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Industrial Hygiene Digest

INDUSTRIAL HEALTH NEWS

LITERATURE ABSTRACTS

MEDICAL

ENGINEERING

CHEMICAL

TOXICOLOGICAL

LEGAL ... decisions and trends

JULY, 1958

(Vol. 19, No. 7)

INDUSTRIAL HYGIENE FOUNDATION

MELLON INSTITUTE

4400 FIFTH AVENUE → PITTSBURGH 15, PA.

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Industrial Hygiene Foundation assumes no responsibility for statements in articles abstracted in this Digest or for material from other organizations which may be sent to members from time to time. The Digest's compilation of articles, as well as literature not originating within the Foundation, are made available to our members solely for their information, by way of keeping them posted on developments.

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FOUNDATION FACTS

Foundation Facts is a monthly news-letter issue to industrial concerns holding membership in Industrial Hygiene Foundation. The Foundation is a nonprofit association of industries for the advancement of healthful working conditions.

Volume 17

July, 1955

No

ANNOTATED NOISE BIBLIOGRAPHY PUBLISHED BY I-H-F

Months of painstaking search and review went into the preparation of An Annotated Bibliography on Noise, Its Measurement, Effects and Control, publication of which was recently completed by Industrial Hygiene Foundation. The 364-page bibliography covers 2,336 articles and other literature, and is intended as a useful reference for engineers, physicians, executives and others who may be concerned with problems resulting from excessive noise.

The proper approach to an understanding of the problem of noise and its solution necessitated a systematic survey of the knowledge of the subject. The preparation and printing of this issue of the Bibliography was made possible by funds contributed by various organizations. Therefore it was possible to distribute a limited number of copies to member companies of Industrial Hygiene Foundation. If requests for additional copies indicate that a second printing is necessary, they can be furnished to members at \$5.00 each.

CLOSE ASSOCIATE OF FOUNDATION DIES

Death claimed a long-time associate of Industrial Hygiene Foundation, Dr. R. E. Zimmerman, on June 20 in Summit, N. J. Dr. Zimmerman had been a member of the Foundation's Board of Trustees from 1939 until 1953, when he resigned from the Board at the time of his retirement from active service in the United States Steel Corporation. He was also a member of the Foundation's Research Advisory Council.

NEW COMMITTEE MEMBERS

Recent additions to the Medical Committee of the Foundation are: Dr. Melvin N. Newquist, Medical Director, The Texas Company; Dr. Norbert J. Roberts, Medical Director, The Pennsylvania Railroad; and Dr. Kenneth Smith, Medical Director, Johns-Manville Corporation.

Added to the Legal Committee is James Hill, Compensation Department, Ford Motor Company.

PATHOLOGY YEAR BOOK INCLUDES FOUNDATION LITERATURE

The Year Book of Pathology and Clinical Pathology for 1954-55 contains an abstract of the paper on "Permeability of Lung Parenchyma to Particulate Matter," by Dr. Paul Gross and Dr. Marian Westrick of the Foundation's toxicology laboratory. The year book outlines the significant advances in path-

11 206 2736 (Cont. on next page)

ology which have been reported in the world literature. This marks the third year of the last four in which work conducted in the Foundation's toxicology laboratory has been so recognized.

SHARING INFORMATION

Copies of a translation of an article on "TCP Poisoning and Blood Cholinesterase" from the Clinic of Nerve Diseases of Masaryk University in Brno, Czechoslovakia, are available upon request. (The original article was abstracted in Industrial Hygiene Digest in January, 1955, Abst. No. 81). The translation was made available to I-H-F through the courtesy of Mr. G. G. Fleming, Safety Director of the Celanese Corporation of America, and the Foundation is passing the information along to other member companies who may be interested in the subject. We would be pleased to follow the same procedure in the event that other representatives of member companies would like to share translations they have made of important articles on industrial health.

REPRINTS AVAILABLE

Reprints of two technical papers are available for distribution:

"Permissible Dustiness," by Theodore Hatch, Research Adviser of the Foundation, reprinted from American Industrial Hygiene Association Quarterly 16:1 March, 1955.

"Partitional Respirometry," by Theodore Hatch and Kenneth M. Cook, reprinted from the A. M. A. Archives of Industrial Health, Vol. 11, March, 1955.

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THRESHOLD LIMIT VALUES FOR 1955¹

Adopted at the Seventeenth Annual Meeting of the American Conference of Governmental Industrial Hygienists, Buffalo, April 24-28, 1955

Values are given in the following tabulation for the maximum average atmospheric concentration of contaminants to which workers may be exposed for an eight-hour working day without injury to health.

These values are based on the best available information from industrial experience from experimental studies, and, when possible, from a combination of the two. They are not fixed values but are reviewed annually by the Committee on Threshold Limits for changes, revisions, or additions as further information becomes available.

Threshold limits should be used as guides in the control of health hazards and should not be regarded as fine lines between safe and dangerous concentrations. They represent conditions only within which it is felt that workers may be repeatedly exposed day after day, without their health being adversely affected. It is felt, at the present time, that workers should not be exposed to a working environment containing any of these substances in excess of the value indicated.

These values are not intended for use, or for modification for use, in the evaluation or control of community air pollution or air pollution nuisances.

Established Values²

Gases and Vapors

Substance	PPM	Substance	PPM
Acetaldehyde	200	Butanone (methyl ethyl ketone)	250
Acetic acid	10	Butyl acetate (n-butyl acetate)	200
Acetic anhydride	5	Butyl alcohol (n-butanol)	100
Acetone	1000	Butyl cellosolve (2-butoxyethanol)	200
Acrolein	0.5	Carbon dioxide	5000
Acrylonitrile	20	Carbon disulfide	20
Ammonia	100	Carbon monoxide	100
Amyl acetate	200	Carbon tetrachloride	20
Amyl alcohol (isoamyl alcohol)	100	Cellosolve (2-ethoxyethanol)	20
Azulfine	5	Cellosolve acetate (hydroxyethyl acetate)	100
Arsine	0.05	Chlorine	
Benzene (benzol)	35	Chlorobenzene (monochlorobenzene)	7
Bromine	1		
Butadiene (1,3-butadiene)	1000		

1. Copied from A. M. A. Archives of Industrial Health, June 1955.

2. No additions or changes have been made in the established list.

Gases and Vapors (cont.)

Substance	PPM	Substance	PPM
Chloroform (trichloromethane)	100	Hydrogen chloride	5
1-Chloro-1-nitropropane	20	Hydrogen cyanide	10
Chloroprene (2-chlorobutadiene)	25	Hydrogen fluoride	3
Cresol (all isomers)	5	Hydrogen selenide	0.05
Cyclohexane	400	Hydrogen sulfide	20
Cyclohexanol	100	Iodine	1
Cyclohexanone	100	Isophorone	25
Cyclohexene	400	Mesityl oxide	50
Cyclopropane	400	Methyl acetate	200
o-Dichlorobenzene	50	Methyl alcohol (methanol)	200
Dichlorodifluoromethane	1000	Methyl bromide	20
1,1-Dichloroethane	100	Methyl cellosolve (methoxy-ethanol)	25
1,2-Dichloroethylene	200	Methyl cellosolve acetate (ethylene glycol monomethyl ether acetate)	25
Dichloroethyl ether	15	Methyl chloride	100
Dichloromonofluoromethane	1000	Methylal (dimethoxymethane)	1000
1,1-Dichloro-1-nitroethane	10	Methyl chloroform (1,1,1-trichloroethane)	500
Dichlorotetrafluoroethane	1000	Methylcyclohexane	500
Diethylamine	25	Methylcyclohexanol	100
Dimethylaniline (N-dimethylaniline)	5	Methylcyclohexanone	100
Dimethylsulfate	1	Methyl formate	100
Dioxane (diethylene dioxide)	100	Methylene chloride (dichloromethane)	500
Ethyl acetate	400	Naphtha (coal tar)	200
Ethyl alcohol (ethanol)	1000	Naphtha (petroleum)	500
Ethylamine	25	Nickel carbonyl	0.00
Ethyl benzene	200	Nitrobenzene	1
Ethyl bromide	200	Nitroethane	100
Ethyl chloride	1000	Nitrogen dioxide	5
Ethyl ether	400	Nitroglycerin	0.5
Ethyl formate	100	Nitromethane	100
Ethyl silicate	100	2-Nitropropane	50
Ethylene chlorohydrin	5	Nitrotoluene	5
Ethylene dibromide (1,2-dibromoethane)	25	Octane	500
Ethylene dichloride (1,2-dichloroethane)	100	Ozone	0.1
Ethylene oxide	100	Pentane	1000
Fluorine	0.1	Pentanone (methyl propyl ketone)	200
Fluorotrichloromethane	1000	Perchlorethylene (tetrachloroethylene)	200
Formaldehyde	5	Phenol	5
Gasoline	500	Phosgene (carbonyl chloride)	1
Heptane (n-heptane)	500	Phosphine	
Hexane (n-hexane)	500		
Hexanone (methyl butyl ketone)	100		
Hexone (methyl isobutyl ketone)	100		

Gases and Vapors (cont.)

Substance	PPM	Substance	P1
Phosphorus trichloride	0.5	Sulfur monochloride	
Propyl acetate	200	Sulfur dioxide	1
Propyl alcohol (isopropyl alcohol)	400	1,1,2,2-Tetrachloroethane	
Propyl ether (isopropyl ether)	500	Toluene	20
Propylene dichloride (1,2-dichloro- propane)	75	o-Toluidine	
Stibine	0.1	Trichloroethylene	20
Stoddard solvent	500	Turpentine	10
Styrene monomer (phenyl ethylene)	200	Vinyl chloride (chloroethene)	50
		Xylene	20

Toxic Dusts, Fumes, and Mists

Substance	Mg. per cu. m.	Substance	Mg. cu.
Antimony	0.5	Pentachloronaphthalene	
Arsenic	0.5	Pentachlorophenol	
Barium (soluble compounds)	0.5	Phosphorus (yellow)	
Cadmium	0.1	Phosphorus pentachloride	
Chlorodiphenyl	1	Phosphorus pentasulfide	
Chromic acid and Chromates as CrO ₃	0.1	Selenium compounds (as Se)	
Cyanide as CN	5	Sulfuric acid	
Dinitrotoluene	1.5	Tellurium	
Dinitro-o-cresol	0.2	Tetryl (2,4,6-trinitrophenyl- methylnitramine)	
Fluoride	2.5	Trichloronaphthalene	
Iron oxide fume	15	Trinitrotoluene	
Lead	0.15	Uranium (soluble compounds)	
Magnesium oxide fume	15	Uranium (insoluble compounds)	
Manganese	6	Zinc oxide fumes	
Mercury	0.1		
Parathion (O,O-Diethyl-O-p- nitrophenyl thiophosphate)	0.1		

Radioactivity: For permissible concentrations of radioisotopes in air see "Maximum Permissible Amounts of Radioisotopes in the Human Body and Maximum Permissible Concentrations in Air and Water," Handbook 52, U. S. Department of Commerce National Bureau of Standards, March, 1953. In addition, see "Permissible Dose External Sources of Ionizing Radiation," Handbook 59, Department of Commerce, National Bureau of Standards, Sept. 24, 1954.

Mineral Dusts

Substance	MPPCF	Substance	MPPCF
Alundum (aluminum oxide)	50	Silica	
Asbestos	5	high (above 50% free SiO ₂)	5
Carborundum (silicon carbide)	50	medium (5 to 50% free SiO ₂)	20
Dust (nuisance, no free silica)	50	low (below 5% free SiO ₂)	50
Mica (below 5% free silica)	20	Slate (below 5% free SiO ₂)	50
Portland cement	50	Soapstone (below 5% free SiO ₂)	20
Talc	20	Total dust (below 5% free SiO ₂)	50

Tentative Thresho...

The following values are suggested for further consideration before being presented for adoption as established values. (* marks materials added this year and for which bibliographic material has been prepared. The other materials appeared in last year's report.) It is proposed that the entire list will be presented for adoption at the meeting of the American Conference of Governmental Industrial Hygienists in 1956, if no reason to the contrary is forthcoming.

Aldrin (1, 2, 3, 4, 10, 10-hexachloro-1, 4, 4a, 5, 8, 8a-hexahydro-1, 4, 5, 8-dimethanonaphthalene)	0.25	mg/M ³
Allyl alcohol	5	ppm
Allyl propyl disulfide	2	ppm
Ammate (ammonium amidosulfate)	15	mg/M ³
Benzyl chloride	1	ppm
* Butyl amine	5	ppm
Butyl mercaptan	10	ppm
Calcium arsenate	0.3	mg/M ³
Chlordane (1, 2, 4, 5, 6, 7, 8, 8-octachloro-3a, 4, 7, 7a-tetrahydro-4, 7-methanoindane)	2.0	mg/M ³
* Chlorine trifluoride	0.1	ppm
* Chlorinated diphenyl oxide	0.5	mg/M ³
Crag Herbicide (sodium-2, 4-dichlorophenoxy ethyl sulfate)	15	mg/M ³
2, 4-D(2, 4-dichlorophenoxyacetic acid)	10	mg/M ³
D. D. T. (2, 2-bis-(p-chlorophenyl)-1, 1, 1-trichloroethane)	2.0	mg/M ³
Diacetone alcohol (4-hydroxy-4-methyl pentanone-2)	50	ppm
* Diborane	0.1	ppm
Dieldrin (1, 2, 3, 4, 10, 10-hexachloro-6, 7, epoxy-1, 4, 4a, 5, 6, 7, 8, 8a-octahydro-1, 4, 5, 8-dimethanonaphthalene)	0.25	mg/M ³
* Difluorodibromomethane	100	ppm
Diisobutyl ketone	50	ppm
EPN (ethyl-p-nitrophenyl thiono benzene phosphonate)	0.5	mg/M ³
Ethyl mercaptan	250	ppm
* Ethylene diamine	10	ppm
* Ethylene imine	5	ppm
Ferro vanadium dust	1	ppm
Furfural	5	ppm
* Furfuryl alcohol	200	ppm

Tentative Threshold Limit Values (cont.)

* Hydrazine	1	ppm
* Hydrogen bromide	5	ppm
* Hydrogen peroxide, 90%	1	ppm
* Hydroquinone	2	mg/
* Isopropylamine	5	ppm
Lead arsenate	0.2	mg/
Lindane (hexachlorocyclohexane, gamma isomer)	0.5	mg/
Malathion (0, 0-dimethyl dithio phosphate of diethyl mercaptosuccinate)	15	mg/
Methoxychlor (2, 2, diparamethoxyphenyl-1, 1, 1, trichloroethane)	15	mg/
* Methyl acetylene	1000	ppm
Methyl isobutyl carbinol (methyl amyl alcohol)	25	ppm
Methyl mercaptan	50	ppm
Molybdenum		
* (soluble compounds)	5	mg/
* (insoluble compounds)	15	mg/
p-Nitroaniline	1	ppm
Organo mercurials (as mercury)	0.01	mg/
Perchloromethyl mercaptan	0.1	ppm
Phenylhydrazine	5	ppm
Picric acid	0.1	mg/
* Propylene imine	25	ppm
Pyridine	10	ppm
* Quinone	0.1	ppm
Sodium hydroxide	2	mg/
Sulfur hexafluoride	1000	ppm
Sulfur pentafluoride	0.025	ppm
TEDP (tetraethyl dithiono pyrophosphate)	0.2	mg/
TEPP (tetraethyl pyrophosphate)	0.05	mg/
* p-Tertiary butyl toluene	10	ppm
* Tetrahydrofuran	75	ppm
* Tetranitromethane	1	ppm
Titanium dioxide	15	mg/
* Trifluoromonobromomethane	1000	ppm
Vanadium		
(V ₂ O ₅ dust)	0.5	mg/
(V ₂ O ₅ fume)	0.1	mg/
* Zirconium	5	mg/

Beryllium: During the past few years, several papers have appeared in the literature which report a limit of 2 gamma per cubic meter of air for beryllium. Among these is the paper by Van Ordstrand, H. S.: "Berylliosis," A. M. A. Arch. Ind. Hyg. and Occ. Med. 10, 232, 234 (Sept. 1954), and one by Sterner J. H., and Eisenbud, M. "Epidemiology of Beryllium Intoxication," A. M. A. Arch. Ind. Hyg. and Occ. Med. 4 123-151 (Aug. 1951). Conflicting data from industrial experience has caused the Committee to postpone the suggestion of a Threshold Limit for this material. It is apparent that more epidemiologic work is needed for the establishment of a definite value.

Reference material has been prepared on each of the above substances and, though in some instances rather meager, is available for distribution. The committee would welcome suggestions of substances to be added and also comments, additional references, or reports of experience with these materials.

William L. Ball
L. T. Fairhall
Kingsley Kay
H. E. Stokinger
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July, 1955
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No. 7

Industrial Hygiene Foundation
4400 Fifth Avenue
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INDUSTRIAL HYGIENE DIGEST
Literature and News

NEWS ITEMS

761 At Last! Specialty Certification.

The American Board of Preventive Medicine, accepting as a fait accompli the certification of qualified industrial physicians as specialists, has issued an informative bulletin for the guidance of those who have made application for consideration. The portion of the bulletin descriptive of occupational medicine certification is quoted.

-- Editorial, Ind. Med. & Surg., June 1955

COMING EVENTS

- | | | |
|-----|------------------|---|
| 762 | Aug. 15-18 | Fourth Annual Health Conference, Public Health Association, Penna. Health Council, and Penna. Medical Society, State University, University Park, Pa. |
| | Aug. 15-26 | Noise Reduction, Special Summer Program, Massachusetts Institute of Technology, Cambridge, Mass. |
| | Sept. 11-16 | American Chemical Society, Minneapolis, Minn. |
| | Sept. 12-15 | International College of Surgeons, Convention Hall, Philadelphia, Pa. |
| | Sept. 12-16 | Instrument Society Conference, Los Angeles, Calif. |
| | Sept. 20-26 | World Medical Association, Vienna, Austria. |
| | Sept. 25-29 | International Association of Industrial Accident Boards and Commissions, Chicago, Ill. |
| | Sept. 26-30 | Atomic Industry Trade Fair, Washington, D. C. |
| | Sept. 26-Nov. 18 | Institute of Industrial Medicine, two-months course in Industrial Medicine and Occupational Health, New York University Postgraduate Medical School. |
| | Oct. 13-17 | International Academy of Legal and Social Medicine, Genes, Italy. |
| | Oct. 18 | American Society of Safety Engineers, Chicago, Ill. |
| | Oct. 18-26 | National Safety Council, Chicago, Ill. |
| | Oct. 24-26 | American Standards Association, Washington, D. C. |
| | Oct. 30-Nov. 4 | American College of Surgeons, Chicago, Ill. |

OCCUPATIONAL DISEASE STATISTICS

763 Occupational Disease Statistics.

	Ind. ¹ June 1955	Wisc. ¹ April 1955	Total
Allergy		1	1
Carbon Monoxide Poisoning		3	3
Carbon Tetrachloride Poisoning		1	1
Dermatitis	3*	40	43
Eczema		1	1
Fumes		1	1
Lead Poisoning	1		1
Silico-Tuberculosis	2		2
Skin Infection		8	8
Skin Irritation		6	6
Stomach Trouble (Gas and dust)		1	1
Total	11	62	73

¹ Occupational disease-cases reported to the State Board of Health.

* Alkalies, cement, detergent, plastics, and rubber caused one each; and the cause of three other cases was not stated.

LEGAL DEVELOPMENTS

764 New Legislation.

New legislation and changes since the last announcement (IHF Abst. 625, June 1955) have been reported. In Maine compensation benefits have been increased and special occupational disease compensation has been provided for firemen, effective November 30, 1955. Massachusetts extends coverage to telephone company employees. North Carolina increases compensation benefits and extends compensation to bursitis. Oregon raises permanent and temporary total disability payments and provides compensation for civil defense volunteers. South Carolina increases burial expenses and exempts non-salaried county officials from coverage. -- Cond. from CCH

765 Longshoremen's and Harbor Workers' Compensation Act—Alleged Poisoning by Fumes of Carbon Disulfide—Seaworthiness of Ship—Negligence.

Two longshoremen who were exposed to carbon disulfide fumes in the hold of a ship as they were loading loose grain were denied recovery against the ship and its owners since the court found that the ship was not unseaworthy and the owners were not negligent. The court found that carbon disulfide might be present in grain recently fumigated. However, it was the custom at the port where the incident occurred to give notice if the grain had been recently treated and no notice was given in this case. The court found that the owners, in the exercise of reasonable care, would not have discovered that there was likely to be a dangerous concentration of carbon disulfide in the grain. Therefore, there was no negligence. The court further found that the warranty of seaworthiness does not extend to the condition or ingredients of the cargo. The court held that there was no valid reason to shift the burden from the compensation carrier to the ship. Action dismissed. McMahan v. Steamship Panamolga. United States District Court, District of Maryland, No. 3505. January 20, 1955. -- CCH

766 Common-Law Action—Employee of Subcontractor v. General Contractor—Right of Employee Covered by Missouri Compensation Act to Recover Under the Law of Arkansas Where Injury Occurred—Full Faith and Credit Clause Not Applicable.

A Missouri subcontractor's employee who was injured in Arkansas and who received compensation payments under the Missouri Compensation Act was improperly denied recovery in a common-law action against the prime contractor in Arkansas when the lower court ruled that it must give full faith and credit to the Missouri Compensation Act which barred third-party actions for employees who had been awarded compensation under the Missouri Act. The court ruled that Missouri can make its compensation act exclusive, and enforce it within its borders. Arkansas could displace Missouri's policy with another. The court further ruled that were it otherwise, the state where the injury occurred would be powerless to provide any remedies or safeguards to non-resident employees working within its borders. The full faith and credit clause does not demand that type of subserviency from the state of the injury. Reversed. Carroll v. Lanza, United States Supreme Court, Docket No. 375, October Term, 1954, June 6, 1955. -- CCH

BOOKS, PAMPHLETS AND NOTICES

767 Dust is Dangerous, C. N. Davies, Faber and Faber, Ltd., 24 Russell Square, London W. C. 1, England, 116 pp. (1954), \$3.15.

The book begins with a foreword by Sir George Barnett, H. M. Chief Inspector of Factories, calling attention to some of its prominent features. The author is a well known industrial hygienist. The first chapter deals with the dust hazards of the industrial worker, including toxic dusts, those that cause skin and eye injuries, dental erosion and cancer and especially silica, coal, and asbestos dusts. The various methods of dust sampling are described. Special attention is given to preventive measures, in the order of decreasing importance: (1) avoiding processes that produce dust; (2) suppression of dust at the source; (3) local exhaust of dusty air; (4) general ventilation of the workshop; and (5) personal protection. A chapter deals with radioactive dusts, and another with house and non-industrial dusts. In the final chapter on dust explosions it is emphasized that a very thin uniform layer of fine dust can, if dispersed in the air of a workroom, form a dangerously explosive cloud. If there is any possibility of a dust causing an explo-

sion, the workrooms should be scrupulously clean and free from collections of dust. The book is well illustrated. It is a worth-while contribution to the literature of industrial hygiene. -- FFR

- 768 Symposium on Odor. Presented at the Fifty-Seventh Annual Meeting, American Society for Testing Materials, Chicago, Ill., June 15, 1954. ASTM Special Technical Publication No. 164. 81 pp. (Nov. 1954). Obtainable from the ASTM, 1916 Race St., Philadelphia 3, Pa.

The following papers were presented: "Odor, a Proposal for Some Basic Definitions", by E. Sagarin; "Catalytic Method of Measuring Hydrocarbon Concentrations in Industrial Exhaust Fumes", by R. J. Ruff; "The Design, Construction, and Use of an Odor Test Room", by N. Deininger and R. W. McKinley; "Organoleptic Appraisal of Three-Component Mixtures", by A. H. Gee; "Odor Pollution from the Official's Viewpoint", by C. W. Gruber; and "Odor Control Methods, a Critical Review", by A. Turk, who also presented a brief introduction to the Symposium. Discussion of each of the papers is reported in full. -- FFR

- 769 Workmen's Compensation Problems. Proceedings of 40th Annual Convention of the International Association of Industrial Accident Boards and Commissions, Quebec, Canada, Oct. 3-7, 1954. U. S. Department of Labor, Bureau of Labor Standards, Bull. 180. 238 pp. (1955). For sale by Supt. of Documents, U. S. Govt. Printing Office, Washington, D. C. 65 cents. Limited free supply available from Paul E. Gurske, Director, Bureau of Standards, U. S. Dept. of Labor, Washington 25, D. C.

The program included panels on rehabilitation of injured workers, adequacy of workmen's compensation, noise in industry, and expedition of claims in contested cases. Among the individual papers were: "The Future of Workmen's Compensation", by A. Larson, Under Secretary, U. S. Department of Labor; "Occupational Cancer Hazards", by W. C. Hueper; and "Heart Disease and Employment", by L. J. Goldwater. Reports were given on accident prevention and administration of workmen's compensation in various localities, and a number of reports of committees are included. -- FFR

- 770 Annual Report of the Chief Inspector of Factories for the Year 1952. G. P. Barnett. Ministry of Labor and National Service. 239 pp. (1954). H. M. Stationery Office, London. 6s. 6d.

Plant mechanization has received increasing attention in all types of industry. Less manual handling decreases accidents and fatigue. The general adoption of fluidized processes contributes to the

solution of some dust problems. The increasing use of instruments has developed some safety problems in making them flame-proof and avoiding danger from gas or electrical connections. Problems of exposure to ionizing radiations are discussed. Accidents of various types and origin are discussed extensively and suggestions are given for organization of accident prevention. Problems in heating, ventilating, and dust removal are discussed. Statistics on occupational diseases are presented.

Cond. from Bull. Hyg.

INDUSTRIAL MEDICAL PRACTICE

The growth of official occupational health programs is traced and their current status is described. In spite of limited staffs, the contributions of state and local agencies to the entire field have been extensive. Some unsolved problems are discussed. The Occupational Health Program of the Public Health Service gives assistance to the local organizations, (1) by furnishing a large amount of data that has been collected and (2) by technical consultation, assistance in training personnel, and temporary loan of experts. The second type of service has been dwindling on account of limited budgets, and a third resource, financial support, given for a short time, is no longer existent. The continued operation of these programs depends in large degree on lay and professional support.

Administrative Medicine—Necessary Component of Industrial Health.
The C. O. Sappington Memorial Lecture. E. D. Barnett. Ind. Med.
& Surg. 24, 247-250 (June 1955).

Administrative medicine was first recognized as a specialty three years ago with the establishment of the Institute of Administrative Medicine at Columbia University. The need of administrative medicine in various fields, including industrial medicine, is discussed, and its functions are outlined. The author expresses the hope that there will be an interest in the inclusion of administrative medicine as an essential part of industrial and occupational medicine, and that a high degree of coordination of the occupational health field with the total health problems of the nation can be achieved.

- 773 The American Academy of Compensation Medicine in Workmen's Compensation. A. W. Duryee. Compens. Med. 6, 1-3 (Dec. 1954 - Feb. 1955).

The aims of the American Academy of Compensation Medicine are outlined. The problems of free choice of physician, cardiovascular disease, rehabilitation, and medical ethics are discussed briefly. The Academy advocates: (1) educating the physician, surgeon, student, and intern in better care of the injured worker; (2) obtaining a spirit of co-operation between administrator, lawyer, legislator, and doctor; (3) establishing basic criteria for specific problems; (4) joining with organized medicine to root out bad medical practice; and (5) interest in new developments in these fields.

- 774 Instruction in Occupational Medicine at the Undergraduate Level. Report of the University of Oklahoma Workshop. J. S. Felton. Ind. Med. & Surg. 24, 251-256 (June 1955).

This paper presents the collective opinions of a number of medical educators who attended a conference on instruction in occupational medicine. Fifteen reasons are given why occupational medicine should be taught. Among them are the needs for: a greater knowledge of occupational health problems; correction of erroneous concepts held by students; provision of better medical service to industry; a more skilled assumption of medicolegal responsibilities; furthering both a holistic and a preventive approach to medicine; and the creation of a research service for industry. Other questions discussed were: what subjects should be taught, who does the teaching, and where the teaching should be accomplished, and in what year or years the instruction should be given. A number of valuable suggestions are given under each of these headings.

- 775 Scientific Medicolegal Investigation in the Undergraduate Medical Curriculum. A. R. Moritz. J. Am. Med. Assn. 158, 243-244 (May 15, 1955).

Because of the millions of disabling injuries and the hundreds of thousands of deaths from violent or obscure causes that occur each year in the United States, practitioners of medicine are frequently called upon to supply medical facts and opinions that are essential to the administration of justice and to the enforcement of the law. In general, physicians discharge these responsibilities unwillingly and with a degree of competence that is commensurate with their lack of interest and information about medicolegal problems. In contrast to British and European schools of medicine, little or no provision is made in the undergraduate curriculum of most American schools for consideration of medicolegal problems. It is, therefore, not surprising that medicine serves

justice less effectively in the United States than it does elsewhere in the world. The ultimate responsibility for this situation lies with medical educators.

-- Author's summary

- 776 The Physician and the Law. G. E. Hall. J. Am. Med. Assn. 158, 257-260 (May 28, 1955).

The author gives reasons why the following subjects should be included in a medicolegal curriculum as part of medical education: workmen's compensation, reporting wounds and diseases, keeping of records, narcotic laws, adoption, maintaining an office, giving testimony, artificial insemination, and sterilization. The law schools are teaching lawyers how to utilize to their advantage everything that medicine, and science in general, has to offer them. Medical schools can do no less. Medical graduates and licentiates must be given an adequate background in legal medicine.

- 777 Future of Postgraduate Medical Education. D. D. Vellan. J. Am. Med. Assn. 158, 395-399 (June 4, 1955).

This is the last of a series constituting the report of a Survey of Postgraduate Medical Education by the Council on Medical Education and Hospitals of the American Medical Association. The author says in conclusion: "The future of postgraduate medical education is indeed bright, though it may be necessary to discard much of what exists in order to build anew on solid foundations. The problems are complex. The goal is worthy of the efforts it will require. The challenge will require the wholehearted cooperation of medical educators and practicing physicians."

- 778 Comparative Methods of Artificial Respiration. Study of Living and Dead Subjects with and without Gas Mask. A. S. Gordon, C. W. Frye, R. D. Miller, and G. M. Wyant. U. S. Armed Forces Med. J. 6, 781-793 (June 1955).

Tests on totally apneic, anesthetized-curarized normal adults and warm, nonrigid corpses indicate that all push-pull manual methods of artificial respiration are effective for ventilating casualties wearing a standard M-9 gas mask equipped with an M-11 cannister. The hip-lift back-pressure method creates the greatest intra-mask pressure differential and should be most effective when there is increased airway resistance, such as occurs with bronchoconstriction or excessive airway secretions resulting from anticholinesterase poisoning. If the airway is clear, the back-pressure arm-lift method provides almost as much ventilation and is easier to perform. The Silvester method

(arm-lift chest-pressure) produces as much ventilation and should be used when it is necessary to keep the patient in the supine position. Mouth-to-mouth (or mask-to-mask) insufflations may be effective in ventilating casualties with increased airway resistance. The prone Eve method gives about one half as much ventilation as do the push-pull manual methods. In addition it requires a rocker, either provided or improvised. For resuscitation of many persons by a few operators it may be necessary to fasten together several stretchers for simultaneous rocking by a single operator. Maintenance of a clear airway is of paramount importance for adequate ventilation with any of these methods.

-- Authors' summary

- 779 Resuscitation and Other Methods of Artificial Respiration. J. L. Whittenberger. New Engl. J. Med. 251, 816-820 (Nov. 11, 1954).

The subject of artificial respiration, both in resuscitation and in therapy is reviewed, with emphasis on principles rather than on particular methods. Subjects that have received little study include alveolar ventilation rates, ventilation distribution, diffusion capacity, and ventilation-perfusion relations. The limits of safe pressure levels in the lungs are not precisely known. For several reasons inflation of the lungs is difficult, and in all forms of external respiration, an effective inspiratory phase appears to be of prime importance. Various methods of manual and mechanical respiration are discussed with regard to their efficiency. The circulatory effects of artificial respiration encompass a spectrum from the circulation-promoting action of natural respiration to the potentially severe impairment that may be due to a fluctuating positive-pressure device. In the normal patient the effects on respiration are temporary, but in the impaired patient, deleterious consequences can be minimized by general supportive measures and reduction of the mean mask pressure. The success of any method of artificial respiration is favored by knowledge of the underlying physiologic mechanisms and their interactions with the methods used.

-- Cond. from author's summary (Arch. Ind. Health)

- 780 A Limited Survey of 768 Registered Disabled Persons. V. V. Brown and others. Trans. Assn. Ind. Med. Officers 4, 114-116 (Jan. 1955).

The results of a limited survey of 768 registered disabled persons employed by a (British) steel company are given. It is shown that less than 10% of the disabled were severely handicapped and 45% had only minor or trivial disabilities. It was noted that the accident rate for the disabled was below the average for all workers and their sickness absence was only slightly higher. It is concluded that this group of registered disabled persons are useful members of their working community, but it is pointed out that in our experience the problems associated with the disabled arise more often in connection with those not registered as such.

-- Authors' summary

- 781 Rehabilitation. Marion Pearson. Trans. Assn. Ind. Med. Officers 4, 117-118 (Jan. 1955).

Leading a discussion of rehabilitation by the Yorkshire group of the Association, the author first warned her audience that her views are "a bit unorthodox". The term rehabilitation, as applied to resettlement of the injured, is new, but rehabilitation itself is not. With the exception of the very few who are entirely incapacitated, suitable employment can be found for the man who wants work. The author gives several examples from her own experience. The difficulty is with the man who does not want to work, because: (1) he has a grievance; (2) he is afraid; or (3) he is bone lazy. "Rehabilitation centers, industrial training centers, and industrial rehabilitation units are all bad and should be abolished." True rehabilitation depends, first, on proper treatment with adequate physiotherapy in the beginning, cooperation with the patient, and later cooperation with industry. The later stages must be taken over by industry itself. Observation and assessment of the worker's ability is one of the industrial medical officer's most important duties. If a man with a non-functional disability can be convinced that his disability, though a nuisance, is of no real importance, his rehabilitation is complete. The paper aroused much discussion, some of it in the form of adverse criticism, but a number of cases were cited where rehabilitation could have been more rapid had the industrial medical officer been utilized more fully.

- 782 Trauma and the Psychiatrist. J. R. Adams. Ind. Med. & Surg. 24, 257-260 (June 1955).

Traumatic neurosis is discussed and explained, with a history of a typical case as an illustration. The case history points to important aspects in the management of traumata: (1) even a minor physical ailment may, in a vulnerable personality, be experienced as a considerable threat of stress; (2) there must be awareness of the potential importance of the initial medical contact; (3) the industrial physician must frequently contend with the attitude that he works for the company more than for the patient; (4) such cases touch one of the problem areas in matters of compensation adjudication that must be given full consideration; and (5) although industrial psychiatry is in its infancy, and the psychiatrist cannot be successful in all cases, he can shed some light and broaden understanding, especially in the field of prevention.

- 783 Psychiatry in Industry—Tomorrow. W. R. Peindexter. Ind. Med. & Surg. 24, 261-263 (June 1955).

The industrial psychiatrist fails to achieve his maximum value to the company because he works alone and deals only with individuals.