

HW88-0011554

DECEMBER, 1946

INDUSTRIAL HYGIENE DIGEST

(Vol. 5, No. 12)

Editorial Comments

- **NOTES**
- **DISCUSSIONS**
- **EDITORIAL** **Announcements and Reports**

Industrial Hygiene Notes



INDUSTRIAL HYGIENE FOUNDATION

1000 BROADWAY, NEW YORK 10, N.Y.
THE INDUSTRIAL HYGIENE FOUNDATION

PLAINTIFF'S
EXHIBIT
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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 non-profit association of industries for the advancement of healthful working conditions.

Vol. 7

December, 1945

No. 12

X-Ray Diffraction Laboratory Established

Announcement is made of the establishment of a Department of Research in Chemical Physics at Mellon Institute which will be available to Industrial Hygiene Foundation and further augment the Foundation's services to member companies in maintaining good physical working conditions. This new division includes x-ray diffraction equipment which is essential for the accurate evaluation of factory dusts inasmuch as this method is more dependable than the older chemical or petrographic methods. Dr. Harold P. Klug, formerly of the University of Minnesota, heads the new department and will serve as a consultant to the Foundation. The new laboratory is located on the same floor as the Foundation in the Institute.

The availability of facilities for x-ray diffraction analyses is another important development in the Foundation's work of refining the measurement of dust hazards in the workplace. The I-H-F Composition Sampler permits the Staff to rapidly collect large dust samples from factory air for composition analyses. All dust samples are separated into portions above and below five microns to gain more accurate knowledge of the concentration which workmen may actually breathe.

Coming Publications

The Transactions of the Management Section of the program for the Tenth Annual Meeting will be sent to member companies in the near future. Practically all the papers presented at the annual meeting are now set in type and the proceedings, in four parts, will be published as rapidly as possible. The Management Section will be followed by the Veterans Panel discussion.

Meanwhile, a summary covering highlights of the Engineering Conference, held here on November 13, the day prior to the opening of the annual meeting, will be sent to member companies in a few days.

Industrial Health Codes

The Ohio State Health Department recently announced a proposed code on industrial health and toxicity which contains "maximum allowable concentrations" for a long list of gases, vapors, dusts and fumes. Copies of the proposed code are available to Members upon request. A somewhat similar code was recently adopted in Oregon and such regulations are under consideration or have been recently enacted in several other States.

Trustees Meeting:

A meeting of the Foundation's Board of Trustees will be held late in January.

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UNITED STATES NAVY



AWARDED TO

*Industrial Hygiene Foundation
of America*

IN RECOGNITION OF EXCEPTIONAL ACCOMPLISHMENT IN BEHALF OF THE UNITED STATES NAVY AND OF MERITORIOUS CONTRIBUTION TO THE NATIONAL WAR EFFORT.

W. H. H. H.
ASSISTANT SECRETARY OF THE NAVY

November 6 1945

PRESENTATION
OF
CERTIFICATE OF ACHIEVEMENT FROM THE NAVY
TO
THE INDUSTRIAL HYGIENE FOUNDATION OF AMERICA
PITTSBURGH, PA.

BY CAPTAIN E. W. BROWN (MC) USN

(at opening of Tenth Annual Meeting at Mellon Institute, Pittsburgh, Pa., Nov. 15, 1945)

It is with distinct pleasure that I come here this morning on behalf of the Navy to present the award of the Certificate of Achievement for war services to the Industrial Hygiene Foundation of America.

I will refer briefly at this point to the significance of this award in relation to the Army and Navy "E". The latter was granted to certain companies which produced certain end products of direct naval or military application, such as parts of naval guns, torpedoes, and fire control equipment. There are, however, a number of principal and subcontractors, who were not eligible for the Army and Navy "E", and yet merit recognition for the high quality and quantity of their output in support of the war production program. The Navy, therefore, decided to award the Certificate of Achievement to these organizations, and the Industrial Hygiene Foundation of America was nominated for this honor by the Surgeon General of the Navy.

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May I point out that this award is unique in that it is being conferred upon an organization notable for its efforts in promoting the conservation of industrial personnel, a factor so closely geared to war production. In production we tend to think in terms of the finished implements of war without sufficient emphasis on the significance of saving manpower by the safeguarding of industrial health. The Navy brings this award this morning to an organization of outstanding excellence in this phase of the war effort.

The primary objective of industrial hygiene is the maintenance of industrial manpower through the prevention of industrial illness and accident. Your ability as an organization to advance industrial health has been attained by the excellence of your surveys of occupational hazards, thereby improving working conditions in war plants; by studies of health conditions of women in industry - a new problem; and by your important publications, notably the Industrial Hygiene Digest - the only journal of its kind.

The Medical Department of the Navy has a traditional motto expressive of its primary military mission; viz, "To keep as many men at as many guns as many days as possible". One could fittingly paraphrase these words to express the war objective of your organization; as follows, "To keep as many men and women at as many industrial machines as many days as possible".

The services to your industrial member companies not only reduced absenteeism incident to industrial illness, but increased personnel efficiency as a result of improved environmental conditions. This reflects distinct credit on your technical staff.

In recognition of your war service and in token of appreciation of the Navy, it is my privilege to present to the Industrial Hygiene Foundation of America this Certificate of Achievement. This is the Navy's whole hearted way of saying "Well done".

E. W. BROWN
Captain (MC) USN
Office of Surgeon General
Navy Department

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INDUSTRIAL HYGIENE DIGEST
Literature and News

News Items

- 1205 Industrial Physicians and Hygienists Meet in Chicago in April.
The five professional societies of industrial hygiene personnel will hold a joint conference in Chicago, April 8-13 at the Hotel Sherman, where exhibits will be set up and motion pictures shown. As plans now stand, the National Conference of Governmental Industrial Hygienists will meet April 8 and 9; American Industrial Hygiene Association meetings will be held Tuesday and Wednesday, April 9 and 10; American Association of Industrial Physicians and Surgeons sessions and clinics will take place Tuesday, Wednesday and Thursday; the American Association of Industrial Nurses will meet Thursday, Friday and Saturday. The American Association of Industrial Dentists will also convene. -- Ind. Hyg. News Letter (Oct., 1945)
- 1206 Proposed Yale Institute.
The Yale School of Medicine recently announced plans for an Institute of Occupational Medicine and Hygiene, in which specialists may be trained in the diagnosis and treatment of specific occupational diseases, and general practitioners of medicine may study the background of the workers' conditions. Undergraduate medical students will receive training throughout all four years of their course and the curriculum will include such fields as sanitation; toxicology; surgery for wounds; injury and shock; rehabilitation methods; industrial medicine; problems of ventilation; industrial medical administration, etc. Graduate training will also be available for industrial nurses. The Institute proposes to carry on research on basic problems and to provide consultation services. Funds to carry on this work should come from the industries. -- Conn. Health Bull. (Oct., 1945)
- 1207 Compensation Medicine.
This is a new periodical devoted exclusively to the field of compensation medicine, with especial attention to the relation of trauma to industrial disease. Several papers from the first issue are abstracted in this issue of the Digest.

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1209 Blood Damage Indicated in Organic Chemists.

The possibility that organic chemists might suffer blood damage in the course of their advanced studies and university research work was disclosed in a communication from the Ohio Industrial Hygiene Service to the Industrial Hygiene Division, U.S. Public Health Service, in which it was reported that a number of organic research chemists in a large pharmaceutical laboratory have sustained such injury. With a white blood cell count of 5,000 established arbitrarily as the critical level, it was found that five out of a staff of 20 chemists, all holding doctorate degrees and some with several years of post-doctorate research experience, showed a level below that figure in periodic physical examinations. The red cell count remained normal. As a result of these findings the company plans to include a blood analysis in its preplacement examination of chemists, to improve ventilation and install other safeguards in the research laboratories and to keep the condition of the men under close observation. It is pointed out that the problem may be originating in the research laboratories of some universities and that thorough preplacement physical examinations may bar from employment chemists whose blood condition is poor. -- Ind. Hyg. News Letter, 5, 2 (Oct., 1945)

1209 Join the Navy and Eat Penicillin Ice Cream.

The San Diego Naval Training Center's sanitation and preventive medicine staff reports that mixing penicillin with ice cream makes possible its administration by mouth instead of through the usual hypodermic injections. The Navy said the treatment had been found effective for streptococcus throat infections, scarlet fever, trench mouth, gingivitis (inflammation of the gums), stomatitis (inflammation of the mouth), and acute or subacute tonsillitis. -- Chem. & Eng. News, 23, 1928 (Oct. 25, 1945)

1210 Hazards in Blackout Paint Removal.

The Division of Industrial Hygiene, Baltimore City Health Department, is making a study of the health hazards involved in the large-scale removal of blackout paint. Since scraping is not a feasible method for removal, chemical solvents must be used. One group of paint solvents contains alkalis which produce dermatitis upon contact with the skin, and another group contains volatile chemicals, chiefly benzol, alcohol, and methylene chloride, which may result in various types of physical damage. Recommendations to protect the health of exposed workers include protective garments, frequent determination of the atmospheric concentration of toxic materials, and medical control through periodic examination of urine for sulfate ratios and of blood for both white and red cell counts. -- Safety Eng., 90, 113 (Oct., 1945)

1211 Need for Campaign to Recruit Industrial Hygienists.

Shortage of professional personnel is felt acutely by all industrial hygiene agencies. With the break in training of young men due to the war, the shortage is becoming particularly severe. One way by which it may be overcome is pointed out by Medical Director J.G. Townsend, Chief of the Industrial Hygiene Division, U.S. Public Health Service. He urges that State and local directors of industrial hygiene units make a determined effort to interest students in the profession. Lectures should be arranged and given to classes in medical schools, colleges of engineering and university scientific departments. The attractive opportunities available to industrial hygienists in the service of American industries or public health agencies should be set before students of chemistry, dentistry, nursing, and other professions associated with industrial health activities. In personal letters to deans of such colleges, training opportunities in the various fields of industrial hygiene may be explained. If industrial hygiene is to expand its activities to protect all industrial workers in the United States, many more men and women must be trained for all the contributing professions. -- Ind. Hyg. News Letter, 5, 5 (Nov., 1945)

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Occupational Disease Statistics

1212 Occupational Disease Statistics.

	Balt. ²	Calif. ²	Conn. ²	Ind. ²	Mich. ²	Wis. ²	Totals
	July	June	Oct.	Oct.	Oct.	Sept.	
	Aug.	July	Nov.	Nov.	Nov.	Sept.	
	Sept.	1945	1945	1945	1945	1945	
	1945	1945	1945	1945	1945	1945	
Acid Vapors						1	1
Bursitis	5						5
Cancer						1	1
Carbon Monoxide		8		5			11
Carbon Tetrachloride		3		1		1	5
Conjunctivitis		446				3	449
Dermatitis	42	1350	71	56	38	285	1924
Hernia					9		9
Infections						10	10
Inflammatory Conditions	6	314			15	7	342
Lead Absorption				2			2
Lead Poisoning	1	4				8	15
Mercuric Chloride						1	1
Miscellaneous						85	85
Nitroglycerine						1	1
Noise		8					8
Pneumoconiosis							
(exclusive of silicosis)			1		5	2	8
Pulmonary & Bronchial		32				1	33
Radium			1				1
Silicosis	1				5	27	33
Silico-tuberculosis						3	3
Synovitis	6						6
Systemic Effects(NOC)		107				11	119
Tuberculosis						1	1
Undulant Fever				1		1	2
Upper Respiratory		13				1	14
Totals	61	2285	73	63	72	419	3089

(1) Occupational Disease Claims filed with the Industrial Commission. There were 76,911 total days lost with six deaths from silicosis and five deaths from other causes.

(2) Occupational Disease Cases filed with the Health Department.

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Legal Developments

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- 1213 Rules and Regulations for the Prevention and Control of Occupational Diseases. These Rules and Regulations, adopted by the Board, Aug. 18, 1945, pursuant to a resolution of the legislature, are published in a convenient pocket-sized booklet. After general statements regarding application and possible modification of the rules, and definitions, brief specifications for general and local exhaust ventilation, substitution of non-hazardous equipment, material or process, dust-allaying media, personal protective equipment, isolation of hazardous operations, sanitation and cleanliness, and warning of health hazards. Maximum permissible concentrations of vapors, dusts and fumes are tabulated. -- Oregon State Board of Health, Portland, Ore., 16 pp (1945)
- 1214 Industrial Medical Records: Some Legal Considerations. The author discusses the manner in which an employer may safely permit the use of industrial medical records in his possession. A record can be made available on the request of the worker, in his interest, or by the employer to defend himself against the claims of the worker. This then would seem to eliminate the use of the records of a group of employees as a basis for statistical study or clinical investigation (except in reports required by law, as communicable diseases). However, the author feels that such use should be permitted, if the identity of individual employees is in no way revealed. Access to the medical records of an employee should be granted to his attending physician. -- T.V. McDavitt. Am. J. Pub. Health, 35, 568-(1945)--J.I.H.&T.
- 1215 Death from Tetanus Infection; Carpenter Remodeling Meat Market; Course of Employment. Decedent worked as a carpenter remodeling and repairing a meat market, in the course of which he handled old and new lumber and worked in the vicinity of animal hides and live animals; when his death occurred two and one-half days after the onset of a tetanus infection, it was found that employee's death resulted from his employment. -- Gmeiner and Grearson v. Industrial Commission of Wisconsin. Wisconsin Supreme Court. No. 62, August Term, 1945. Filed November 20, 1945 (CCH)
- 1216 Scope of Authority of Texas Board of Insurance Commissioners to Control Operations of Insurance Carriers. Plaintiff association brought an action to enjoin the enforcement of and to test the validity of an order of defendant Board on the ground that said order exceeded the statutory powers granted to said Board. By means of the order, the Board sought to control dividends in complete detail in advance, on the ground that distribution of such dividends might affect the premium rate, by forbidding the writing of any compensation insurance by a participating company unless such dividend plan had been submitted to and approved by the Board. However, the order set forth no standard by which the Board was to be guided in either approving or disapproving the conditions on which a company would be permitted to write workmen's compensation insurance. A temporary injunction was granted by the trial court with certain limitations, namely, that the Board was not thereby prohibited from exercising its statutory powers to make and enforce classifications of hazards and premium rates applicable to each class, to enforce a system of experience rating, or to require adequate reserves before approving an application for the payment of a

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sum out of surplus for dividend distribution. The reviewing court affirmed, ruling that plaintiff was created by the workmen's compensation statute and was given authority to group subscribers based on premium (fixed by the Board) and loss experience, and to fix and pay dividends by and for groups. No such power was expressly granted to the Board. While the Board is required to approve dividends proposed before they can be paid, the statute fixes the standard by which approval or disapproval must be made, namely that such dividends must not reduce the association's reserves below what the Board deems to be adequate to meet losses and claims. But that is the extent of the Board's power in this regard, and it was without authority to regulate dividends as attempted in the order in question. — Board of Insurance Commissioners v. Texas Employers Insurance Association. Texas Court of Civil Appeals. Austin. No. 9497. June 27, 1945; writ of error granted by Texas Supreme Court October 3, 1945. (CCH)

- 1217 Insurer's Duty to Defend Action: Occupational Disease Exclusion Clause. Where the employee alleged that as a result of his employer's negligent failure to provide him a safe place in which to work that he contracted the occupational disease known as pneumoconiosis or silicosis, the insurer was not required to defend the action, since the policy expressly provided that occupational disease was not covered. — Concrete Materials Co. v. Employers Mutual Liability Insurance Co. of Wisconsin. South Dakota Supreme Court. No. 8732. Filed July 13, 1945. (CCH)
- 1218 Causal Connection Between Exfoliated Dermatitis and Employment. Where claimant's proof of causal connection between exfoliated dermatitis and his handling of naphtha, sulphur, and rubber solvents rested upon the testimony of a doctor who testified that claimant's original condition could have been due to any external irritant and that sulphur was not a primary irritant, the court was of the view that claimant had failed to carry the burden of proof. — Fitzgerald v. Atlas Asbestos Co. Pennsylvania Supreme Court. No. 166, October Term, 1945. Filed October 24, 1945. (CCH)
- 1219 Pulmonary Silicosis: Timeliness of Claim: Statute of Limitations. A claim for compensation for occupational pulmonary silicosis which was filed three years after the claimant had been informed by physicians that he was suffering from said disease was not barred by the statute of limitations, since the doctors were of the opinion that no disability had resulted from silicosis, and claimant was entitled to rely on their findings. — Williams v. Industrial Accident Commission. California District Court of Appeal, First District, Division Two. Civil No. 12,849. October 3, 1945. (CCH)
- 1220 Death from Silicosis: Computation of Time of One-Year Period from Date of Last Exposure. An employee, last exposed to silicon dioxide dust on April 3, 1943 died from silicosis on April 4, 1944; his widow was not entitled to statutory benefits since the death occurred beyond the one-year period following the last exposure to harmful quantities of silica dust. — Barnhart v. State Compensation Commissioner. West Virginia Supreme Court of Appeals. No. 9680. October 9, 1945. (CCH)

Book Reviews and Notices

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- 1221 Good Health Insurance and Sickness Benefit Plans in Collective Bargaining. Helen Baker and Dorothy Dahl. Princeton University, Industrial Relations Section, 89 pp. (1945)

This book contains an analysis of the various health plans instituted wholly or in part by labor unions, including some results achieved by the plans, and discussion of the problems involved and present trends.

- 1222 Accident Facts, 1945 Edition. National Safety Council. 36 pp. Price 50¢, National Safety Council, Inc., 20 North Wacker Drive, Chicago 6, Ill. (1945) This publication has been issued annually since 1921 and the present volume contains numerous statistical tables covering accidents, especially in 1944, with previous years' records for comparison. About 10 pages deal directly with industrial accidents.
- 1223 Third Postgraduate Course in Industrial Medicine, Long Island College of Medicine, Oct. 16-Nov. 3, 1944. Mimeographed, approximately 400 pages. (1945) This volume contains abstracts or texts, generally the latter, of 63 lectures presented in a three weeks' course in industrial medicine. The purpose of publication is to provide a source of reference for students enrolled in the course and to afford those who could not attend the course an opportunity for study. The list of directors includes many well-known medical directors, teachers and specialists. The general groups of subjects are medical administration in industry, internal medicine in industry, industrial surgery, occupational diseases, and problems of post-war industrial conversion. The individual lectures appear to cover those fields very fully, and many of the lectures are similar in content to papers by the same authors that have been abstracted in the Digest.

Methods of Detection and Determination

- 1224 Scheme for the Photometric Determination of Minute Amounts of Arsenic, Copper, Lead, Zinc and Iron (with Certain Other Metals) in Organic Compounds, e.g., Medicinals. N. Strafford, P.F. Wyatt, and F.G. Kershaw. Analyst, 70, 232-246 (1945); Chem. Absts., 39, 4297-4298 (Oct. 10, 1945) A scheme of analysis for the above elements by chemical separations and photometric measurements is presented fully in the original paper and outlined in the Chem. Absts. reference.
- 1225 Protection Measurements on Operators and Workrooms in the Radium Dial Painting Industry. J.C. Jones and M.J. Day. Brit. J. Radiol., 18, 126-131 (Apr., 1945) This is a technical discussion of the procedure methods used in measuring radio-active material under various circumstances. The safe level for active material (radon gas) in the atmosphere was determined to be 10^{-10} curie per liter of air. The level can usually be kept beneath this figure by exhaust ventilation. Measuring the amount of radium within the body is of great importance in deciding whether an individual should continue work. This should include (a) measurement of concentration in expired air after the subject has breathed normal air for some time. The tolerance value given is 10^{-12} curie per liter, (b) direct gamma-ray measurement of the subject's body. The tolerance value here is given as 0.1 microgram of radium in the body. The investigators found that most factories are not suffering from too great exposure of either sort. Special precautions should be observed by workers with larger amounts of radium, as in preparation of the luminous compound.

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- 1226 A Simple and Accurate Method for the Determination of Mercury in Biologic Material. T.H. Maren. J. Lab. Clin. Med., 28, 1511-1514 (1943)
A colorimetric method is described for the analysis of mercury in biologic materials. It is simple, and an analysis can be completed in five minutes once the organic material has been digested. Dithizone in chloroform reacts with mercury at pH 1 to give a yellow color which is analyzed by the "mixed color method" in a spectrophotometer. Direct titrations can be made in the absence of a spectrophotometer. Gold, palladium and platinum are the only metals which would interfere with the determination at pH 1. -- C.A.
- 1227 Blow-Lamp Method of Detecting Organic Halogen Compounds in the Air. L.B. Timmis. J. Soc. Chem. Ind., 64, 32 (1945)
In the standard method for determining halogen by blowing the air through a flame, a special type of lamp with methyl alcohol as fuel is recommended. Equally satisfactory results can be obtained when a suitable lamp using kerosene is used. -- C.A.

Control Methods

- 1228 The Medical and Environmental Control of Health Hazards in Aircraft Assembly Plants. E.B. Levy and F.J. Vintinner. Ind. Med., 14, 779-787 (Oct., 1945)
This is a discussion of the more common health hazards found in assembly plants and the medical and environmental control measures necessary to minimize or eliminate harmful occupational exposure. Adequate exhaust ventilation system and proper personal protective equipment are required for workers exposed to sand blasting, welding and acetylene cutting, buffing and grinding of metals, and to toxic and dermatitis-producing chemicals. For workers in lead, zinc and various gases there should be frequent physical examinations, and for those exposed to metallic dust, frequent chest X-rays. The noise hazard is often neglected and should be reduced wherever possible by damping vibrations, insulating enclosures and by the use of individual ear-plugs. Many operations with means of protection are listed, with illustrations.
- 1229 Evaluation of Methods to Control Air-Borne Infections. J.E. Perkins. Am. J. Pub. Health, 35, 891-897, 951-952 (Sept., 1945)
This paper reviews briefly the development of modern conceptions of the role of air in transmitting communicable diseases, and outlines the problems ahead. Possible methods of control of air-borne infections in enclosed spaces are classified by (A) point of application, and (B) method of control. (A) separates procedures directed at: (1) reservoir of infection: droplets and droplet nuclei from humans and dust and lint from bedding, clothes, bandages, etc.; (2) susceptibility of individual; and (3) mode of transmission from reservoir to susceptible individual. (B) includes: (1) isolation and quarantine; (2) chemotherapy; and (3) other methods of rendering non-infectious, covering a wide variety of agents, as: oiling; vaccines and sera; chemoprophylaxis; mechanical barriers of masks, partitions, controlled air currents, and filters; dilution of air; reduction in crowding; disinfectant radiation by daylight or artificial illumination; and disinfectant vapors. An editorial reviewing the paper (ibid. 951) adds that to arrive at sound engineering conclusions, three steps seem essential: (1) standard laboratory methods for quantitative estimation of microbe pollution in the atmosphere must be agreed upon; (2) extensive quantitative studies must be made in various occupied places using identical and

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comparable methods, so as to provide a reasonably accurate standard to distinguish a safe atmosphere from a dangerous one; and (3) such a standard must be applied under practical conditions to the testing of various procedures for the purification of the atmosphere so as to establish the efficiency and economy of each.

- 1230 Solvent Hazards in "Safe" Plants. Mable Foy. Safety Eng., 90, 107-112 (Oct., 1945)

In supposedly "safe" plants several instances are given of the use of substituted unknown solvents, of inadequate ventilation, of insufficient protective clothing and of careless supervision of preventive measures, which have resulted in illness to workers and property damage. In order to help diminish the accident rate, the following should be observed: (1) know the nature and hazards of solvents in use and possible substitutions; (2) check the ventilating system with special attention to the possibility of corrosion, air currents, and interruptions in operation; (3) examine carefully each special emergency, repair or cleanup operation before it is begun; (4) help the worker protect himself by giving him adequate information about the dangers of his job and how to use the protection with which he is furnished; and (5) be sure that there is constant cooperation with the employment and medical departments

- 1231 Chemical-Resistant Gloves. American War Standard L18.29-1945, Approved July 21, 1945. American Standards Association, 8 pp. 20¢.

Resistant gloves are classified as acid- and alkali-resistant, general purpose and organic solvent resistant. This pamphlet gives general requirements in design, physical tests, detailed tests for chemical resistance, and a special test for gloves for use at low temperatures.

- 1232 Facts an Engineer Should Know About Electrostatic Air Filters. A. Nutting. Southern Power and Ind., 65, 115-119 (1945)

For successful operation, the air velocity must be maintained within limits if the usual design efficiency of 85% is to be attained; 90% efficiency requires a reduction in air velocity of 20%. Air distribution must be constantly uniform over the entire face area of the filter. Access of rain must be prevented by louvers, and preheating coils provided if snow or fog is encountered. Screens are desirable to keep out foreign materials, and filters to remove lint, if this is present. For excessive dust loads, precleaners are desirable. The alternating-current supply to the power pack should not have voltage variations greater than $\pm 10\%$ of the nominal value. Adequate space for maintenance and easy access is required. -- C.A.

- 1233 Experiences with the Use of Propylene Glycol as a Bactericidal Aerosol in an R.C.A.F. Barracks. J.M. Mather and A.D. McClure. Can. J. Pub. Health, 36, 181-187 (May, 1945)

Propylene-glycol vapor in a concentration of less than 0.1 mg. per liter of air did not lower the incidence rate of respiratory illness nor the streptococcus hemolyticus carrier rate during a season when these rates were already abnormally low. At this concentration it showed little germicidal activity. When present in a concentration greater than 0.1 mg. it is definitely bactericidal, but it is not practicable to maintain this concentration in the present type of barrack block. -- Authors' conclusions

- 1234 Study and Control of Industrial Atmospheric Pollution Nuisances. F. M. Stead. Am. J. Pub. Health, 35, 491-498 (May, 1945)

Industrial atmospheric pollution nuisances include inert smokes and dusts, mucous membrane irritants and malodorous substances. The minute smoke particles are rarely a cause of complaint by urban populations. Odors are very difficult

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to evaluate and localize. After the source of the nuisance is determined, the investigator must find what changes in plant processes will alleviate the situation. Rather than repeatedly persuade or force management to control the recurring nuisances, the author would depend on long-time planning, such as careful industrial zoning and enlightened legislation. -- J.I.H.&T.

Industrial Health Hazards and Their Effects

- 1235 Bronchographic Studies in Advanced Silicosis. T. Bruce and G. Jonsson. Acta radiol., 24, 206-216 (1943)
Bronchography allows an intra vitam study of the changes of the topography of the bronchial tree which occur when the contraction sets in in third stage silicosis. When the center of contraction is situated characteristically, above, lateral to and behind the hilus, it exerts its greatest pulling effect on the ventrally situated bronchi, of which the proximal is dislocated upwards, so much so that in severe cases right angles occur. The position of the dorsal bronchi is affected to a minor extent. The massive lesions are mainly situated in the eparterial bronchus' region of distribution on the right side and that of the first hyperarterial bronchus on the left side. When the center of contraction is not situated typically, the changes in the topography of the bronchi are subject to variations, depending upon the position of the massive lesions.
-- Authors' summary
- 1236 Egg-Shell Calcifications in Silicosis. A.D. Riemer. Am. J. Roentgenol., 53, 439-445 (May, 1945)
(1) Four cases of silicosis with sharply demarcated annular densities in the roentgenograms of the chest, so-called "egg-shell calcifications," are herein presented and the roentgenograms reproduced. (2) The few authors who have hitherto reported on such shadows have differed in their statements regarding the distribution of them in the pulmonary roentgenogram. Some have stated that they exist only in the hilar areas; others have described their presence in the lung parenchyma as well. The cases in this report appear to confirm the latter view. (3) The previous authors have also differed in their interpretations of the cause of these shadows. They have variously labeled them as being (a) calcified tuberculous lesions, (b) uncalcified silicotic densities, and (c) calcium degenerations in or around silicotic nodules. (4) To these a fourth viewpoint is now added; that the densities under discussion may represent the results of inhalation of calcium along with the silica particles. (5) In the absence of definite knowledge of the cause of egg-shell calcifications, the clinician and roentgenologist who encounter them are placed in the difficult position of deciding whether they represent a complicating tuberculosis infection or a less serious condition. -- Author's summary
- 1237 Silicosis of the Pericardium -- Case Report. Marguerite G. Stemmerman. Am. Heart J., 29, 642-647 (May, 1945)
A case report of a person with extensive adhesive pericarditis due to spread of pulmonary silicosis is given. The patient, a 51-year old white male, had symptoms from his lung condition for seven years prior to his death from silico-tuberculosis and progressive pulmonary failure. The only subjective or objective clinical evidence of cardiac disease in this case was an abnormality of the electrocardiogram, but the author is of the opinion that had the patient lived sufficiently long, signs of cardiac embarrassment might have developed. At autopsy extensive pulmonary and pleural silico-tuberculosis and adhesive

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pericarditis was found. It is believed the silica particles found their way into the pericardial cavity through the small superficial lymphatic channels of communication between the pericardial and pleural cavities. The fact that the firmest attachments were at the site of the densest pleuro-pericardial adhesions, at which point the pleura and both visceral and parietal pericardium were as one, was the major evidence in favor of this view. -- J.I.E.&T.

- 1238 Silicosis - Its Prevention and Treatment. D.A. MacGregor. W. Va. Med. J., 41, 23 pp. (Sept., 1945)

The paper is a general discussion of silicosis, including a summary of recent work on aluminum therapy and aluminum prophylaxis.

- 1239 Paligorskite, a Possible Asbestos Substitute. R.B. Fisher, R.L. Thorne and C. Van Cott. U.S. Bur. Mines, Inf. Circ. No. 7313, 5 pp. (Mar., 1945)

Paligorskite is probably a variety of asbestos usually termed mountain leather. A deposit of paligorskite has been found on an Alaskan island, and it may find a number of uses if present in sufficient quantity.

- 1240 Some New Aspects and Approaches to the Problem of Dust Diseases. C.U. Dermehl and C.A. Nau. Tex. Repts. on Biology and Med., 3, 227-237 (Summer, 1945); Ind. Med., 14, 744-754 (Sept., 1945)

The authors review progress on dust disease during the past few years, including (1) evidence from several sources refuting the silica solubility theory of silicosis; (2) aluminum therapy; (3) pulmonary lesions produced by cotton dust; (4) welders' siderosis. A dust exposure apparatus is described by means of which it has been shown that antimony trioxide is many times more toxic when inhaled as when administered intraperitoneally. Their experiments will be reported later in greater detail.

- 1241 Health and Environmental Conditions in the Iron Industry. G.F. Keatinge and N.M. Potter. Brit. J. Ind. Med., 2, 125-141 (July, 1945)

A brief description is given of modern iron-founding methods. Environmental studies were carried out in two foundries employing over 200 workers. These studies included a survey of ventilation and heating, and the dust hazard. To assess the dust hazard in a foundry knowledge is required of (a) the dust concentration in the work atmosphere, (b) the duration of work spells, (c) the chemical composition of inhaled dust, and (d) its particle-size frequency. It is shown that fettlers of medium and large castings have the dustiest occupation in the foundry, and the dust here consists largely of silica particles. It is estimated that the silica hazard of the fettler of large castings is fifty times that of a worker in the general body of the foundry; medium fettling has a nine times greater hazard; and pneumatic mould-filling five times greater; workers in the core shop have the least exposure. The simplest way to maintain routine control of atmospheric pollution in a foundry is by mass concentration estimation of air-borne dust at breathing height. Sickness and accident rates among foundry workers as compared with those in the constructional department showed that: (1) the number of cases of respiratory disease was less although the average number of days lost per case was higher, and while some lungs showed evidence of "dust change" there was no case of silicosis; (2) skin affections were greater, with the most dermatitis among the core workers; (3) the incidence of rheumatic disease was greater; (4) accidents causing injury were fewer and caused less lost time; and (5) among foundrymen heart cramps are uncommon but not unknown. Preventive measures against accident and ill-health are (a) pre-employment medical examination, including chest X-ray; (b) improvement of ventilation by modern construction methods; (c) proper cloak-room, washing and bathing facilities; (d) attention to floors; (e) by adequate protective equipment for the individual worker; and (f) prevention of fumes and

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dust by alteration in materials where possible, by increasing mechanized methods of production, and by good general house-keeping. -- From authors' summary

- 1242 Chronic Exudative and Indurative Pneumonia Due to Inhalation of Shellac. E.F. Hirsch and H.B. Russell. Arch. Path., 39, 281-286 (May, 1945)
Chronic progressive induration developed in the lungs of a man engaged in manufacturing furniture. The postmortem examination demonstrated chronic diffuse exudative and indurative pneumonia in both lungs. The character of the consolidated tissues in the lungs and the small deposits of fibrin on the visceral pleura suggested grossly the possibility of some form of lipoid pneumonia. Ethyl alcohol and ether extraction of the lungs yielded large amounts of a viscid material like shellac dissolved in an oil medium. This material injected into the tracheas of rabbits caused necrosis and marked exudative and fibroplastic inflammation of the lungs. The exudative and fibroplastic tissue response approximates the changes reported in tissues with oils like chaulmoogra. Lac substances have a high content of certain fatty acids. Fatty acids of this character are known to cause necrosis and marked exudative and proliferative tissue reactions. -- Authors' summary
- 1243 Case of DDT Poisoning in Man. V.B. Wigglesworth. Brit. Med. J., 1, 517 (Apr., 14, 1945)
The case is reported of a man who underwent exposure on three times to large amounts of DDT in acetone solution while conducting experimental studies on its local irritant action on the skin. He developed general intoxication and on three occasions he experienced involuntary muscular tremors over the entire body. After two weeks of bed care he began to make a slow recovery. He was away from work for 10 weeks and had not recovered completely at the end of a year. His condition improved rapidly when the true nature of the affection was known, which suggests that his symptomatology was influenced by anxiety.
- 1244 The Toxicity of DDT. G.R. Cameron and F. Burgess. Brit. Med. J., 1, 865-871 (1945)
The toxicity of DDT was investigated on a variety of animals and on human subjects. It is tolerated in large amounts when administered in single or repeated doses. Danger to health is likely to arise only in the careless use of concentrates. Prolonged contact with undergarments impregnated with the insecticide did not produce a toxic effect. -- C.A.
- 1245 The Medical and Public Health Importance of the Insecticide DDT. F.C. Bishopp. Bull. N.Y. Acad. Med., 21, 561-580 (Nov., 1945)
The value of DDT as an insecticide and the forms in which it is used are discussed. No toxicity or irritation results from 10% DDT in pyrophyllite applied as a dust to the skin, but in oil solutions it can be absorbed through the skin. The chronic toxicity of DDT in various forms has not been fully evaluated, but from available facts it may be concluded that DDT is much less dangerous to man from direct toxic action than most other insecticides. However, it should be handled with care to avoid ingestion and prolonged contact of oil solutions with the skin. It is important that it be applied by the right method in the right form.
- 1246 Determination of 2,2-Bis (p-Chlorophenyl)-1,1,1-Trichloroethane (DDT) in Organs and Body Fluids After Oral Administration. H.A. Stiff, Jr. and J.C. Castillo. J. Biol. Chem., 159, 545-548 (1945)
DDT was not found in the organs or body fluids of rabbits after oral administration of toxic doses. Determinations were made by the xanthidrol-potassium-hydroxide-pyridine method. It appears that when administered orally, DDT is not

absorbed in its unchanged state, but that other organic compounds of chlorine are formed which are assimilated and can be detected in the organs and body fluids. These organic chlorides do not normally appear in the body fluids and tissues of animals. It is suggested that DDT is transformed to other organic chlorides in the alimentary system and that only these organic chlorides are absorbed. -- C.A.

- 1247 Ethylene Dichloride as Degreaser and Paint Remover. T.J. Carter. Safety Rev., 2, 10 (Nov., 1945)
Industrial health reports indicate that ethylene dichloride (1,2-dichloroethane) is being used for removing preservatives from new equipment and that it is a major constituent of a paint and varnish remover. It should be pointed out that ethylene dichloride is both flammable and explosive, and that its flash point is 65° F (open cup) and its vapor will explode when mixed with air in concentrations ranging from 6.2 to 15.9 percent. Also, it is a powerful narcotic, is an irritant, and has a toxic action upon the heart. It should never be used without adequate ventilation and proper respiratory protection to prevent inhalation of vapor. The accepted maximum permissible limit for an eight-hour exposure is 100 P.P.M.
- 1248 Methyl Chloride Intoxication. H.G.S. van Raalte and H.G.E.C.T. van Velzen. Ind. Med., 14, 707-709 (Sept., 1945)
Symptoms of acute methyl chloride intoxication are mainly those of asphyxiation and shock, with irritation and later depression of the central nervous system, accompanied by acidosis and disturbance of the functions of the liver and kidneys. Oxygen therapy immediately is advised, and the administration of dextrose, sodium lactate and blood plasma by intravenous drip; if necessary to stimulate a depressed central nervous system, coramin and lobelin should be chosen. In cases of chronic intoxication with methyl chloride the symptoms are mainly those of degeneration of parts of the nervous system, hence care should be directed toward rest, physical therapy and a diet rich in proteins, vitamins and minerals, plus huge doses of thiamin given parenterally. The details of the case which lead to the publication of the article are given.
- 1249 Storing and Handling Chloroform. H.N. Anderson. Safety Rev., 2, 9-10 (Nov., 1945)
Chloroform is not easily ignited but at high temperatures it breaks down readily into hydrochloric acid and phosgene. Chloroform not only can cause direct burns but can also be absorbed through the skin, therefore when spilled on the skin, it should be immediately removed by washing with a large quantity of water. Skin contact should be avoided. From 0.02 to 0.03% is the lowest amount that can be detected by smell and as the concentration increases, symptoms of dizziness, nausea and faintness become increasingly severe above 0.10%, there are definite after-effects of fatigue and headache lasting for many hours. In the event of leakage or breakage of containers in the storage place, no one should be allowed to enter unless adequately protected by an air-line respirator or self-contained oxygen-mask.
- 1250 Carbon Tetrachloride Poisoning. S.M. Dillenberg and C.M. Thompson. Military Surgeon, 97, 33-44 (1945)
Twenty cases of carbon tetrachloride poisoning occurred from its use as a cleaning solvent in a confined compartment of a submarine. One was a fatal case terminally presenting pulmonary edema. Only two patients worked with the solvent, the others inhaled the fumes by being in or near the compartment over a period of two days. In addition to the one death, four were made critically ill. The predominating symptoms were gastrointestinal followed by renal shut-down. Clinic studies revealed no evidence of liver damage, which is in contrast

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to other cases reported in the literature. The organ primarily involved was the kidney. Microscopic studies revealed marked liver, kidney, and adrenal damage. Respiratory complications occurred late in the symptom complex, and there were radiographic changes in the lung field of the four seriously ill. The authors conclude that carbon tetrachloride must be considered a potent poison for it can be absorbed through the skin, inhaled, and ingested, and that careful instructions as to its proper use should be given. -- C.A.

- 1251 Acute but Moderate Carbon Monoxide Poisoning. E. Asmussen and E.O.E. Knudsen. Acta Physiol. Scand., 6, 67-78 (1943) (Scandinavian)
The inhalation of carbon monoxide to the point of formation of 25-32% carbon monoxide-hemoglobin causes an increase in relative cell volume and plasma-protein concentration. Neither the glucose nor lactic acid concentration in the blood were affected as long as the subjects remained quiet. Sugar tolerance was not altered at all by the carbon monoxide intoxication. -- C.A.
- 1252 Effects of Oxygen at Increased Pressure. J.W. Bean. Physiol. Rev., 25, 1-147 (1945)
Pulmonary pathology caused by OHP (high oxygen pressure) contributes to the reactions of poisoning by interfering with normal carbon dioxide removal, but such pathology is often absent and cannot, therefore, be regarded as essential in the poisoning by OHP. Repeated exposure to OHP induces permanently crippling motor dysfunction, which indicates permanent damage to the central nervous system, and this is further substantiated by recent discovery of degenerative changes. Under OHP there is increased carbon dioxide tension of the tissues associated with a failure of oxyhemoglobin to become reduced. It seems that even a slight rise in carbon dioxide tension under conditions of OHP is greatly potentiated, throwing an additional load on an already disrupted carbon dioxide transport system, and this constitutes an important etiological factor in OHP poisoning. The cellular metabolism is decreased through the direct inhibition of tissue oxidations by OHP, as well as by the increased tissue carbon dioxide tension and acidity. The direct effect of OHP is exerted through action on the enzymic processes. The evidence presented indicates that the disruption of enzyme activity leading to hyperoxic anoxia and tissue acidity may be the ultimate cause of the OHP poisoning. The article has 450 references. -- C.A.
- 1253 Decompression Sickness and Bubble Formation in Blood and Tissues. E.N. Harvey. Bull. N.Y. Acad. Science, 21, 506-536 (Oct., 1945)
The three common and obvious difficulties experienced by aviators at great height are: (1) lack of oxygen; (2) ear and sinus trouble due to non-equalization of pressure between the middle ear and the external atmosphere; and (3) intestinal pains due to expansion of gas in the intestinal tract. But at altitudes of 25,000 to 35,000 feet a fourth group of additional symptoms may appear which affect various parts of the body. These range from a mild rash or ache to unbearable pain near the joints, from tightness in the chest to serious coughing spells and from hyperesthesias or anesthetics to convulsions, paralysis and syncope. The individual is definitely incapacitated, sometimes seriously. It has long been recognized that compressed air illness is due to bubble formation in blood and tissues, and this discussion covers experiments of various types on animals and men as to the causes and prevention of the bubbles. Analysis of gas bubbles in the blood indicate a very high percentage of nitrogen and the breathing of oxygen for a sufficient time before ascent will flush out the nitrogen, and completely prevent the appearance of all symptoms of decompression sickness, thus offering the most effective prophylactic treatment. The amount of oxygen breathing necessary depends on the extent of exercise at altitude. The use of drugs in reducing the incidence of decompression sickness has not yet been thoroughly tested. The bubbles may form in

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almost any part of the body, but air masses have been found by X-ray to be present in joint cavities and in fascia between muscles and these caused no pain. Nervous symptoms and skin rash have not been fully explained. In conclusion, the article states, "Some details remain to be filled in but on the whole the etiology of decompression sickness can be expressed by the one word -- bubbles."

- 1254 Adrenal Cortex and Work in the Heat. M. Moreira, R.E. Johnson, A.P. Forbes, and F. Consolazio. *Am. J. Physiol.*, 143, 169-176 (1945)
The effects of large doses of extract of adrenal cortex were studied in healthy young men living on a constant adequate diet and marching 3.5 hours daily in moist heat. The extract had no effect on their performance or feelings. It has no effect on physiological or chemical functions such as heat balance, respiratory exchange, rectal temperature, rate of sweating, skin temperature, respiratory oxygen consumption and carbon dioxide excretion, blood pressure, serum chloride, sodium, potassium, non-protein nitrogen, or daily urinary excretion of sodium and of chlorine. On days when extract was injected, the urinary excretion of potassium was increased. There was slight evidence that the extract lowered the concentration of chlorine and sodium in the sweat and raised the concentration of potassium. -- C.A.
- 1255 Consideration of Injury as the Cause of Cancer. F.E. Adair. *Compensation Med.*, 1, 5-6 (Dec., 1945)
"A follow-up of severe human injuries such as civil and military injuries has failed to convince scientists that injury plays any role in the production of human cancer." The author's own medical and court experience has confirmed this statement. He suggests that the entire problem of injury as the cause of cancer be taken out of the hands of the courts, and placed under the jurisdiction of a commission of eminent physicians and judges.
- 1256 Penicillin in the Treatment of Experimental Infection with Bacillus Anthracis. F.R. Heilman and W.E. Herrell. *Proc. Staff Meet., Mayo Clin.*, 19, 492 (Oct. 4, 1944)
Fifty-five percent of mice treated with penicillin were protected against 10,000 times the lethal dose of Bacillus anthracis, even when 16 hours had elapsed between the inoculation and the beginning of treatment. It is evident that infections with B. anthracis are susceptible to treatment with penicillin. -- *Arch. Dermat. & Syph.*
- 1257 Occupational Exposure to Arsenic in the Manufacture of Arsphenamine and Related Compounds. R.M. Watrous and M.B. McCaughey. *Ind. Med.*, 14, 639-646 (Aug., 1945)
The chemical manufacture and packaging of arsphenamine and related compounds are attended by the escape of dust in many different stages. The amount of arsenic in this dust in one pharmaceutical plant was found to vary from 0.0002 to 0.017 milligrams per cubic foot. Urinary excretion did not reflect any absorption of organic arsenical dust at the low level of exposure encountered in the packaging department; at higher levels of exposure in the manufacturing department, increased urinary excretion was present, roughly in proportion to the magnitude of the exposure, the mean for the former group was 0.014 milligrams per cubic foot, for the latter 0.059, and for normal controls 0.017. Clinical judgment did not give the impression that any symptoms of arsenic poisoning existed except in a few isolated workers in the manufacturing department during a short period of unusually heavy exposure. Case reports of three workers showing transitory symptoms of borderline arsenic poisoning are presented. An analysis of 323 periodic complete blood counts in workers exposed to arsenical compounds and 221 counts in unexposed workers doing otherwise similar work revealed no evidence of myelotoxic effect due to arsenicals. -- From authors' summary

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- 1258 A Program of Industrial Vision. L.H. Whitney. (Reprinted from Executives Service Bulletin, Metropolitan Life Insurance Co., June, 1945.) Ind. Med., 320-323 (Oct., 1945)
Visual performance is one of several important basic skills which influence employee efficiency. A practical safety program for eye protection is described which has two main objectives: (1) the placement of applicants into positions for which they are qualified visually as well as physically; and (2) the provision of safety glasses free of charge to all employees assigned to hazardous areas. It has demonstrated that teamwork can exist among the safety engineer, psychologist, optometrist, ophthalmologist and general industrial physician when there is a definite goal. Further research is being encouraged in vision problems, including illumination, special color and contrast painting of factory equipment, vision training and vision problems affecting safety measures.
- 1259 Ophthalmology in the Factory. I. Mann. Brit. J. Ind. Med. 2, 169-170 (July, 1945)
The eye can be regarded from two aspects, either as an optical instrument, the imperfections of which can be remedied by mechanical means, or as a living organ which may become diseased or can participate in general diseases of the body. Upon entrance the eyes of all factory workers should be examined from both aspects, and the tests should include visual acuity at the distance of the proposed job. Thus suitable optical instruments may be fitted so that each employee may work in comfort. The ophthalmologist should see that conditions of illumination are satisfactory. It is recommended that each worker should have a periodic eye examination every three to five years. Industrial eye diseases peculiar to each factory involved should be studied and understood by the factory doctor, and any red or painful eyes should be reported and investigated at once; if a condition or injury is serious it should be sent to the hospital. Possibly the greatest need today is for the production and popularization of a comfortable and efficient protective goggle.
- 1260 Effects of Exposure to Ultra-Violet Light on Visual Thresholds. E. Wolf. Proc. Nat. Acad. Sci. 31, 236-241 (Aug., 1945)
Experiments with baby chicks reveal that exposure of eyes to ultra-violet light ranging from 300 to 365 millimicrons in wave length, a range previously considered harmless by some authorities, delays dark adaptation and impairs visual functions even when the eyes themselves show no obvious injury. Since the visual characteristics of chicks' eyes approximate closely those of a human, the author concludes that protective lenses excluding the dangerous rays should be worn by welders and their helpers, skiers, fliers, sun bathers and others exposed to the radiation.
- 1261 Unusual Forms of Nystagmus. H.D. Smith and F.R. Riesenman. Arch. Ophth. 33, 13-15 (Jan., 1945)
The authors discuss several unusual and comparatively rare forms of nystagmus, and present a detailed case report. Two types of ocular nystagmus, volitional and occupational, and a form of mixed nystagmus due to compression of the upper cervical portion of the cord, are considered. Persons with voluntary nystagmus have never had true nystagmus. The voluntary nystagmus of hysteria is jerky and irregular. With three exceptions, and excluding miners' nystagmus, a review of the literature of the past 25 years fails to reveal any case of occupational nystagmus. Occupational nystagmus results from interaction of several factors: poor and improper illumination, mechanical to-and-fro movement of the eyes incidental to the particular occupation, and retinal fatigue. -- Am. J. Ophth.

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- 1262 A Simple Method of Demonstrating Nystagmus in Certain Miners. A.C. Reid. Brit. J. Ophth. 28, 598-599 (Dec., 1944)
In order to demonstrate the cases of nystagmus which are present only in a stooping position, the author recommends the use of a concave mirror 12 cm. in diameter with a curvature of -0.75 D. The patient stoops and fixes his gaze on this mirror in the dark. When he reports that the eye movements have begun, the examiner sees the oscillations (magnified) in the mirror with the aid of a pocket torch. -- Am. J. Ophth.
- 1263 Clinical Effects of Vibrating Tools. Brit. Med. J., 741 (May 26, 1945)
The results accruing from the use of vibrating tools are summarized. Several clinical syndromes have been reported: white fingers, arthritis of the wrist, elbows and shoulders; the formation of areas of decalcification in the bones of the carpus; and injuries of the palmar aponeurosis and the ulnar nerve. The authority for each of these conditions is given. The most important of these syndromes is the vascular disturbance which produces anemia of the fingers of the hand holding the tool; cold is a precipitating factor. When once "white fingers" have been established they tend to recur even though use of vibrating tools has been given up. This article is a useful one for reference. -- J.I.H. & T.
- 1264 Distant Secondary Circulatory and Vasomotor Reactions to Accidental Electric Shock. G.H. Kyslop. Bull. N.Y. Acad. Med. 21, 302-306 (June, 1945)
The direct effect on traversed blood vessels is an initial constriction followed by a period of dilation which may be severe and prolonged enough to cause secondary hemolysis of the blood. The blood pressure behavior following electrical shock is the same as after any shock process. There have been numerous cases of cerebral damage which cannot be satisfactorily explained, although several possible explanations are presented.
- 1265 Hot Humid Environment: Its Effect on the Performance of a Motor Co-Ordination Test. J.S. Weiner and J.C.D. Hutchinson. Brit. J. Ind. Med. 2, 154-157 (July, 1945)
Three groups of experimental subjects:- resting nude subjects given a short exposure to an "effective" temperature of 91°F., clothed subjects after work in an environment of "effective" temperature of 88°F., and a nude subject during long exposure to an environment of "effective" temperature 82°F.-96°F. both resting and after work, all showed deterioration in the performance of a psychomotor co-ordination test. The deterioration in performance was due to slowness of movement and in most of the subjects to inaccuracy in handling the balls. -- Authors' summary.
- 1266 Nutrition in Review. Report of the New York State Joint Legislative Committee on Nutrition. Legislative Document No. 49, 191 pp. (1945)
This report includes papers on wide variety of subjects relating to nutrition, including such varied subjects as the European food situation, black markets, nutritional education, frozen food lockers.

Skin Diseases and Burns

- 1267 Dermatitis from Cutting Oils. G.P.B. Whitwell. Lancet, 529-530 (April 28, 1945)
The difference in the reaction of the skin to the various cutting oils presents an interesting problem. The tendency of a given oil to produce oil acne or to

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block the hair follicle seems not a function of any physical property, and the suggestion is made that the carcinogenic properties of the oil may be the factor of importance. The author has found that the non-soluble oils which have been thinned with paraffin tend to produce severe acne and severe eczematoid rashes, whereas the soluble oils have the opposite effect. The thick, heavy oils are not necessarily the most toxic. Discussion is given to show that the more refined lubricating oils usually cause less trouble than the cruder forms. Investigation by industrial chemists would do much to end the uncertainty of this problem. Lastly, the relation of oil folliculitis to seborrhea and oil acne is discussed. -- J.I.H. & T.

- 1268 Cutting Oil Dermatitis Control. J.L. Carpenter and W.D. Clark. Ind. Med. 14, 738-742 (Sept., 1945)
"The purpose of this paper is to offer nothing new in the control of oil dermatitis, but to show that by following the well established principles of cleanliness and selection of employees, oil rash can be eliminated."
- 1269 Contact Dermatitis from Rubber Gas Mask. J.C. Gilbert. Ann. Allergy 2, 339 (July-Aug. 1944)
Gilbert reports another instance of dermatitis resulting from use of a gas mask. A patch test with the gas mask rubber elicited a positive reaction. A different type of gas mask was suggested for the patient. -- Arch.Dermat.& Syph.
- 1270 Dermatitis in a Group of Workers Using Waterproof Khaki Cloth Treated with Antimildew Agents. Industrial Health Officer, Philadelphia Navy Yard. Safety Rev. 3, 12-13 (Oct., 1945)
An outbreak of dermatitis occurred among 150 workers employed in processing khaki cloth that had been treated with an antimildew agent. The eruptions were essentially erythematous, papule pruritic, and eczematous, not vesicular or suppurative. The antimildew agents are a group of chemicals with known skin sensitizing properties. Sensitive persons either become hardened or develop an eruption. It is advisable to permit persons with light eruptions to continue at the operation for two weeks, using skin protective creams and bland washing agents, or if the protection is inadequate, leather, synthetic rubber or vinylite gloves. If the eruption does not subside the worker should no longer handle the treated cloth. Directions for patch tests are given.
- 1271 A New Dressing for Burns and Extensive Abrasions. G.S. King. Ind. Med. 14, 796-797 (Oct., 1945)
The author describes his own method of applying dressings to burns. An envelope of very thin, pliable cellophane is used. The lower surface of the envelope is perforated with many very small holes, while the upper surface is left intact. The envelope is filled with the desired medication and applied with the perforated side directly upon the burned surface. As the ointment gradually melts it seeps through the openings to come in contact with the wound. The dressing may be left in situ without change at least twice as long as a gauze dressing, and it is easily removed without pain or adhesiveness to the wound surface. The envelopes of medicated ointment may be prepared in advance and kept in jars in layers to be removed one at a time. These envelopes make an excellent first application for skin grafts and also for follow-up treatments.
- 1272 Burns from Hot Sealing Wax. John Sassani. Ind. Med. 14, 430 (May, 1945)
In an accident in which melted sealing wax spilled over a worker's hand and then formed a thick, hardened mold around it, it was found that the wax could be frozen with ethyl chloride and in that brittle state could be broken and

removed very easily without further serious damage or pain to the badly burned part. Prolonged application of ethyl chloride to the wax was found undesirable, as it made the wax sticky, complicating its removal. -- J.I.W. & T.

Industrial Medical Practice

- 1273 The Use of Aluminum in Silicosis Control. I.R. Tabershaw and B.D. Tebbens. Ind. Med. 14, 709-711 (Sept. 1945); J. Med. Assoc., Alabama (Sept. 1945)
This paper constitutes a review and analysis of the use of aluminum in the control of silicosis, by means of data gathered by personal interview and observations at various centers in the United States where aluminum is used either as a prophylactic or therapeutic agent. The following points have been established by animal experimentation: (1) if alumina and quartz lodge in the same cell the effect of the quartz is neutralized; (2) further progression of tissue reaction is arrested by this phenomenon; (3) mature silicotic lesions become static and immature lesions are resolved; (4) the presence of aluminum does not alter the distribution of quartz in the tissues; (5) the effect of aluminum after inhalation is prolonged (a single large dose may remain in the tissues for over a year); and (6) the presence of aluminum in the tissues produces no toxic effect in healthy animals with one possible exception, that hydrated alumina in large doses may alter the body defenses against tuberculosis. The authors discuss the merits of a particular type of hydrated alumina, as used by Gardner, and aluminum used throughout in the Canadian investigations, and concludes that the choice is a matter of personal preference. After reviewing the work of Hamon on therapy and discussion of the place of aluminum in prophylaxis, the authors conclude: (1) the widespread use of aluminum as a therapeutic agent should be encouraged if strictly controlled by means of medical observations; (2) aluminum therapy should also be used in a limited number of silicotics without disability such as those still, or recently exposed to silica dust and individuals with a precocious susceptibility to the disease; (3) as a prophylactic agent aluminum should be considered only an adjuvant to engineering control.
- 1274 Aluminum Therapy for Silicosis. D.R. Johns and S.J. Petronella. Monthly Bull. Indiana State Bd. Health, 48, 203, 216-217 (Sept. 1945)
A report on aluminum therapy and prophylaxis, using 276 employees of a foundry, 75 of which completed treatment. Each man was given a thorough examination, including chest X-ray, before and after the 30-40 treatments, which completed the course. The methods of preparing the aluminum and of administration are fully described. The subjects were classified into eight groups before and after treatment, depending on the presence and state of silicosis, and then into four groups indicating the degree of improvement. None of the subjects treated became worse. The authors conclude: (1) "Inhalation of aluminum powder, while not a cure for silicosis, results in the amelioration of symptoms of silicosis and an increased capacity for work in a significant high percentage of cases. (2) Inhalation of aluminum powder gives no evidence of toxicity. (3) There is early evidence that aluminum therapy will be of value as a prophylactic measure." The experiments are still in progress at the plant mentioned and at one other, and fuller results may be expected in the future. (Ed. Note: The data indicate that while 52% of the test subjects with definite evidence of silicosis experienced "definite improvement", 62% of those without evidence of silicosis also experienced "moderate improvement".)

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- 1275 Industrial Health Examinations in the Iron and Steel Industry. American Iron and Steel Institute, 350 Fifth Ave., New York 1, N.Y. 25 pp. (Oct., 1945)
This report discusses recommended practices in industrial health examinations especially adapted to the Iron and Steel Industry aimed toward better and more uniform practices. Four principal types of examinations are considered: (1) Primary examination, given to an applicant, is a complete examination for general fitness, discovery of minor disabilities, for an initial industrial health record. (2) Special examination, after illness, injury or transfer, and limited largely to the needs of the occasion, or to special requirements of the job. (3) Secondary examination, given periodically to employees in occupations which involve known health hazards, with a view to protecting the employees. (4) Termination examination, given on termination of employment after illness, injury or for other causes, in order to determine any ill effects from his employment. The scope of any industrial health examination should be sufficient to provide a reasonable appraisal of the applicant's physical and mental fitness for employment. The examining physician should be familiar with employment requirements in the iron and steel industry, and a female attendant should be present during the examination of women. All findings of a questionable nature should be discussed with the examinee and with his family physician. It is suggested that each applicant be requested to sign a form stating that the medical examiner has informed him of any ailments, defects, or physical or mental disabilities, which have been revealed. Simple forms or recommended methods are presented as general suggestions but many of them may vary with the size of the plant, the executives of which should study, select and adapt the suggestions to their respective requirements.
- 1276 The Personal Side of the Army Industrial Medical Program at the San Francisco Port of Embarkation. J.S. Felton. Ind. Med. 14, 629-631 (August, 1945)
Dispensary personnel of semi-professional and clerical levels can be trained through careful planning, to develop a professional attitude in their contact with patients in a large out-patient service rendering medical care to many thousands of workers. Successful completion of such training will result in a better and freer delegation of authority and responsibility in the accomplishment of an important medical war-time mission. Better efficiency and improvement of worker morale can be affected in a professional group whose sole commodity is the rendering of personal service. — Author's conclusions.
- 1277 Department of Industrial Health. R.E. Lane. Ind. Med. 14, 797-798 (Oct., 1945)
The Department of Industrial Health in Manchester University, Manchester, England, is described. Courses of instruction are provided for those about to take up industrial medicine as a career and for part-time physicians in this field, as well as for industrial nurses. It aims to provide a common meeting ground for all who are interested in occupational health. Plans are being made for departmental staff members to travel in other countries. An exchange of post-graduate students in industrial medicine between Britain and the United States is suggested.
- 1278 How the Employer May Evaluate His Medical Service. F.M.P. Bulmer and G.R. McCall. Ind. Med. 14, 787-789 (Oct., 1945)
An attempt has been made to provide the employer with a clearer concept of the functions of an industrial medical service. It is important for all workers to have ready access to the medical department for the diagnosis of trifling conditions which might develop into more serious trouble. Included is a questionnaire, to be filled out by the department heads, which will evaluate the cooperation of the medical department with the other departments. A system is described to evaluate the work done in the medical department using the visit rate and the cost per visit as well as the cost per worker per year.

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- 1279 Physical Medicine in Industry. J.M. Carlisle and R.O. McMorris. Arch. Phys. Med. 26, 353-358 (June, 1945)
The authors outline the general management of, and the necessary equipment for the physical medicine department in a plant with 2,500 employees. The outstanding advantages of such a department in an industrial medical service are presented: Better medical service can be provided, electrodiagnostic procedures may be used, there is a financial saving both to the medical service and to the employee, and it is a morale builder for the worker. -- J.I.H. & T.
- 1280 An Industrial Mental Hygiene Program for Federal Employees. J.W. Cronin, B. Solby and W.S. Wilder. Pub. Health Rept. 60, 1323-1336 (Nov. 9, 1945)
The introduction of mental hygiene programs into industry results from the conviction that they will benefit both production and performance. This extension of mental hygiene measures beyond the traditional limits of the medical field into the realm of personnel administration, points to completely new vistas of mental health for our adult productive population. In addition to the preventive aspects of such a program an unexplored field of psychotherapy is opened, in which the psychiatrist becomes an educator as well as a physician. Psychiatry in industry will not take the place of efficient personnel management and supervision, but it offers a new orientation as basis for methods which personnel management will develop. -- From authors' conclusions.
- 1281 The Future of Medicine in Industry. H. Bartle. Ind. Med. 14, 794-796 (Oct., 1945)
The author sees the future of industrial medical service as the unlimited application of the achievements of medicine and surgery to the welfare of all workers and he believes that "industry and labor, in splendid team work, will support and promote medical research, fellowship and other features to promote and advance industrial health".
- 1282 Simple Guides for History Taking. C. Leggo. Ind. Med. 14, 697-698 (Sept., 1945)
A guide to sound practices in case history recording in the industrial dispensary is offered, with comments which apply regardless of the form in which the record is kept. The principles laid down attempt only to describe the essentials of case recording and the special points stressed are: the date should include the year; the history should describe when, where, how, what, and the treatment and disposition of each claimed injury; any unusual incident should be mentioned; each entry made by either a nurse or a doctor must be signed.
- 1283 Added Infection in Industrial Wounds. B. Clayton-Cooper and F.E.O. Williams. Brit. J. Ind. Med. 2, 146-153 (July, 1945)
Of 531 small wounds and septic lesions examined in the surgeries of 19 different factories, 48% were infected with pyogenic cocci. In general, the older the wounds the higher was the infection rate. A detailed comparison of 472 wounds treated in two factories engaged in similar work, but where different dressing routines were followed, showed that the incidence of infection was less in the surgery where the wounds were treated with a relatively rigorous no-touch dressing technique. In the surgery with the higher infection rate, where the wounds were handled more freely, the obvious deficiencies in the dressing routine were of the kind that would facilitate the spread of pyogenic microbes from one patient to another and it is highly probable that cross-infection of this kind was responsible for a substantial part of the difference in infection rates. The extra burden of infection associated with the less rigorous technique is not primarily an indication for the adoption of a full aseptic routine since, in the small wounds studied, infection did not notably increase the average

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disability to the patient. Nevertheless the high incidence of infection indicates the existence of a risk which, in the long run, will manifest itself in occasional severe infection, particularly of large wounds; a risk which, in our opinion, can be substantially minimized by the adoption of a simple but rigorous routine of dressing. -- Authors' summary.

- 1284 Education in Industrial Health. Report of the education Committee of the Association of Industrial Medical Officers. Brit. J. Ind. Med. 2, 153-161 (July, 1945)

Great Britain has the same general problems in industrial health as the United States. Their present facilities for education in industrial health are quite inadequate but there is prospect of early improvement. Undergraduate training in industrial health should be carried out in every medical school and medical post-graduate training should be available at universities in industrial areas. There is need for the training of nurses for industry and for the education of laymen in industrial health, especially social workers and hospital personnel. After a term of post-graduate study a Diploma of Industrial Health should be instituted solely by the Royal Colleges. -- From authors' summary.

- 1285 Industrial Health. A Tale of Three Cities. Health Advisory Committee, Chamber of Commerce of the United States. Washington D.C. 24 pp. (1945)
Recent advances in industrial health plans in three typical American cities are described. I. Williamsport, Pa. Industrial health service in 1943 was inadequate as in most cities. The first step was a campaign of publicity and education of the public and of individual companies conducted by several interested societies. Then the main program began with X-ray chest surveys, blood tests for venereal diseases, follow-up supervision of those diseases and advising employers on veteran rehabilitation. As results of the campaign to date: (1) 11 of the larger companies have integrated medical service or health units; (2) 61 industries have some degree of medical service; (3) at least five out of seven plant employees have group health insurance; (4) at least four out of five employees have had chest X-rays and all school children will be X-rayed in 1945; (5) employees and homemakers have been impressed with the importance of proper nutrition; and (6) absenteeism has been decreased in plants having health units. Many letters testify to the success of the program. The general plan adopted by the Lycoming County Medical Society for small plants involves the presence of a physician for a stipulated time at each plant, with a minimum of an hour a week per 100 workers, and the same physician may be retained permanently or a plan of rotation used. II. Philadelphia. Trade and medical organizations cooperated in developing a general industrial medical service program. Five alternate methods for small plants are proposed, two of which are variations of the Lycoming County plan, and the others involve dispensaries established and supported by a group of small industries in the same building or adjacent. Publicity, contact with a number of industrial groups, and full discussion of possibilities are still a part of the growing program. Out of 623 industries contacted, 98 have instituted or added some form of medical service plan. III. Los Angeles. The program of publicity education, X-ray examinations and blood tests were much the same as in the other cities, especially as given for Williamsport, and the extent of the tests is rapidly expanding. Other problems attacked include hospital facilities, cross connections in the water system, mosquito and rat abatement, smoke and fume control, dental hygiene, veteran relationships, interruptions in garbage collections, and health legislation. Here also industrial health service in small plants is receiving a large share of the attention. The conclusion states that the accomplishments of these three cities may be duplicated in any other city through initiative and cooperation of the chamber of commerce or similar group with the medical society.

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- 1286 Dental Programs for Indiana Industries. L.D. Heacock. Monthly Bull. Indiana State Bd. Health (Oct., 1945)
Dentistry is receiving recognition as part of industrial hygiene. The industrial dental program should be staffed and equipped to render dental services, including: (1) preplacement and periodic oral examination and diagnosis for all employees; (2) emergency service, including the treatment of occupational injuries and disease; (3) treatment and eradication of oral sepsis; (4) adequate recording of findings and recommendations; and (5) education in dental health and follow-up of individuals to encourage complete and regular dental service. The dental program should be an integral and well coordinated part of the industrial health service and in large plants may require the full time services of one or even more dentists.
- 1287 Standing Orders for Nurses in Industry. American Mutual Liability Insurance Co., Boston. Ind. Nursing, 4, 15-22 (Sept., 1945)
This pamphlet for industrial nurses presents a uniform set of orders which should serve as a guide for treatment and advice to the workers who come to the plant dispensary. These orders may be amended or revised by each plant physician and should bear his signature of approval before they become effective. The orders cover emergency procedure and routine care of the various types of industrial injuries with special emphasis on fracture and eye injuries, non-occupational and minor illnesses, dermatitis, and pregnancy.
- 1288 The Psychiatric Approach in Industrial Nursing. C.A. Bonner. Ind. Nursing, 4, 12-14 (Sept., 1945)
"Today the industrial nurse is regarded as an essential and integral member of the well-organized industrial set-up." There are not enough psychiatrists to provide direct care for the so-called average normal person in industry, but "an industrial nurse, blessed with good sound common sense and elementary knowledge of psychiatric causes and effects may be a very valuable factor in the development of morale" among plant workers. In dealing with personality problems, an approach should be made along four lines: a thorough physical examination; an understanding of the personality of the individual; an investigation of the home situation; and an analysis of the job situation in terms of the worker and his adaptability to the particular type of work that he is doing. In all of these investigations the nurse is invaluable.
- 1289 Accidents by Any Other Name. Henry Ross. Chem. and Met. Eng., 52, 96-99 (July, 1945)
The author, writing under a nom de plume, tells about a long established company that, despite a good safety record and a competent medical staff, still lost, by early sickness and death, many comparatively young men in responsible positions. Worry among executives is believed to have played a large part in bringing about these illnesses. A psychiatrist could have aided most of the men and saved many of their lives. The remedy lies in the employment of an industrial psychiatrist for the plant.
- 1290 Uses and Value of Industrial Vital Statistics. Ruth R. Puffer. Am. J. Pub. Health, 35, 553-558 (June, 1945)
Statisticians would be of real value in industrial hygiene activities, both to provide data for the definition of the health problem at hand and to study the common causes of illness in the general population as they affect industry. The author recommends a study of all absences of one calendar day or longer.
— J.I.H.3T.

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Industrial Relations, Personnel

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- 1291 Responsibilities of Employers to Professional Employees. Roger Adams. Chem. and Eng. News, 23, 1706-1711 (Oct. 10, 1945)
The author presents an impartial and timely discussion of the relations of corporations with their professional employees, including such subjects as training, salaries, bonuses, publication of scientific papers, attendance at scientific meetings, and cooperation between research men, salesmen and management.
- 1292 The Personnel Director and His Postwar Job. F.A. Magoun. Personnel, 22, 109-113 (Sept., 1945)
A good personnel director is not content to remain just an employment manager but will see in his job the opportunity to be a staff officer, adviser and policymaker in his field. Under his jurisdiction come all sorts of problems which he must understand and communicate to executives, foremen and workmen, and bring to them the psychological requirements for cooperation. His real function is to diagnose and safeguard the mental health of the organization, achieving his effectiveness more by persuasion than by authority.
- 1293 The Coming Age of Industrial Medicine. L.G. Rowntree. J.A.M.A., 129, 595-600 (Oct. 27, 1945)
The war has taught us the value and the problems of the health and fitness of individuals. Postwar plans stress the need in medical and dental schools for organized research in industrial health, and for more extensive instruction in hygiene, toxicology, industrial medicine and traumatic surgery. There is need for basic training program for industrial health personnel. There must be a closer cooperation with labor and with management to give the individual workman and the rural communities more adequate health services and hospitals, and better health education programs.

Putting the Disabled Veteran Back to Work

- 1294 Rehabilitation of the Blind. E.M. Feiman. Ind. Med., 14, 649 (Aug., 1945)
In the manufacture of Timken tapered roller bearings, it is essential that the diameter of various parts be ground to within very fine dimensions of the specified sizes, and in the final inspection, the rejection of those parts over and under specification is controlled by different colored lights. The Timken Roller Bearing Company has invented a sound detector which does the same work, thus enabling blind operators to complete this very fine inspection by means of their ears. File testing is another job accomplished by the blind where the operator differentiates by "feel" as to the hardness or softness of steel for rejection or pass. It has been found that blind employees can perform about 80 percent as efficient work as the regular employee, and the results observed are gratifying to those instrumental in the rehabilitation of the blind by developing new methods.

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- 1295 Aid to Physically Handicapped. A.B. Kelley. (Report of Rep. Kelley of Pennsylvania in the House of Representatives.) Congressional Record, Proceedings and Debates of the 79th Congress, First Session, Nov. 1, 1945. 4 pp.
The author, as chairman of the Committee on Labor, Subcommittee on Aid to Physically Handicapped, presents the Report (See our Abst. 1296) with recommendations for correcting the abuses in the system of fitting disabled veterans with artificial limbs.
- 1296 Aid to Physically Handicapped. Hearings Before the Committee on Labor, Subcommittee on Aid to Physically Handicapped, House of Representatives, 79th Congress, First Session. U.S. Gov't. Printing Office. 1803 pp. (through Part 15) (1945)
The purpose of the hearings is indicated in the remainder of the title, "Pursuant to H. Res. 45, a resolution authorizing the Committee on Labor to conduct an investigation of the extent and character of aid now given by the federal, state and local governments and private agencies to the physically handicapped, and for other purposes". The following sections are included: Part 9, Monopolies and Advertising Affecting the Welfare of Physically Handicapped; Part 10, Philadelphia, Pa. (hearings conducted at Philadelphia); Part 11, Epilepsy; Part 12, Accident Prevention; Part 13, Cancer; Part 14, Tuberculosis; and Part 15, Amputees. The parts are obtainable separately.
- 1297 Re-employment of Ex-Servicemen in the Iron and Steel Industry. A Survey and Report. American Iron and Steel Institute, 350 Fifth Ave., New York. 163 pp., mimeographed. (Aug., 1944, reissued Sept., 1945)
This report includes statistics on employees in the armed forces, number re-employed, a general discussion of the problems involved, detailed reports on the reemployment plans of four large companies, in addition to the Peoria Plan and sample record forms. A bulletin of the Selective Service System on Information Concerning the Veterans' Assistance Program is reprinted fully, followed by an address on Reemployment by Major Golder, case histories of reemployed veterans, and the Management's Check List issued by the National Association of Manufacturers.
- 1298 Employment of Ex-Servicemen in the Iron and Steel Industry. Supplemental Study and Report. American Iron and Steel Institute. 9 pp. (Sept., 1945)
This is a supplement to the earlier Report (See our Abst. 1297) bringing the statistical material up to date by means of a second questionnaire. Up to June, 1945, 186,751 iron and steel industry employees had entered the service, and 33,159 ex-servicemen had been reemployed, including 14,779 former employees, which is 7.9% of the total.
- 1299 The Veteran Returns to Industry. A Soldier Speaks. W.S. Davis. Personnel, 22, 121-127 (Sept., 1945)
This is an enlisted man's impression of industry's efforts to reorient the veteran of World War II and it is not a favorable one. He says that most personnel men seem unaware of the deep transformation wrought in the attitudes of their former employees by army life, and of the new philosophy and work habits soldiers have acquired. He emphasizes three ways in which industry can and should help every veteran, namely: (1) the servicemen must be convinced that private industry sincerely wants to help him get a start back in civilian life at a good job; (2) industry must impress upon him that the only thing which can be offered him is the opportunity to work, and that he, himself, must prove his worth; (3) he must be taught again how to work and how to regain his initiative and the desire to do a good job.

- 1300 Medical Problems of the Veterans' Administration. P.R. Hawley. J.A.M.A., 18, 521-522 (Oct. 13, 1945)
Gen. Hawley discusses a number of problems connected with the care and rehabilitation of disabled veterans and the reorganization of the Medical Service of the Veterans' Administration.
EC. Note: See abstract of Gen. Hawley's presentation at the Tenth Annual Meeting of the Industrial Hygiene Foundation in the Nov., 1945 DIGEST.
- 1301 Rehabilitation of War Personnel Subjected to Aural Trauma. D.S. McEachern. Can. Med. Assoc. J., 53, 421-425 (Nov., 1945)
Many veterans have sustained auditory damage. There is need for the development of an assistance program for the deaf and the hard-of-hearing. Deafness becomes a special problem because it carries with it a large number of psychological factors: the deaf tend to minimize their handicaps, to develop unwarranted suspicions, to misinterpret sounds and to develop deterioration of speech. A fully rounded program should be developed in which psychological and employment factors are considered. The cause and degree of hearing loss should be ascertained by medical examination and proper hearing aids selected. Lip-reading and speech correction should be a part of the program. It is suggested finally that a skilled "Employment Counsellor" should be available.
- 1302 Experiences with Veterans in Industry - Follow-up Report. J.F. Johnson and R.P. Walsh. Ind. Med., 14, 789-794 (Oct., 1945)
1. During the past year there has been no significant change in the physical and mental make-up of individuals comprising the veteran group as a whole in our experience. (A) There has been a slight increase in the number of veterans who have been wounded in combat. At present they comprise 1.2% of our entire group. Some two-thirds of our total veteran group have Certified Disability Discharges. (B) The so-called neuropsychiatric group have not been a problem. They comprise approximately 30% of the Certified Disability Discharges in our group. In our experience, 97% of the veterans were graded by their foremen as satisfactory (or better) in work performance. (C) Evidences of adjustment difficulties are more common during the first six months of employment and decrease rapidly thereafter. (D) About 20% of veterans in our group are over 39 years of age, 30% between 30 and 39, and 50% between 18 and 30. 2. Disability as it appeared in our veteran group did not decrease productive efficiency. (A) A system of job placement respecting disabilities is beneficial mutually to employee and to employer. (B) Medical details of physical conditions can be kept confidential. (C) 17% of veterans with Certified Disability Discharges do not acknowledge the disability present. This may lead to improper job placement if the disability is not detected on physical examination. 3. The rate of turnover in our veteran group per month is somewhat less than in our civilian group. (A) Since the War Manpower Commission no longer insists on a Certificate of Availability for veterans, there have been few disciplinary discharges. (B) In our group, disability (mental or physical) has not been a casual factor in disciplinary discharge cases. 4. Employers should have a list of official local agencies which assist veterans. 5. In our experience, the seriously incapacitated veterans have not yet appeared as applicants for jobs (up to April, 1945) in any significant numbers. 6. A policy of greater consideration, but not of greater privilege, has so far proved satisfactory to both management and the veteran. — Authors' summary.

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Absenteeism, Hours of Labor, Etc.

- 1303 Factors Contributing to the Excessive Use of Sick Leave. Leon Schwartz. Ind. Med., 14, 646-649 (Aug., 1945)
A study of 100 government female office workers who took excessive sick leave during a six-month period and a control group of 100 who took no sick leave during the same period of time revealed important and interesting socioeconomic and medical differences between the two groups. The latter group consisted of a greater number of more recently employed women with lower salaries and with little responsibility; in general they were young, married, and had a large amount of domestic responsibility; their health habits were poor and physical examinations disclosed a large number of defects. The other group showed a large number who were receiving fairly high salaries, had long periods of service, and held responsible positions; the majority were unmarried, with negligible domestic cares and in general they observed good health habits. -- From author's summary and conclusion.
- 1304 A Procedural Aid in Absentee Control. C.A. Wood. Personnel, 22, 196-198 (Nov., 1945)
The Absence Call Card described cuts down unwarranted absenteeism by requiring immediate advance notices of absences with statements of reasons; also, it has facilitated record-keeping, saved time, and in general developed a more responsible employee attitude toward absenteeism. The employee calls a special extension number which identifies it as an absence call, and he provides the information indicated on the card, giving name, clock number, foreman's name, reason for absence and when return to work may be expected, all of which are recorded on a ticket-duplicating machine. The three tickets go to the personnel office, to the plant superintendent's office and to the foreman. An absence call made to any other extension number or in any other manner is not considered official.
- 1305 Sickness Absenteeism Among Industrial Workers, Second Quarter of 1945. With an Inquiry into the Occurrence of Digestive Diseases, 1936-45. W.M. Gafaer. Pub. Health Repts., 60, 1179-1181 (Oct. 5, 1945)
See our Abst. 1188, Oct., 1945.

Laboratory Toxicological Studies

- 1306 Trichloroethylene: Absorption, Elimination and Metabolism. J.F. Powell. Brit. J. Ind. Med., 2, 142-145 (July, 1945)
Trichloroethylene concentration in the blood of 12 patients during anesthesia ranged between 6.5 and 12.5 mg. per 100 cc. Part of the trichloroethylene absorbed is converted into trichloroacetic acid, and derivatives of this compound have been prepared from urine. The elimination of trichloroethylene and its metabolite from the body has been studied by analysis of blood, urine and expired air in four patients after anesthesia. Intravenous injection of sodium trichloroacetate into animals and human subjects have produced no ill-effects;

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this salt is excreted rather slowly after intravenous injection. The possible relation of these findings to the toxic hazards of trichloroethylene and the detection of undue exposure in industry are briefly discussed. The subject is reviewed editorially on pages 167-168. — Author's summary.

Public Health

- 1307 Tuberculosis Prevention in Industry. M. Pollak, R.H. Runde, H. Vonachen and M.H. Kronenberg. *Ind. Med.*, 14, 691-697 (Sept., 1945)
The results of a tuberculosis survey covering 25,676 industrial workers showed the incidence of significant tuberculosis was 1.08% and that of active pulmonary tuberculosis was 0.22%. In the age group, 45 years and older, the incidence was about four times that in the 16 to 44 year-old group. In plants using chest X-rays in their pre-employment examinations the incidence was about half of that in the plants not using X-ray; in photofluorography the roll film camera was found to have the advantage of speeding up mass surveys. The importance of industrial surveys from the standpoint of community welfare has been shown, considering the groups surveyed as sampling, the case incidence of active pulmonary tuberculosis in the population group of 15 years and older was estimated as 0.32% in an industrial community of over 100,000 people. It is suggested that tuberculosis surveys of the industrial plants be repeated regularly by the tuberculosis agencies of the community, at no expense of the employees or management; and that "house organs" published by various plants be better utilized for health education among the workers. A more direct stand on the part of national labor organizations in favor of such surveys could lead to a greater participation of organized labor and thus to its better health protection. — From authors' summary.
- 1308 The Role of a Sanitarian - In an Industrial Hygiene Program. A.L. Kovan and W.S. Johnson. *Ind. Med.*, 14, 704-707 (Sept., 1945)
The term "sanitarian" may denote either an engineer, or one who has been trained in a science related to sanitation, or an inspector, depending on individual training, aptitude and application. It reviews the dangerous results which arise from careless sanitary conditions and habits in industrial plants, thus showing the important role a sanitarian plays in health education. There is a strong movement toward the recognition of industrial sanitation as a prime ingredient in industrial operations.
- 1309 The Epidemiology of Influenza in Industrial Workers. L.K. Khotsianov. *Gigiena i Sanitariya*. No. 4-5, pp. 8-15 (1944) (Russian)
Figures are given for the incidence of influenza in 19 different industries over the period 1925-1939, comprising 9,256,000 cases. Some industries show a much greater incidence than others, and this difference remains constant from year to year, while in all industries the number of cases has shown a gradual increase during the period studied. The variation in incidence among the industries has been attributed to variation in meteorological factors, but the author considers that other factors besides weather are responsible, such as overcrowding and deficient ventilation of factories in winter. Climatic factors cannot explain different incidence in two industries at a time when they are equally unfavorable in both cases. Alleged low incidences in certain industries have been attributed to the beneficial effect of radiation (arc-welding

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or inhalation of chemicals (chlorine, phenol, etc.), but there is a low incidence of influenza in other industries in which these factors are absent. The author quotes figures for the morbidity rate among chemical workers in whom there is no significant difference from that seen in other industries. He considers that adaptability of the heat-regulating mechanism of the body plays an important part in lessening the susceptibility to influenza; thus, the incidence is lower in iron-miners, and in agricultural and other outdoor workers. Industries where workers are most crowded show the highest incidence, and vice versa; the low incidence in the metallurgical industry is more likely to be due to the absence of overcrowding than to the protective effects of radiation. — Bull. Hyg.

- 1310 Public Health in an Industrial Area. State Department of Health, R.H. Riley, Director. Maryland Health Bull., 17, 58-60 (Sept., 1945)
The Baltimore County Health Department, the County Medical Association, the Glenn L. Martin Company and the Federal Government have successfully cooperated in a health program for the industrial population in the Middle River area. After more than four years of intensive activity they now have well ordered housing with adequate sanitation, tuberculosis and preschool clinics, day nurseries and a nursery school; they control the care and handling of milk and other food products; there is a small infirmary for emergency care with hospitalization available in Baltimore City for more serious or longer cases; there is a "loan closet" well stocked with blankets, pillows and sickroom needs, which may be borrowed at 25¢ per week. Community centers provide wholesome recreation, thus contributing to the mental health. Favorable environmental conditions now prevail and health is maintained at a high level.

Accident Prevention

- 1311 Inflammability of Natural Gas: Effect of Pressure Upon Limits. G.W. Jones and R.E. Kennedy. U.S. Bur. Mines, Rept. Invest. No. 5798. 13 pp. (Feb., 1945)
This report gives the results of tests made to determine the effect of increased and reduced pressure upon the limits of inflammability of natural gas-air mixtures. When natural gas-air mixtures are confined at pressures below atmospheric, the limits of inflammability are virtually the same as at atmospheric pressure. As the pressures are reduced below atmospheric, the mixtures become more difficult to ignite; however, if a suitable source of ignition is employed, the limits of inflammability are as wide at three pounds per square inch absolute as they are at atmospheric pressure. Natural gas-air mixtures are able to propagate flames when ignited at very low pressures. Certain mixtures were found to be inflammable at pressures as low as 1.0 pound per square inch absolute. The lower limits of inflammability of natural gas-air mixtures are virtually independent of the pressure over the pressure range extending from atmospheric to 300 pounds per square inch. The upper limit of inflammability is affected markedly by increased pressures, rising as the initial pressure on the mixture increases. This effect widens the limits of inflammability as the pressure increases. At 100 pounds pressure, the range of inflammability is about 1.5 times that at atmospheric pressure; at 200 pounds, 1.9; at 300 pounds, 2.7; and at 350 pounds pressure, 3.5 times that at atmospheric pressure. It is thus seen that when natural gas-air mixtures are compressed, the range of inflammability is widened, and hazards attending their use are increased correspondingly.

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The calculated limits of typical natural gases are given, from which, by comparison of these with the composition of the natural gas employed in a given process, the explosion hazards may be estimated. -- Authors' conclusions.

- 1312 Microseismic Method of Predicting Rock Failure in Underground Mining. Part 1. General Method. L. Obert and W. Duvall. U.S. Bur. Mines, Rept. Invest. No. 3797. 7 pp. (Feb., 1945)
All rock formations show microseismic activity when subject to stresses approaching the strength of the rock. There is a rapid increase of 10 to 100 fold in the microseismic rate immediately before failure. The larger the affected area, the longer of increasing microseismic activity before failure. These microseisms or vibrations can be detected by suitable apparatus, include a geophone which is inserted into a deep drill-hole, amplifiers, and recording apparatus. A skilled operator can detect and locate the microseismic disturbances, two months' training has often been sufficient.
- 1313 Blasting Hazards in Strip Mines Adjacent to Underground Workings. J.J. Forbes and H.F. Weaver. U.S. Bur. Mines, Inf. Circ. No. 7296. 5 pp. (Oct., 1944)
Precautions necessary for prevention of injury from blasting in strip mines are stated. The principal hazard is the penetration of poisonous gases into the underground mines. Some typical accidents are described.
- 1314 Coal-Mine Explosions and Coal- and Metal-Mine Fires in the United States During the Fiscal Year Ended June 30, 1944. D. Harrington and W.J. Fene. U.S. Bur. Mines, Inf. Circ. No. 7330. 35 pp. (Aug., 1945)
Both fires and explosions have been decreasing in frequency over a period of years. There was only one major coal-mine fire disaster during the year, but 42 fires and 23 explosions occurred in that period. Causes are analyzed and classified. Electrical sparks, smoking and lighting safety lamps with matches are among the chief causes. Improved ventilation would have been a corrective in most of these cases. Some explosions occurred where rock dusting was used, but in most cases there was no dusting or it was inadequate.
- 1315 Surface Storage of Explosives. D. Harrington and R.G. Warnicke. U.S. Bur. Mines, Inf. Circ. No. 7307. 16 pp. (Feb., 1945)
Of many thousand storages of explosives inspected during the war, not more than 10% were found safe or efficient, and great carelessness was often shown in choosing storage places, often in the open, sometimes in houses or sheds, often with little protection against theft. A number of rules for safe storage are given, with sectional drawings of typical magazines.
- 1316 Destruction of Damaged, Deteriorated or Unwanted Commercial Explosives. R.D. Leitch and P.R. Moyer. U.S. Bur. Mines, Inf. Circ. No. 7335. 8 pp. (Aug., 1945)
Directions are given for disposal of waste dynamite, black powder, smokeless powder, detonators, electric squibs, safety fuse and primacord. Burning is the method recommended in most cases. The question of disposal of nitroglycerine and other materials not included should be referred to the manufacturer, but directions for washing nitroglycerine from magazine floors are included.

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