily inserted.

Industrial Health Hazards and Their Effects

266 Report on Workers Exposed to Cotton Batting Dust. A.R. Smith. N.Y. State Dept. of Labor Ind. Bull., 21, 84-86 (February, 1942).
It appears that a group of workers exposed to cotton dust showed no more evidence of the ordinary respiratory infections than do non-dusty industrial groups. A small percentage (3%) gave a history of what may be interpreted as an allergic reaction to cotton dust. Another group of workers reacted to the dust by the reflexes of coughing and sneezing without any other effects when exposure terminated. Physical examinations of the nose, throat and lungs failed to show anything of importance other than a mild infection of nasal and pharyngeal mucous

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membranes in about half of those examined. X-ray examinations of the lungs did not reveal any evidence of dust effects. Under these circumstances, it would seem that dust control in plants of this type may reasonably be limited to the measures in effect at this plant, namely the application of oil sprays. The few individuals who find themselves affected by "dust fever," like allergic individuals in other occupations, would do better to find employment elsewhere.

267 Pulmonary Diseases in Mining. Anonymous. Mine & Quarry Eng., 6, 205-10 (August, 1941).
An account of investigations which demonstrated the significance of dust in relation to all pulmonary diseases in miners. Among other topics discussed are: the incidence of pulmonary diseases, prevention of dust diseases, dust concentrations and duration of exposures, dustiness of operations, methods of dust control, and advisability of periodic medical examination of workers.

268 Absorption, Accumulation and Excretion of Ingested Silica. J.L. Webb and others. Jour. Ind. Hyg., 24, 43-45 (March, 1942).
Ingested silica causes no signs of cataract or other pathological changes in the rat, nor does it have any influence on their growth rates. A certain fraction of the ingested silica can be absorbed from the gastro-intestinal tract; most of this is excreted in the urine but a small amount is accumulated in the tissues. The liver and spleen are the most active in this regard. -- Author's summary.

269 Dust Counts and Their Significance. N.R. Berny. Heat., Pip., & Air Cond., 14, 173-175 (March, 1942).
This is the first of a series of articles in which will bediscussed the methods employed in the evaluation of dust exposures. The types of sampling and counting instruments and the various factors involved will be discussed. This article deals with the Greenburg-Smith impinger, also the Sedgwick-Rafter and Hatch cells. The author points out the possible errors inherent in dust counting practices and shows how an error of only two or three particles in the average 1/4 microscopic field may produce a final error of one million. The factor influencing the absolute error becomes greater with high concentrations necessitating excessive dilutions and is especially an item in darkfield counting, which includes a much greater size range.

270 Lung Tumors in Mice. Incidence as Affected by Inhalation of Certain Carcinogenic Agents and Some Dusts. J.A. Campbell. Brit. Med. Jour., No.4232, 217-221 (February 14, 1942). (Great Britain).
All six dusts or mixtures of dusts tested (a precipitated silica containing methylcholanthrene; b steel grindings; c a mixture containing equal parts of alumina, precipitated silica, and brown oxide of iron; d a radioactive dust from Czechoslovakia; e a mixture containing the same as c plus calcium carbonate; f a sample of tarred road dust) increased the incidence of primary lung tumors in mice; in all experiments taken together the increase (of incidence) in mice living ten months or longer was threefold that for controls. Certain of the increases were not as impressive as expected. Some of these dusts (Czechoslovak, tarred road, silica, iron oxide) are under suspicion as causes of lung tumors in man. Efforts to inhibit lung tumors with alumina or calcium were unsuccessful. The dusts produced about a four-fold increase in the incidence of hyperplasia of lymph tissue in the lungs and a three-fold increase for tracheo-bronchial lymph glands. There was also an increase in the incidence of pneumonia. Silicotic nodules were produced in the tracheo-bronchial lymph glands of mice breathing an amorphous silica; this confirms the first (1940, 1941, same author) demonstration of silicosis produced without the crystal unit of quartz.

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271 Silicosis Among Naval Foundrymen. E.W. Brown and W.E. Klein. U.S. Naval Med. Bull., 40, 48-52 (January, 1942).
The findings of a medical survey of 454 employees of the steel and non-ferrous foundries of the Naval Gun Factory, Navy Yard, Washington, D.C., are reported based on the occupational history, clinical examination of the lungs and heart and radiographs of the chest. The occupational distribution was as follows: molders and molder helpers 58.5%; helpers, general, and chippers 18.2%; laborers, common, and electric craneman 9.4%; melters and sandblasters 6.1%; miscellaneous 5.6%. Distribution by total duration of silica dust exposure: 68.6% had been exposed in other foundries prior to the present employment; 43.7% were in the 5- to 9- and 10- to 14-year duration exposure groups and 45.7 per cent in the groups ranging from 14 years to 40 years and over. X-ray findings: the U. S. Public Health Service classification was utilized. 86.3% of the cases fell in categories A and B, that is, with normal lung markings or first- and second-degree exaggeration of linear plumonic markings. 13.2% fell in categories C and D or the earliest indications of dust induced pulmonary changes with fine discrete nodules stereoscopically and pathologically. 0.4% were in category E characterized by first-degree disseminated nodules up to the size of miliary tubercles. None were found in categories F or G. Eleven silicosis cases are reported by x-ray, 10 first stage and 1 second stage; one case occurring in 10- to 14-year exposure group as the shortest and 1 in the 40-year and over group as the longest period of dust exposure. The incidence was 2.4%. Seventeen borderline cases were reported by x-ray or an incidence of 3.7%; 82.3 of these falling in the occupational duration group of 25 to 29 years or above. The incidence of tuberculosis by x-ray was 2.4% or 11 cases; 1.1% being consistent with possible clinical activity and 1.3% as of healed or arrested reinfection type.

272 The Effect of Oxygen Lack on the Cerebral Circulation. F.C. Courtice. J. Physiol., 100, pp. 198-211 (September, 1941).
The cerebral circulation as measured by the arteriovenous O_2, differences between the arterial and the sinus blood, the lactic acid content of the blood pressure and the pulmonary ventilation have been determined in chloralosed cats exposed to varying degrees of O_2 lack. The cerebral circulation and the pulmonary ventilation do not increase until the inspired air contains less than about 15% O_2. With lower O_2 tensions they increase gradually at first and then more rapidly. Associated with these changes is a rise in the blood lactic acid content. The cerebral circulation with more severe degrees of anoxaemia is increased partly by a rise in blood pressure and partly by a dilatation of the cerebral vessels caused by the rise in lactic acid. The tension of O_2 in the brain tissue as judged by the tension in the sinus blood falls rapidly with decreasing O_2 tension in the inspired air, the chief mechanism preventing this fall from being greater being the S-shape of the O_2 dissociation curve in moderate anoxaemia, and an increase in pulmonary ventilation and cerebral circulation in severe anoxaemia. -- Author's summary.

273 Effect of Exposure to Known Concentrations of Carbon Monoxide. R.F. Sievers and others. J.A.M.A., 118, 585-588 (February 21, 1942).
Examination of a group of 156 Holland Tunnel traffic officers exposed throughout a period of thirteen years to an occupational carbon monoxide exposure averaging 0.7 part of carbon monoxide per 10,000 parts of air did not reveal any evidence of injury to health attributable to carbon monoxide exposure.

274 The Effect of Continuous Breathing of Air Containing Small Amounts of Carbon Monoxide. H. Nisiyama. J. Oriental Med., 35, 1-98 (1941).
A report of the effects of continuous breathing of air containing 0.2% carbon monoxide for two to seven weeks on the general system, blood picture, arterial

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blood gases, cardiographic and roentgenological pictures of rabbits is reported. Although the carbon monoxide content of the blood gradually increases from initial to later periods, the ratio of carbon monoxide-hemoglobin to total hemoglobin stays constant. The blood carbon dioxide content shows a deficit. Arterial blood oxygen decreases more than carbon monoxide-hemoglobin formation at the beginning, but later becomes greater than the ratio indicates. Reduced hemoglobin increases, even after blood oxygen increases. After breathing of carbon monoxide ceased, the symptoms become worse; and in spite of the disappearance of carbon monoxide from the blood, reduced hemoglobin is markedly increased and the oxygen-saturation power of arterial blood is very low with ultimate death due to cardiac damage.

275 Diesel Engines Underground. Part III. Effect on Exhaust-Gas Composition of Operating Engines in Mixtures of Normal Air and Natural Gas. M.A. Elliott and others. U.S.Bur. of Mines, Rept. of Invest., No.3584. (September, 1941).
The effect of adding natural gas, in concentrations below the lower inflammable limit to the intake air of Diesel Engines, on exhaust gas composition was determined at different speeds and power output within the normal operating range. It was found that concentrations of carbon monoxide, aldehydes and nitrogen oxides in the exhaust were much greater than when the intake consisted only of normal air. Results show that for underground operation the concentration of natural gas in the intake air could reach 0.5% by volume without necessitating an increase in the air volume needed for ventilation when using normal air. This agrees with the Bureau of Mines' Safety Board Decision 19, which requires that combustible gases shall not exceed 0.25% when internal combustion engines are used underground. If the air volume required for normal operation of a Diesel engine underground does not dilute the natural gas to this concentration, then sufficient ventilation must be provided to accomplish this result. Considerable data are also furnished by these results on the mechanism of combustion in Diesel engines and suggest the possible value of the addition of combustible gases to intakes as an experimental technique.

276 Diesel Engines in Tunneling Operations. W.B. Harris and others. Tech.Pub. No.1449. Am. Inst.of Min. & Met.Engrs., Min.Tech., 6, 8 (March, 1942).
The New York Labor Department has conducted extensive hygienic studies on Diesel engines under actual operating conditions in tunnels. Trucks, bulldozers, and locomotives driven by these engines have been tested during all typical tunneling operations. They have operated from both shafts and portals and in dead-end runs and tunnels open at each end. Their conclusions: (1) Diesel-powered machinery can be safely and satisfactorily used underground if careful adherence to certain strict regulations is maintained. (2) The New York State Labor Department has issued such regulations to govern the use of Diesel engines in underground operations in New York State. (3) During all types of operating conditions, these regulations have been found to stand the test of practical application and adequate control. (4) The first section of requirements covers the design and maintenance of the engines. The main points of this section are: (a) 20:1 minimum air-fuel ratio, (b) the exhaust gases must be cooled and scrubbed, (c) before discharge the exhaust must be diluted at least 10 times. (5) The second section covers allowable limits of contamination. Careful correlation of all factors has shown that the control of carbon monoxide to the set limit of 0.002 per cent affords control of all noxious elements. (6) The third section is devoted to the requirements of ventilation, which have been found adequate to provide the required control. The governing factor in this section requires that a minimum of 10,000 cu. ft. per minute of mechanical ventilation be maintained in any area for every engine that is or may be operated in that area.

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277 The Lead Citrate Complex Ion and its Role in the Physiology and Therapy of Lead Poisoning. S. S. Koty. J. Biolog. Chem., 142, 181-192 (January, 1942).
The citrate ion is shown to form with Pb a soluble complex ion of the form PbCit-. The lactate, acetate and ascorbate ions also form complexes with Pb which dissociate much more readily. Evidence is presented that the normal blood citrate constitutes a physiological mechanism for the removal of lead from the body. It is suggested that the administration of citrates may constitute a safe and effective therapy in plumbism. -- Author's summary.

278 Cause and Prevention of Lead Poisoning. R. Medellin. Ingenieria (Mexico), 15, 285-286 (September, 1941). (Spanish).
A discussion of the cause and prevention of lead poisoning in industries where that metal is used.

279 The Effect of Lead Acetate on Oxygen Uptake of Rat Liver Slices. H. D. Baernstein and J.A. Grand. Proc.Am.Soc.Biol.Chemists, p.7, (April, 1941).
Rat liver slices were studied in two ways: (1) by measuring oxygen uptake (a) in suspensions of lead phosphate and (b) in solutions of a soluble lead citrate complex, and (2) by first immersing the tissue slices in Ringer's solution containing lead acetate and then measuring oxygen uptake in Ringer-phosphate. The direct method (1,a) which was also used by previous workers gave 12.8 per cent acceleration of oxygen uptake when the pH factor was controlled and a 78 per cent inhibition when it was not controlled. This confirms the previous work. Method 1,b showed a 10 per cent inhibition but the availability of the lead in combination with citrate is unknown. Precipitation reactions showed that neither iodide nor sulfate could remove the lead from combination but that phosphate could do so. (2) Previous immersion of slices for 30 minutes in Ringer's solution containing 0.001 and 0.002 M lead acetate (pH5.0) followed by oxygen uptake measurement in Ringer-phosphate at pH7.4 showed 12 and 24 per cent inhibition respectively. When these values were corrected for irreversible acid injury, the net inhibitions were 2 and 14 per cent.

280 The Effect of Protein Intake on Lead Poisoning. H.D. Baernstein, J.A. Grand, and P.A. Neal. Proc. Am. Soc. Biol. Chemists, p. 8, (April, 1941).
White rats were fed synthetic diets containing casein 6, 13, 20, dextrin 44, 27, 30, sucrose 15, salts 4, agar 2, corn oil 10, cod liver oil 5, milk vitamin concentrate 21, ryzamin B 2. 100 gm. portions of 6 per cent casein diet were supplemented with 0.5 gm. of l-cystine and dl-methionine respectively. 1.5 gm. of lead chloride were added to 100 gm. portions of all diets. 13 per cent casein diet was also supplemented with 0.5 per cent Na_2HPO_4, 1.0 per cent and 0.5 per cent lead chloride respectively. Groups of twelve rats equally divided as to sex were fed the above diets with and without lead chloride for about 30 days or as long as the rats lived. They were weighed every 2 days and their food consumption noted. Survivors were sacrificed and hemoglobin, red cells, and oxygen uptake of liver were determined. Liver, spleen and kidney were studied histologically. The results showed that lead chloride reduced food consumption and growth rate in all groups. The effects were less pronounced at low lead chloride levels and less on adequate protein intakes. Phosphate reduced the effects of lead chloride somewhat. Hemoglobin and red cells decreased in all rats receiving lead chloride for more than 12 days. Oxygen consumption of liver was slightly accelerated in all groups receiving lead except those receiving methionine and 20 per cent casein.

281 The Hazards of Chlorinated Solvents. Penna. Lab. & Ind. Rev., Health in Industry Number, pp. 6-11, (January, 1942).
Elementary facts about the use of chlorinated solvents is presented, together with the modes of poisoning (acute and chronic), the warning signs, the safety

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equipment and precautions advisable. While not new, the article is timely because of the greatly increased use of these substances in the accelerated industrial program.

282 Photosensitization From Petroleum Products. Queries & Minor Notes. J.A.M.A., 118, 769 (February 28, 1942).
Ill effects resulting to workmen after emerging from cleaning a storage tank for certain heavy oils follow the pattern of photosensitization by coal tar and petroleum products reported frequently in the literature. Creosote is a common offender in this respect -- petroleum products not so frequently. Some crude oils, especially those with asphaltic bases, have natural photosensitizing properties, but nearly all "dye oils" (a cracked kerosene extract used for coloring lubricating oils) are photosensitizers. In prevention of this condition, clothing impervious to vapors must be worn while working in the tanks. A protective ointment should be applied to the face.

283 Response of Guinea Pigs and Rats to Repeated Inhalation of Vapors of Mesityl Oxide and Isophorone. H.F. Smyth, Jr., and others. Jour. Ind. Hyg., 24, 46-50 (March, 1942).
Groups of 10 rats and 10 guinea pigs received thirty 8-hour exposures to controlled concentrations of mesityl oxide and isophorone vapors ranging from 25 to 500 p.p.m. Observations were made upon growth, blood count, urine and microscopic pathology. Mesityl oxide injured primarily as a narcotic and isophorone as a kidney poison. No effect whatever was found from 50 p.p.m. mesityl oxide or from 25 p.p.m. isophorone vapor. Some data upon single exposures to mesityl oxide vapor are given, indicating that it has greater narcotic action and acute toxicity than isophorone.

284 Neuropathological Changes in Experimental Carbon Disulfide Poisoning in Cats. A. Ferraro and others. Arch. Path., 32, 723-738 (November, 1941).
The results of animal experiments with narcotic doses of 2460-3200 p.p.m. of carbon disulfide are presented. All animals became restless and excited in the beginning and apathetic later on. After several days of exposure muscle jerks and a continual tremor of head and body appeared. The histological picture showed changes in most of the cortical vessels with a predilection for the outer molecular layer. The changes are more pronounced in the corpus striatum than in the substantia nigra and are prevalent in the quadrigeminal plate and medulla oblongata, especially in its triangular nucleus, and in the dentate nucleus of the cerebellum. The vascular changes lead to occlusion of blood vessels and secondary softening, frequently in the cerebellum, but in one animal each in the substantia nigra and lenticular nucleus. Diffuse neurocellular changes range from simple chromatolysis to severe degeneration with proliferation of glia, microglia and mesenchymal elements.

285 The Effects of Exposure to Toluene in Industry. L. Greenburg and others. J.A.M.A. 118, 573-578 (February 21, 1942).
Based on a study of 106 painters exposed to the inhalation of toluene of between 100 and 1100 p.p.m. for periods of time ranging from two weeks to more than five years, it is concluded that: (1) Industrial exposure of human beings to toluene results in enlargement of the liver, macrocytosis, moderately decreased levels of erythrocyte counts and absolute lymphocytosis; (2) Such exposure did not result in leukopenia; (3) Early chronic toluene intoxication in man is best evidenced by hepatomegaly (enlargement of the liver) and macrocytosis (presence of large red blood cells). -- Authors' summary.

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286 A Case of Poisoning with Mercaptans. V. Cristescu. Med. Bull., Standard Oil Company, N.J., 5, 78-84 (June, 1941).
This is a report of a case of mercaptan poisoning and is of interest because of the scarcity of data on the toxicity of the compounds. A worker in the Ploesti oil fields entered a mercaptan condensation-tank pit without any protection. He was found unconscious two hours later. The clinical course is described in detail and a review of the literature on poisoning with mercaptans and related substances is given.

287 The Toxicity and Potential Dangers of Toluene. W.F. von Oettingen and others. J.A.M.A. 118, 579-584 (February 21, 1942).
These studies indicate that single exposures of human beings for eight hours daily to concentrations of toluene ranging from 50 to 800 p.p.m. do not cause definite changes in the white blood cell picture, in the circulation or in the respiration. Inhalation for eight hours of concentrations of 200 p.p.m. causes slight but definite impairment of coordination and reaction time which is liable to render persons thus affected dangerous to their own safety and to the safety of the operation. With higher concentrations these effects become increasingly more severe, and with concentrations of 600 and 800 p.p.m. they may be observed after a few hours exposure. Elimination of hippuric acid in the urine and concentration of toluene in the blood increase with the concentration of toluene in the air. In contrast to experience with benzene, the ratio of inorganic sulfates in the urine is not noticeably affected by exposure to toluene.

288 Sporotrichosis among Miners on the Witwatersrand Gold Mines. L.F. Dangerfield and J. Gear. South African Med. J., 15, 128-131 (1941).
A report of an outbreak of 74 cases of sporotrichosis occurring on two of the gold mines. It is clear from the history of these cases, that the infection was contracted while working underground, as the infections were confined to workers on one shaft in each of the mines. Attempts to trace the source of infection have been so far unsuccessful. Steady improvement of the condition occurs with treatment by massive doses of potassiumiodide, resulting in a complete cure, usually within one month.

289 The "Blocked Ear" of the Caisson Worker. R. Almour. Laryngoscope, 52, 75-81 (January, 1942).
The caisson worker uses the expression "blocked ear" to denote some disturbance to the ear drum or tympanic cavity or both resulting from failure to equalize the intra- and extra-tympanic pressure. This injury, in contrast to caisson disease, can occur either during compression or decompression, although it is most frequent during the former. Aside from carelessness or defects in pressure control, the most important predisposing cause is some degree of obstruction in the Eustachian tube. Most of the workers have a chronic hypertrophy of the mucosa of the upper respiratory tract. The majority of the injuries occur when the men have colds. The clinical picture is described in detail and the author concludes that condition is a medical entity. He also believes that the increased use of airplanes will add to the problem.

290 Study of Osteopathy Due to Fluorine Poisoning. F.deSenarclens. Helvetica Medica Acta, Basel 8, 379 (August, 1941). Swiss. Abst. from J.A.M.A. 118, 564 (February 14, 1941).
The use of cryolite in the production of aluminum provokes emanation of fumes which contain fluorine and exert a toxic effect on the workers. Fluorine has a particular affinity for the skeleton and the teeth. Fluorine provokes osteopathy of the osteitis fibrosa type. Sodium fluoride is more toxic than is calcium fluoride because of its greater solubility. The elimination of fluorine is probably regulated by the parathyroids.

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Methods of Detection and Determination

291 Hydrofluosilicic Acid Method for the Determination of Quartz. F.H. Goldman. Ind. Eng. Chem., Anal. Ed., 13, 789-791 (1941).
In determining quartz in settled dust, the material is treated alternately with fluosilicic acid reagent and after filtering, with nitric acid. These treatments are continued until there is no further loss in weight. The residue is called quartz. A simple apparatus for carrying out the digestion at 10° with the fluosilicic acid is shown with the sample in a Monroe crucible. Mechanical losses and those due to solution of the quartz are reduced to a minimum.

292 Observations on the Preparation of Slides for Particle-Size Determination. L. Silverman and W. Franklin. Jour. Ind. Hyg., 24, 51 (March, 1942)
It is suggested that, in following Green's technique of preparing slides for particle-size determination, it is possible to crush particles of the range 1 to 10 microns. This seemed to be borne out by a comparison of the results of counts made on slides prepared by evaporation of suspensions and by mechanical dispersion. It is therefore recommended that slides be prepared by the former method.

293 Colorimetric Determination of Small Amounts of p-Nitroaniline in the Air. V.V. Ponomarenko. Zavodskaya Lab., 9, 111 (1940). (Russian).
A series of standards are used for comparison in this colorimetric determination of p-nitroaniline. Full directions in Chemical Abstracts.

294 Determination of Sulfur Dioxide in the Air by Decolorization of Fuchsin. E.P. Kastner. Zavodskaya Lab., 9, 111 (1940). (Russian).
Directions are given for the determination of sulfur dioxide in air utilizing a calibration curve of the declorization of fuchsin. Ten liters of air are drawn through two absorbers with 50 ml. of fuchsin solution in each. Hydrogen sulfide is removed by first passing through 2% acidified copper sulfate solution containing 5 ml. of ethyl alcohol.

Control Methods

295 Safe Practice in the Manufacture of Aluminum. G.J. Horak. Safe Practice Bull., No.91. Penna. Dept. of Labor & Industry. pp. 12 (February, 1942).
An illustrated discussion of the safety and health protection methods used in the production of aluminum utensils. Extensive exhaust systems and special polishing compounds contain dust which might be inhaled by the workers. Four huge fans and dust collectors with a combined capacity of 200,000 cu. ft. of air per minute, service the system. The motors required to drive these fans have 500 horsepower. Because of the enormous withdrawal of air from the plant by these fans, many thousands of dollars are spent additionally every year to pay for extra heating during the winter months. Tanks used for electrolytic surface treatment are provided with special exhaust ducts to carry off toxic mists and steam. Shredded overissue news print has been substituted for wood excelsior because it was found that the fine wood dust present in excelsior was a skin irritant to some workers.

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296 Control of Hazardous Substances by Low Velocity Exhaust Systems. J.M. DallaValle. N.Y.State Dept. Labor Ind. Bull., 21, 83-84 (February, 1942).
This brief article is designed to draw attention to a method of exhaust ventilation which may be applied in many plants having difficulty in obtaining material for constructing the usual type of high velocity exhaust system. The discussion is by way of amplification of a system developed by Hatch. The distinguishing feature of the Hatch system is the use of low air velocities and dispensing with the principle of pneumatic conveying which is the common characteristic of the usual type of exhaust system. Its advantages are: (1) Since ultimate control is dependent upon the provision of air volume at the source of contamination, the low velocity system dispenses with small openings and branch pipes, thus reducing losses sustained at entrance and in the pipe system. In other words, the system requires less power; (2) the system may be constructed of other materials than sheet metal as, for example, plywood or masonite; (3) propellor fans may be used in place of the usual type of centrifugal blower; (4) the cost of operation is reduced. The disadvantages are: (1) The space requirements are greater than is the case of a high velocity system. Since velocities maintained may be as low as 200 l.f.m., this means a cross-sectional area 20 times that of a high velocity system providing for 4,000 l.f.m.; (2) A means of periodic or continuous cleaning of accumulated debris, if used to collect dust, must be provided; (3) The system is better adapted to new installations than to existing ones, since in most cases it requires equipment to be laid out to fit the system. In a high velocity system, the procedure is the reverse of this.

297 Dust Suppression and Collection. Use of Cyclones at Loading Points. J.Smellie. Iron & Coal Trades Rev., 144, 169, (February 20, 1942). Also Colliery Guardian, 144, 145-147 (February 21, 1942). (Great Britain).
Dusty conditions at the face arise largely from the operations of coal-cutting and shot-firing. No device for collecting this dust can be applied. Reduction of the amount of dust made in the first place and the suppression of the remainder are the only present solutions. Methods for reducing dust at loading points are (1) Simple sprays on loading chutes or on the loaded belt near the loading point; (2) Suction devices operating with a finely atomized water spray, the suction provided by fan or induced by compressed air jets; and (3) Filters, woodwool, metalwool, and fabric bags; and (4) Cyclone separators. Results of experiments with a small cyclone are given, showing that it compared favorably with other types of dust collectors. Its advantages are dry collection of dust, all water difficulties being removed. Cyclones down to 4 in. diameter, claimed to be capable of removing particles down to the 3 micron size, are now in use in preference to larger units. Although more costly, the efficiency is greater, and as the cyclone size does not appreciably affect the pressure drop, the use of the small high-efficiency types is warranted.

298 Safe Practice in Crushing and Pulverizing Manganese Ores. C.C. Hassinger. Safe Prac. Bull., No.70 pp. 7. Penna.Dept. Labor & Industry. (December, 1941).
The description of efficient engineering dust control methods applied to the operations of processing manganese ores. This company very effectively employs mechanical enclosures under negative pressure to restrain the dust from escaping into the plant atmosphere. A number of illustrative plates accompany the article.

299 Discussion on Foundry Apprentice Training. G. Zweiling. Giesserei, 28, 1-6 (January 10, 1941). (German).
Principally directed from the point of view of training to prevent accidents and to advance health and hygiene.

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300 Second Report of the Coal Dust Research Committee, 1941. Sprays. Monmouthshire and South Wales Coal Owners' Association. (Great Britain).
Laboratory and field investigations on the allaying of air-borne dust by means of liquids are described. Sprays and mist projectors differ greatly in design, water and compressed air consumption, but the factor which most influences their effectiveness is probably the size of the water particles ejected. A method was devised for taking photomicrographs of the mists. These were caught in a liquid immiscible with water, usually castor oil, and contained in a cavity slide. The most effective atomization was produced by sprays which employed both the principle of forcing the water through a small orifice and that of imparting a swirling or rotatory motion to the water. Measurement of the water particles comprising the mists showed that there were few as small as 40 microns -- the average being about 250. As the bulk of air-borne dust in coal mines is below 25 microns, it was proved that water sprays would not be very effective in destroying dust clouds. They are, however, ideal for the wetting of the surfaces of hewn material, coal or rock, before it is further handled, thus preventing the further formation of dust. They may also be effective in wetting roadways, trapping the dust already deposited. It appears that there is a critical figure for the air to water ratio, beyond which little or no improvement can be obtained. Tests in a wind tunnel show that the dust concentration could be reduced by 84% when the spray was operating at optimal efficiency. The effect of addition of chemical agents to the water increased the efficiency of the sprays only slightly.

301 Safety's Clean-up. A.P. Schulze. Safety Eng., 83, 29-30, (January, 1942).
Because cleaning, either as a production, maintenance or sanitation procedure, is an important problem to industry, it has a direct bearing on plant safety and operation. Developments and improvements affected in materials and methods during the past decade have placed effective cleaning among successful, proven means that contribute to minimizing plant hazards, improving working conditions, safeguarding employee health, increasing production, and decreasing unit costs.

302 Protection of Personnel Handling Radium. L.F. Curtiss. Am.Soc.Testing Materials, Bull. No.114, p. 21-24 (January, 1942).
In recent years there has been a rapid increase in the use of radium in radiographing of heavy metals and other metal parts. The object of this paper is to describe an exposure meter which may be of help in reducing health hazards in this work. Precautions to be used in the handling of radium are also discussed.

303 Annual Safety Equipment Issue, 1942. National Safety News, 45, pp. 226 (March, 1942).
Practically this entire issue is devoted to description and display of safety equipment. Section 1 deals with personal protective equipment; Section 2 with mechanical equipment; Section 3 with fire and plant protection; Section 4 with first aid and medical service; Section 5 with sanitary equipment and supplies; and Section 6 discusses miscellaneous services and products.

Industrial Medical Practice

304 Pneumoconiosis: A Study of 379 Cases. H.B. Williams. Med. Bull. of Vet. Adm., 18, 250-253 (January, 1942).
This is a report of a survey to determine the relative incidence of pneumoconiosis in beneficiaries of the Veterans' Administration. A review of 379 cases of individuals who had been exposed to numerous occupational dust hazards is

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presented. Of this number, 179 cases were classified as pneumoconiosis, either uncomplicated or complicated by infectious disease. Included is a detailed system of classification. There are no definite conclusions drawn but the data support the belief that pneumoconiosis increases susceptibility to tuberculosis in a direct ratio. The author stresses the need for more careful and detailed histories and physical examinations.

305 Pneumonoconiosis in Russia. Anonymous. Brit. Med. Jour., No.4232, 228-229 (February 14, 1941). (Great Britain).
This is a discussion of a series of papers summarizing research in dust diseases and the methods of fighting them, particularly among coal-miners, as carried out during the past few years by the Donetz Institute for Labor, Hygiene, and Occupational Diseases, U.S.S.R. Dust-wetting methods are outlined -- concluding that naphtha-soap solutions in small concentrations -- 0.1% -- best of all. It is found that dust particles are always present in the central as well as the peripheral parts of the nodule, that coal dust as such -- and not its mineral admixtures -- is the basic factor which determines the changes in anthracosis. For the difficulties of radiological diagnosis of the first stage of silicosis, it was found that peptone gives better definition of the early changes in the lymphatic system. Of the 1,329 men examined in the Vetka collieries pneumoconiosis was found in 3.3%, and of the 987 in the Gorlovka collieries in 2.3%, while 11.1% of the 298 in the Krystalny collieries showed the disease. The coal-miners show a low incidence of tuberculosis -- selection of fit men for the work seems a big factor here. Great care is taken of the miners' welfare.

306 Contact Dermatitis. M.W. Rubenstein. Penn. Med. J., 45, 127-129 (November,1941).
Dermatoses may be classified as venenata (due to local irritation) toxic, allergic, and contact. The latter is defined by the author as a dermatitis caused by external irritants which produce inflammation in some people all of the time, a phenomenon of local hypersensitivity. No allergens are present in the tissues or body fluids. Intradermal, scratch tests, and passive transfer are all negative while the patch test is positive. History is very important in making a diagnosis. Clinical manifestations vary and are not characteristic of the type of irritant but the distributions of the lesions may give a clue. The difficulties are increased by the facts that a combination of substances may be necessary to produce a dermatitis and that emotional and nervous shock may lower the threshold to previously innocuous substances. Results of patch tests are not always good criteria but their dependability may be increased by applying them near the area of actual dermatitis. An outline of irritants and of areas of involvement commonly encountered is included.

307 Disabling Sickness among Industrial Workers. W.M.Gafafer. Am.J.Pub. Health, 31, 443-56 (May, 1941).
Among a group of approximately 30,000 white male industrial workers it was found that while the average frequency of 8 day or longer disabilities followed a downward trend during the years 1930-34, the average duration of the disabilities moved upward. Evidence is presented to show that, as a measure of economic losses from sickness and injuries, the average frequency rate may lead to erroneous conclusions, since this rate may decline while at the same time the average duration of disability may increase. -- Author's summary.

308 Statistical Data on Occupational Diseases in the Glass Industry. R. Pluhar. Glastechnische Ber., 19, 10-15 (January, 1941). (German).
This data is presented in order to conclude and clarify certain points in a report by H. Otto appearing previously. The main purpose of the article is to create a more favorable opinion about conditions in the glass industry which were severely criticized in Otto's article.

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309 Factory and Mines Inspection. Editorial. Colliery Guardian. 144, 36-37 (January 9, 1942). (Great Britain).
The experience in regard to industrial diseases is remarkable. In 1904 the number of cases of industrial poisoning notifiable was 656; in 1938 the number was 428, yet in the meantime a great number of diseases has been added. In mines the experience has been much less happy, for in thirty years the number of cases of disease in which compensation was paid has risen from 1,689 to 12,537; on the other hand the number of cases attended by fatal results is very much less than that for factories; broadly speaking, miners' diseases are "benign."

310 Conservation of Manpower in Connecticut. C. Kuh. J.A.M.A. 118, 649-650 (February 21, 1942).
In Connecticut, the problems of industrial health were approached jointly by the Committee on Industrial Health of the state medical society and the Manufacturers Association. To satisfy the immediate needs of physicians, a post-graduate course in industrial medicine has been given, a section on industrial health has been organized in the medical society, and a regular department on industrial health has been arranged in the Connecticut State Medical Journal. The results of a state-wide survey stimulated manufacturers to appreciate their shortcomings. Twenty full-time doctors have been placed in the larger establishments. Many other activities have been stimulated -- all in recognition of the obligation of meeting the immediate needs of the war program through extending medical service into more plants and improving the quality and usefulness of the service.

311 Conserving Man Power by Effective Health Education. J.J. Brandabur. Edison Elec. Inst. Bull., 10, 59-62 (February, 1942).
The pre-employment or placement examination is useful in determining the physical fitness of applicants for employment; in permitting the proper placement in the organization of defective workers or placing such defective cases under proper remedial measures so as to make them fit and thereby helping to prevent man-failure. The periodic physical examination is beneficial in the supervision of older workers exposed to hazardous conditions and in measuring the progress of efforts to control occupational diseases as well as discovering physical defects when corrections may be still effective. This type of program is practical in that it seeks the source of non-occupational or ordinary illnesses and in this way helps to decrease them, and it in turn promotes the health and prolongs the life of the worker by educating him to realize that good health is an excellent economic investment.

312 Recent Trends in Physical Examination under Civil Service. V.K. Harvey. J.A.M.A. 118, 597-600 (February 21, 1942).
The history of physical examinations for the Civil Service is reviewed from the time of the employment of a single physician until the present when physical examinations are required as part of the routine for each of the 1,358,150 competitive positions. The application of standards is described in some detail.

313 Excretion of Silver in Urine. J.C. Aub and L.T. Fairhall. J.A.M.A. 118, (January 24, 1942).
The authors confirm the point of view stated in an earlier article in the J.A.M.A. that silver is not excreted in the urine. While studying a case of argyria (discoloration of the skin by free use of silver preparations), an attempt was made to withdraw the silver from its storage points in the body by the means used in cases of lead poisoning. Although fairly heavy deleading treatments were resorted to, no measurable amount of silver was found in the urine at any time during a long investigation. Evidently the metabolism of silver and lead differ greatly.

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314 The Physiology of Work. A.C. Ivy. J.A.M.A. 118, 569-573 (February 21, 1942).
Work as performed by the average person cannot be reduced to a simple formula. The fatigue of the ordinary factory worker is too subtle to yield to the ordinary tests of the physiologist. The tests of the psychologists do not provide the answer. Neither has gotten to the basis of the mechanisms in so-called chronic industrial fatigue or of the decrease in productivity and increase in illness associated with long hours of light or moderate work. Social and economic conditions inside and outside the factory and office are very important. The psychologist and director of personnel have much to contribute. The physiologist and physician can contribute by giving advice regarding recreational programs, by dealing with the hazards of industry and by devoting attention to the health and nutrition of the worker. The physician since the time of Hippocrates has known the importance of rest, diet and recreation in the prevention of disease. Work alone cannot win the war. Work demands rest, good food and wholesome recreation, which implies physical and mental fitness. The spirit and willingness of patriotism is essential, but it is not enough. Physical fitness is requisite for sustained effort and output.

315 Occupational Asthma and Vasomotor Rhinitis. An Outline of Some Common Industries Where these Symptoms are Irritated. L. Sternberg and A.H. Sorrell. N.Y. State Jour. of Med., 41, 1649-1652 (1941).
An outline of some of the industries in the region of N.Y. State in which workers are commonly affected by allergies of the respiratory tract. Only conditions which are true allergies are discussed and not those resulting from irritation and toxic effects of physical or chemical action. The principal symptoms of such respiratory allergies are asthma, vasomotor rhinitis or both, asthma alone being most common. Only a small number of workers who are allergic are affected in occupations producing these reactions. Skin tests are discussed -- positive reactions are usual when the agent is not chemical or drug; chemicals or drugs are poor antigens hence positive skin tests are rare but when they do occur are liable to be dangerous because of constitutional reactions; therefore the intradermal method should be avoided by the novice and the scratch or patch test used for chemicals or drugs. Diagnosis is usually easy but physical examination, search of the nasal and bronchial secretions and blood and environmental test may have to be depended upon. The ideal treatment is removal of the cause but this is usually not practical. Hyposensitization should be tried except in the case of chemicals and drugs. A valuable list and brief discussion of the occupations in which such conditions are frequently found is given. Among them are bakers, furriers, metal polishers, coffee, soy, cacao and castor bean handlers, refrigerator workers, jewelers, hat makers, rag sorters, woodworkers, poultry dealers, pharmacists, upholsterers, and beauticians.

316 Vitamin A Storage in Adults. L.E. Boohor and M.B. Porter. Proc. Am. Soc. Biol. Chemists. p. 16-17 (April, 1941).
The daily intake of vitamin A per se required to prevent any signs of night-blindness in adults has previously been shown to be on the order of 25 to 55 international units per kilo of body weight. Evidence is now available to show that the adult body does not possess the capacity to adjust its requirements to less than this minimum physiologic requirement. Vitamin A supplied to adults in excess of 50, 100, and 200 per cent or more over the daily minimum physiologic requirement can be stored in whole or in part to furnish a reserve that can be used during subsequent periods of dietary vitamin A shortage. The efficiency of the storage, however, becomes less as excesses of vitamin A intake over the minimum physiologic requirement are increased.

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317 Vitamin Supplementation of U. S. Army Rations in Relation to Fatigue and the Ability to do Muscular Work. A. Keys and A.F. Henschel. Jour. of Nutrition. 23, 259-269 (March 10, 1942).
The recognition of borderline vitamin deficiency states prompts the suggestion that a direct relation between the intake of certain vitamins and physical vigor may extend even above the subclinical deficiencies. During the past several years the popular belief has grown that a superabundance of these vitamins may produce extraordinary stamina or at least may be helpful in meeting physical or mental strain. These possibilities were of such obvious importance as to merit careful investigation. This paper is a report on such studies made under rigidly controlled conditions on personnel of the U. S. Army. Soldiers maintained on standard U. S. Army garrison rations were repeatedly subjected to standardized severe exercise on the motor-driven treadmill. Circulatory, metabolic and blood chemical responses were measured. In a series of studies involving 256 experiments, large daily supplements of thiamine chloride, riboflavin, nicotinic acid, pyridoxine, pantothenic acid, and ascorbic acid were administered over periods of 4 to 6 weeks alternating with equal periods of placebo (harmless pill) administration. In neither brief extreme exercise nor in prolonged severe exercise and semi-starvation were there indications of any effects, favorable or otherwise, of the vitamin supplementation on muscular ability, endurance, resistance to fatigue or recovery from exertion. Healthy young men expending an average of 3700 to 4200 calories per day are not benefited by a daily supply of more than 1.7 mg. thiamine chloride, 2.4 mg. riboflavin, and 70 mg. of ascorbic acid. It is concluded that no useful purpose would be served by enrichment of present U.S. garrison rations with the vitamins studied.

318 Indiscriminate Administration of Vitamins to Workers in Industry. Council on Foods and Nutrition and Council on Industrial Health, American Medical Assoc., J.A.M.A. 118, 618-621 (February 21, 1942).
The Councils conclude that satisfactory evidence of the wisdom of the general practice of industrial concerns providing all of their employees with vitamins indiscriminately is lacking; they cannot give their support to the program of which this is the objective. When a satisfactory study of any given industrial situation indicates the wisdom of providing vitamins to employees, the Councils point out the necessity for observing the proper scientific limitations of such action to the situation in question; after the employee has been restored to a good nutritive state, the use of a good diet of natural protective foods thereafter should then suffice. Nothing in this report is intended to belittle the significance of vitamins in nutrition, or the value of the proper use of added vitamins in improving foods such as bread and flours. What is being emphasized is the need for the avoidance of indiscriminate mass use of vitamins, a practice which supports the commercial exploitation rather than scientific rational use of these important dietary factors.

319 Failure of Aminoacetic Acid to Increase the Work Capacity of Human Subjects. E.Q. King. J.A.M.A. 118, 594-596 (February 21, 1942).
Thirty-three male subjects of the white and the Negro race were given aminoacetic acid in daily amounts of from 4.5 to 6 grams under rigidly controlled conditions, over a period of three weeks. There was no effect on the work capacity of these subjects when compared to controls receiving lactose-saccharose under identical conditions or with cross control of the same subjects when receiving lactose-saccharose in the same manner. A review of recent studies in protein metabolism reveals that the claims made for the especial value of aminoacetic acid or gelatin in the treatment of fatigue or increasing endurance are unfounded on theoretical grounds and that the protein of the ordinary diet is fully capable of supplying the aminoacetic requirements of man. It is also pointed out that the

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incomplete protein gelatin is deficient in methionine, one of the amino acids necessary for the synthesis of creatine. It is evident from these experiments that a study of the effects of a drug on fatigue must be meticulously controlled; the drug under study should be administered alternately with a placebo identical in physical characteristics and the identity of each should be unknown to the subjects as well as to the investigators.

320 Hearing Standards for Acceptance, Disability Rating and Discharge in the Military Services and in Industry. E.P.Fowler. Laryngoscope, 51, 937-956 (October, 1941).
The basic factors necessary for establishing a dependable method for measuring percentage losses in hearing capacity from monaural and binaural deafness are herein set forth. These factors are important for estimating hearing losses in the personnel of the military services as well as in civil life and industry. Standards are set up upon which to base opinions as to the percentage of disability suffered by a normally hearing person, or one who in the past has had a partial deafness in one or both ears. A table is constructed for estimating the percentage of loss of capacity to hear speech. By changing the weighting it may be used in other categories of hearing function. -- Author's summary.

321 Conservation of Hearing in Industry. C.C. Bunch. J.A.M.A. 118, 588-593 (February 21, 1942).
The author notes an ostrich attitude on the part of employers and employees toward the effects on hearing of certain industrial hazards. Of the conditions which adversely affect hearing are extreme and rapid variations in temperature without adequate protection with resulting upper respiratory infection; sudden wide variations in atmospheric pressure (caisson workers, aviators, etc.); and extremely loud noises in many different types of occupation. Cases involving occupational loss of hearing are appearing before the courts, and compensation boards are making awards for this affection.

322 Industrial Noises and Industrial Deafness. W.A. Rosenblith. Accoustical Soc. American Journal, 13, 220-225 (January, 1942).
A review and general conclusions from a study of noise and audiometric measurements taken at a railroad repair shop at Rouen, France. This data was collected in the investigation of A. Salmon in cooperation with French state-owned railroads.

323 Industrial Eye Injuries. A. MacNalty. Brit. Med. Jour., No.4231, 173-177 (February 7, 1942). (Great Britain).
Occupational diseases which affect eyesight can be classified under (a) the results of exposure to heat rays -- e.g., glassworkers' and ironworkers' cataract; (b) miners' nystagmus; (c) the toxic effect of certain substances -- e.g., lead, derivatives of benzene, carbon disulfide, and methyl alcohol. All these affections are discussed in some detail, together with occupations in which there is risk of accidental injury.

324 Until the Doctor Comes. J.A. Dolce. U.S. Pub. Health Service, Misc.Pub., No.21, pp. 60 (1941). For sale by Supt. of Documents, Washington, D.C. - Price 10¢.
This booklet is not intended to serve as a complete first aid manual or to encourage self-treatment. It is felt that these simple emergency measures, which are readily available, may add to the comfort of the injured, prevent the development of serious complications, and in some instances contribute to the saving of life. Where medical aid is not readily obtainable considerable assistance may be rendered while awaiting the arrival of a physician.

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325 Medical Care in Industry. F. Goldmann. Medical Care, 2, 3-17 (January, 1942). Four programs of medical service in industry (See Abstract No.139, January,1942 Digest) are analyzed as to problems of administration and organization. The following questions are answered: Who manages the plans? By whom are the staff physicians directed? What persons are eligible to share in the plans? Who are excluded and how? What incomes and occupations are represented among the people served? What age and sex groupings? How are the professional staffs qualified, organized, and remunerated? What can be said about the quality of service and the general effectiveness of these four plans? How fully are measures applied to the prevention of illness? Many advantages are found to accrue to all groups concerned.

326 Hours of Work, Lost Time and Labour Wastage. Ind. Health Research Board, Medical Research Council. Emergency Report No.2. pp. 26. H.M. Stationery Office; London, 1942. Price 2d.

General Conclusions:

1. The results of this inquiry show that the time lost by factory workers through sickness, injury and absence without permission, when undisturbed by extraneous factors, varied with the weekly hours of work. It was usually low when the hours of work were less than 60 per week, but increased as the hours increased up to 75.

2. The findings suggest that, over an extended period, the weekly hours of work should generally not exceed 60 to 65 for men and 55 to 60 for women.

3. In all the groups the workers were stimulated to an increased output after the collapse of France, and although it was physiologically impossible to maintain the maximum level reached, output in nearly every case has since remained above the previous level.

4. The beneficial effects of a reduction in excessive hours of work, together with the inauguration of staggered holidays, were reflected in an increase in the rate of working afterwards.

5. Labour wastage varied considerably from one factory to another. Some of the conditions leading to a high rate were the employment of women unaccustomed to factory work, or married women whose domestic responsibilities prevented satisfactory adjustment to factory life; difficulties of shopping and getting suitable meals, and the problem of transport, were important in this connection.

6. Women, on the whole, lost more time than men, for reasons such as those given in the previous section.

7. In conclusion, when it is remembered that many workers lived far from the factories, and had to face air-raids when travelling to and from work; that some had lost their homes and had to sleep in improvised shelters; and that often they had to wait outside in the cold and rain because of inadequate transport arrangements, the time-keeping of the factory personnel studied deserves high praise.

327 The Relationship of Vocational Rehabilitation to Industrial Hygiene. D. Amato. Am. J. Pub. Health, 32, 29-32 (January, 1942).

Vocational rehabilitation should be considered an important aim of organized industrial hygiene programs. The central problem is to restore the disabled man to his original earning power. Such placement can be done most economically by the plant medical department in close cooperation with the personnel department.

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328 "Saving Health among all Nations." T. Parran. Survey Graphic. 31, 151-153, (March, 1942).
Even in peacetime, industrial disability takes 400,000,000 man-days off the production line. Twenty percent of this is preventable now. Only ten per cent of last year's loss would be sufficient to build 16,470 combat tanks. Among the things that must be managed well if the war is to be properly victorious are services to improve the present health of the population. Fairly good is not good enough now, when we are short of manpower and short of time.

329 The Health Front in a People's War. C.-E.A. Winslow. Survey Graphic, 31, 101-103 (March, 1942).
In large industries the responsibility for health and safety lies with the management of the industry itself, under the supervision and with the technical counseling of health and labor department experts. The small plant can never solve the problem without more direct and substantial aid. Local health departments, with the cooperation of medical societies, manufacturers' associations, and organized labor, should take the initiative in this important field. The problem of nutrition is of major importance; and it is vital at the present moment with respect to the industrial worker. The Committee on Nutrition in Industry of the National Research Council recommends "as the first and most important step in the campaign to improve the nutrition of defense workers, the provision of diets of natural foods rich in all the essential food factors."

330 A Prescription for Production. V. Heiser. Survey Graphic, 31, 108-112 (March, 1942).
The number of men in the battleline no longer is the decisive factor in determining the outcome of a war. This is the day of mechanization when victory or defeat depend upon the efficiency of men in the factory assembly line. The Gallup Poll estimated that the time lost from war or war connected industries because of illness in December could have built two heavy cruisers, 448 medium bombers, or 3,200 light tanks -- a total of 23,000,000 man-days. Defense workers must be made to see that to remain healthy is their duty to their country.

331 The Field of Industrial Ophthalomology. Report of the Committee on Industrial Ophthalmology of the Section on Ophthalmology of the American Medical Assoc., J.A.M.A. 118, 610-613 (February 21, 1942).
Medical practice in the field of industrial ophthalmology presents peculiar phases distinct from the general practice of this profession. The social and economic status of industrial employees should be taken into consideration in planning any program of ophthalmic service. The Committee on Industrial Ophthalmology is making progress with a program of visual testing and correction which, they hope, will be acceptable to management, to employees and to ophthalmologists. This program aims to close the existing gap between the industrial workers who need medical care of eye defects and those qualified to render satisfactory ophthalmic service.

332 Industrial Dermatoses. Report of the Committee on Industrial Dermatoses of the Section on Dermatology and Syphilology of the American Medical Assoc., J.A.M.A. 118, 613-615 (February 21, 1942).
This Committee, formed in 1936, has been carrying out its program jointly with a similar committee of the American Dermatological Association. A number of definitions and criteria have been established. At the present time the Committee is undertaking four separate investigations: (1) teaching of occupational dermatoses in medical schools; (2) primary skin irritants and patch testing; (3) evaluation of protective creams and detergents used in industry; (4) an industrial medical formulary. The Committee also plans the establishment of machinery for the receipt, proper filing and distribution of case reports on interesting and important cutaneous exposures in industry.

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333 Report of the Council on Industrial Health. S.J. Seeger, Chairman. Amer. Med. Assoc., J.A.M.A. 118, 641 (February 21, 1942).
A meeting of the Subcommittee on Industrial Health and Medicine of the Federal Security Agency and the Council on Industrial Health of the American Medical Association, was held late in January, 1941. A program of action was devised and approved. Among other things, it specifically emphasizes that the Division of Industrial Hygiene of the National Institute of Health should develop, in cooperation with the state authorities and the committees on industrial health of the state medical societies, a definite program of instruction designed to acquaint the practicing medical profession with the fundamentals of industrial medicine and designed to carry into effect the minimum standards set up to protect the health of employees. The difficulties of attempting to establish industrial health programs in small plants are characteristic of the manner in which science has outstripped the advancement of social and professional organization which would make possible the fullest utilization of our knowledge.

334 Health Education for Industrial Workers. L.D. Bristol. J.A.M.A. 118, 650-651, (February 21, 1942).
Health education for industrial workers has evolved more slowly than health education in the school, in the home or among the population in general. This education should be carried on through addresses, lectures, class instruction, informal talks, personal interviews, radio and talking pictures and through magazine articles, bulletins, leaflets, posters, charts, exhibits and silent films. Many other plans now in use are discussed.

335 The Teaching of Industrial Health. Council on Industrial Health, American Medical Assoc., J.A.M.A. 118, 731-733 (February 28, 1942).
The essential requirements for teaching industrial health are briefly described. An outline of a course in industrial health is based upon the three major constituents of medical service to employed groups -- industrial hygiene, industrial practice and administration. In the presentation of this outline, a general statement is incorporated under each principal heading explaining in broad terms its importance in the teaching program, followed by a more detailed listing of subheadings. Specific recommendations are also presented about teaching methods and facilities.

336 Symposium on Undergraduate Industrial Medical Education. J.A.M.A. 118, 646-649, (February 21, 1942).
Present Problems in Curriculum Adjustment. R.B. Allen.
During the present emergency the military and industrial aspects of medical science must be emphasized in order that the products of medical education may be able to fit smoothly into the needs of the social, military and industrial establishments. In medical schools, all fundamental and clinical departments must emphasize instruction bearing on industrial and military medicine. A survey course should be established for upper classmen in the general field of industrial hygiene and occupational disease, including laboratory work, clinical demonstrations and field trips. Many other types of training should be instituted to the end that the medical schools may better serve industrial medicine, industrial health and the welfare of workers on the civilian defense front.
Industrial Health -- A Separate Discipline. T.L. Hazlett.
Only by providing sufficiently well trained men in the field can industrial medicine be properly emphasized and the importance of its place in medicine and industry clearly outlined. The author believes that: (1) Industrial medicine should be offered to undergraduates as a separate course; (2) The lecture hours should be devoted to industrial topics. Such a program is entirely feasible even if only 20 hours is given in any one academic year.

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Correlation of Industrial Hygiene Instruction with other Clinical Training. L.P. Cummings.

Medical schools should accord industrial hygiene instruction greater distinction, recognizing the subject either as a separate discipline or as an important division of departments such as medicine or preventive medicine and public health. At the outset, the importance and manner of recording the occupational history should be clearly outlined. Occupation also should be assigned an important place in the statistical classification of all medical records in the hospital and outpatient department. The industrial hygienist should participate regularly in ward walks, appropriate medical clinics, roentgenologic and clinical-pathologic conferences. Training should be facilitated by suitable laboratory demonstrations. The most essential requirement is an industrial medical clinic--around which point are focused the medical procedures developed to discover, treat or control occupational disease in individuals entering the hospital or outpatient department or among hospital employees.

The Industrial Clinical Clerkship. F.J. Wampler.

Out of the 51 medical schools in the U. S. and Canada reporting organized teaching in industrial health, only one offers an elective in which the student went into the plant and worked with the physicians and staff of the pathologic and toxicologic research laboratories of the industry. In the Medical College of Virginia the clinical clerkship in industrial health consists of two weeks spent in a chemical plant employing about 4000 workers, in which there are five full time physicians and eight nurses in the medical department. Another two weeks is spent in another plant of the same company with entirely different chemical hazards and problems. Another day is spent in the toxicologic research laboratory. Required readings on industrial health, occupational diseases, compensation laws and plans for giving better health services to small plants are assigned. In spite of various present difficulties, the industrial clinical clerkship for senior medical students should be adopted as fast as is consistent with healthy growth by the medical schools of North America.

Industrial Experience in the Interneship. W.F. Lyon.

Internes are assigned to a plant and keep a note book during the six-weeks' service, which is checked after each division of experience by the physician in charge. They are accompanied and supervised in all activities by the safety or chemical engineer, who explains manufacturing processes, and by the physicians. Internes are present during pre-employment examinations and are taught the evaluation of some of the factors attending acceptance or rejection. They are instructed in the estimation of disability. They should not, of course, replace medical, nursing or first-aid personnel. There should be no suspicion of exploitation of internes for the benefit of industry. The whole training period must be designed to provide maximum educational benefits.

The Occupational Disease Clinic. W.H. Kronenberg.

The purpose of an industrial disease clinic should be (1) to study scientifically disease and disability resulting from environment in industry and to spread this knowledge; (2) to promote clinical research in the health problems associated with expanding industrial technology; (3) to study clinical material disinterestedly and not to establish liability and (4) to serve as a fact-finding board. Several points are discussed in detail.

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337 Industrial Hygiene All 24 Hours. Thomas Parran. Illinois Health Messenger, 14, 54, (March 1, 1942).

"To maintain workers' health and thereby peak production, industries operating on the 24-hour basis must take special precautionary measures to minimize the effects of night work and the rotating shift. The United States Public Health Service makes these recommendations:

1. "Workers changing over from day to night shift every 2 or 3 weeks find it difficult to adjust their eating and sleeping habits. In plants operating on a 24-hour schedule, shifts should not be rotated more often than every 2 or 3 months.
2. "Each nursing shift should rotate at the same time as the workers' shift, so that the same nurses will always be acquainted with the workers they are treating.
3. "Women with home responsibilities often try to do their housework during the day while working on night shifts. Chronic fatigue is the result. In general, women workers who have domestic duties should not be employed at night.
4. "A 60-hour week -- on a 10-hour day, 6-day week basis- may become necessary. Excessive increases in working hours lead to reduced efficiency during working hours, absenteeism and sickness. A 48-hour week -- on an 8-hour day, 6-day week basis -- is preferable. Individual workers should have one day in every 7 days for rest and recreation; this does not preclude continuous factory operation.
5. "Organized rest periods help maintain production at a high level. Five to fifteen-minute rest periods should be provided at the end of the first quarter, and again at the three-quarter mark of each shift. This is especially important in repetitive monotonous work or heavy manual labor. Milk, soft drinks, sandwiches and candy should be available during rest periods.
6. "A particularly high standard of lighting is necessary in plants operating at night or under blackout conditions. Proper lighting reduces fatigue, improves morale, and prevents accidents due to poor light or glare.

"This six-point program should be based on the broader industrial hygiene service advocated by the United States Public Health Service which includes: medical and nursing services available to workers on each shift; good plant housekeeping; adequate sanitary facilities; adequate ventilation; control of exposures to hazardous operations or to noxious dust, fumes and gases; proper placement of workers in jobs for which they are physically and temperamentally suited; reduction of excessive noise (a well-known fatigue producer); health and safety education programs, such as teaching proper posture on the job, sanitation, nutrition and mental hygiene; paid vacations of at least one or two weeks a year."

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