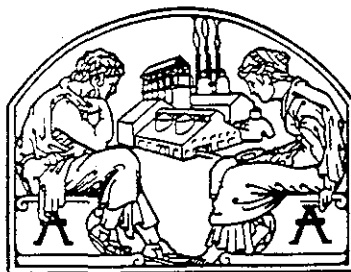


IN RE: ALBRAMTS
November 1992



HHBB-0016227

Industrial Hygiene Digest

INDUSTRIAL HEALTH NEWS

LITERATURE ABSTRACTS

MEDICAL

ENGINEERING

CHEMICAL

TOXICOLOGICAL

LEGAL . . . decisions and trends

OCTOBER, 1955

(Vol. 19, No. 10)

INDUSTRIAL HYGIENE FOUNDATION

MELLON INSTITUTE

4400 FIFTH AVENUE -- PITTSBURGH 13, PA.

03120054





FOUNDATION FACTS

Foundation Facts is a monthly news-letter issued 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

October, 1955

No. 10

HWBB-0016228

CLOSE ASSOCIATE OF FOUNDATION DIES

Carl M. Peterson, M.D., Secretary of the Council on Industrial Health of the American Medical Association, Chicago, died on September 27, 1955 of injuries received a day earlier in the crash of a private plane on a mountainside near Asheville, North Carolina. His untimely death means a great loss to the whole field of industrial health, a loss which will be keenly felt by Industrial Hygiene Foundation, on whose Medical Committee Dr. Peterson had served since 1948.

DR. WALMER PRESENTS PAPER ON AUTOMATION

Dr. Walmer presented a paper on "Worker Welfare in the Era of Automation" at a Special Manufacturing Conference on Automation held by the American Management Association, October 10-12, 1955, New York City.

NEW REPRINTS

Reprints are available upon request for the following technical papers by Foundation staff members:

"Pitfalls in Using Maximum Allowable Concentrations in Air Pollution", by Dr. H. H. Schrenk, Research Director, presented at the Industrial Health Conference, April 27, 1955, Buffalo, N. Y. Published in the American Industrial Hygiene Association Quarterly, September, 1955.

"Index for Evaluating Heat Stress in Terms of Resulting Physiological Strains" by H. S. Belding and T. F. Hatch, published in Heating, Piping & Air Conditioning, August, 1955.

20TH ANNUAL MEETING OF I-H-F

Detailed program information for the Technical Conferences to be held at Mellon Institute on the first day of Industrial Hygiene Foundation's 20th Annual Meeting, November 16, 1955, appears on subsequent pages of the Digest. The General Meeting, outlined in last month's issue of the publication, will take place on November 17. Member companies are urged to send representatives to the Medical, Legal, Engineering, Chemical-Toxicological, Joint Medical-Chemical-Toxicological, and Joint Engineering-Legal Conferences, and to the management session, the General Meeting.

03120056

I-H-F

IN THE ABIRAMIS NOVEMBER 1955

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IN THE AIR: ABRAHAM'S NOVEMBER 1999

CONFERENCE PROGRAMS
20TH ANNUAL MEETING OF INDUSTRIAL HYGIENE FOUNDATION
Mellon Institute, Pittsburgh, Pa.
November 16-17, 1955

Last month's Digest carried detailed information on the General Session of the program, to be held on Thursday, November 17, the second day of I-H-F's 20th Annual Meeting. Following is the program information for the Technical Conferences scheduled for Wednesday, November 16.

CHEMICAL-TOXICOLOGICAL CONFERENCE

Wednesday, November 16, 1955 - 2:00 p.m.

Social Room, Mellon Institute

Chairman: Anna M. Baetjer, Sc.D.
School of Hygiene and Public Health, The Johns Hopkins University
Chairman, Chemical-Toxicological Committee of I-H-F

INDUSTRIAL HYGIENE ASPECTS OF ULTRASONICS

Charles R. Williams, Ph.D.
Director, Industrial Hygiene Services
Liberty Mutual Insurance Company

PRESENT STATUS OF SOME ANALYTICAL METHODS
USED IN INDUSTRIAL HYGIENE

Robert G. Keenan
Chief Spectrochemist
Division of Special Health Services
U. S. Public Health Service

RECENT OBSERVATIONS ON BERYLLIUM DISEASE

G. W. H. Schepers, M.D.
Director
The Saranac Laboratory

Brief Discussions of Miscellaneous Subjects Pertaining to
Toxicology, Environmental Measurements and Methods of Analysis

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IN RE: ALBRAMS
November 1955

MWB-0016230

RESEARCH DEVELOPMENTS AND THEIR APPLICATION
IN THE PREVENTION OF OCCUPATIONAL DISEASE
(A Panel Discussion)

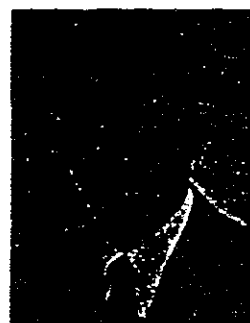
Moderators:

Anna M. Baetjer, Sc.D.
School of Hygiene and Public Health
The Johns Hopkins University
Chairman, Chemical-Toxicological
Committee of I-H-F



Anna M. Baetjer

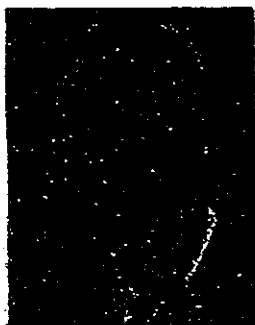
A. G. Kammer, M.D.
Graduate School of Public Health
University of Pittsburgh
Co-Chairman, Medical Committee
of I-H-F



A. G. Kammer

Participants

RESEARCH DEVELOPMENTS BY THE TOXICOLOGIST:



Don D. Irish



Norton Nelson

Don D. Irish, Ph.D.
Biochemical Research Department
The Dow Chemical Company

Norton Nelson, Ph.D.
Director, Institute of Industrial Medicine
New York University-Bellevue Medical Center

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CLINICAL APPLICATIONS BY THE PHYSICIAN



David W. Fassett

David W. Fassett, M.D.
Director, Laboratory of Industrial Medicine
Eastman Kodak Company

Robert M. Watrous, M.D.
Medical Director
and
M. J. McAndrew, M.D.
Assistant Medical Director
Abbott Laboratories

IN THE AFTERNOON
November 16, 1955

MEDICAL CONFERENCE

Wednesday, November 16, 1955 - 2:00 p.m.

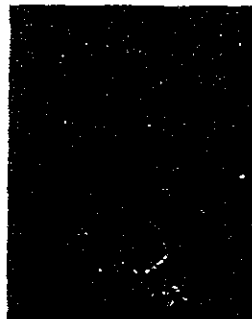
Auditorium, Mellon Institute

Chairman: O. A. Sander, M.D.
Associate in Medicine, Marquette University
Chairman, Medical Committee of I-H-F

MMBB-0016272

MENTAL HEALTH AS A PART OF THE MEDICAL PROGRAM

Christopher Leggo, M.D.
Consultant in Industrial Medicine
Menlo Park, California



Christopher Leggo

THE RELATIONSHIPS BETWEEN THE MEDICAL DEPARTMENT AND MANAGEMENT (A Panel Discussion)

Moderator: O. A. Sander, M.D.

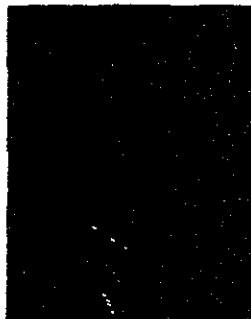


O. A. Sander, M.D.

Medical Views:

Walter G. Vernon, M.D.
Assistant Medical Director
Radio Corporation of America

McIver Woody, M.D.
(Retired) Medical Director
Standard Oil Company (N.J.)



McIver Woody

Management Views:

03120060

Fred Denig
Vice President
Koppers Company, Inc.

George L. Ullom
Manager, Industrial Relations
Titanium Metals Corp. of America



George L. Ullom

Chairman: Theodore C. Waters
Miles & Stockbridge, Baltimore, Md.
Chairman, Legal Committee of I-H-F

ENGINEERING AND LEGAL ASPECTS OF MANAGEMENT'S
RESPONSIBILITY FOR CONTROL OF INDUSTRIAL HAZARDS
(A Panel Discussion)



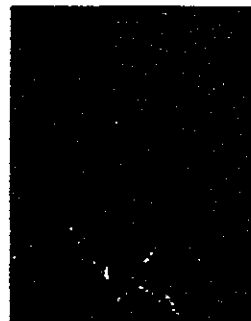
Moderator: J. Dewey Dorsett
General Manager
Association of Casualty and Surety Companies



Glenn Gardiner, M.D.
Medical Director
Inland Steel Company



J. T. Gresh
Assistant Director
Dept. of Personnel Services
American Brake Shoe Company



Wesley C. L. Hemeon
Engineering Director
Industrial Hygiene Foundation



Hugh M. Jackson
Manager
Industrial Health Program
Johns-Manville Corporation



Jerome Pollack
Program Consultant
Social Security Dept.
International Union, UAW-CIO



James J. Reid
South Carolina Industrial
Commission

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IN RE: AIRBORNE November 1955

HWDB-0016233

IN RE: ABRAMS
November 1992

LEGAL CONFERENCE

Wednesday, November 16, 1955 - 9:30 a.m.

Social Room, Mellon Institute

Chairman: William E. Zimmerman
Director of Industrial Relations
Sun Oil Company

WORKMEN'S COMPENSATION LEGISLATIVE REVIEW - 1955

Andrew Kalmykow
Assistant Manager, Casualty Department
Association of Casualty and Surety Companies



FEDERAL EMPLOYERS' LIABILITY ACT AND ITS IMPACT UPON INDUSTRY

Harlan L. Hackbert
Stevenson, Conaghan, Velde and Hackbert
Chicago, Ill.



THE PRESENTATION OF MEDICAL TESTIMONY IN COMPENSATION CASES



Medical Aspects:

Henry H. Kessler, M.D.
Medical Director
Kessler Institute for Rehabilitation



Legal Aspects:

James L. Hill
Legal Department
Ford Motor Company

HWB8-0016234

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Chairman, Wesley C. L. Hemeon
Engineering Director
Industrial Hygiene Foundation

WORK IN EXCESSIVELY HOT ENVIRONMENTS

Lucien Brouha, M.D.
Head, Physiology Division
Haskell Laboratory for Toxicology
and Industrial Medicine
E. I. du Pont de Nemours & Company, Inc.

NOISE - MEASUREMENT AND PERSONAL PROTECTION

Paul Michael, Ph.D.
Research Physicist
Mine Safety Appliances Company

SAFETY IN THE USE OF ISOTOPES

Herman Cember
Graduate School of Public Health
University of Pittsburgh

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Registration at Mellon Institute
Bellefield Street Entrance
8:30 a.m.

IN RE: ABRAMS
November 1992

HHB-0016235

INDUSTRIAL HYGIENE DIGEST
Literature and News

NEWS ITEMS

1169 Course in Air Pollution.

The Institute of Industrial Medicine, New York University Post-Graduate Medical School with the College of Engineering, offers a course in Air Pollution November 28 to December 9, 1955. The program includes lectures on various aspects of air pollution control by experts in the field. Tuition is \$60. For application address Office of the Dean, Post-Graduate Medical School, 550 First Ave., New York 16, N. Y.

1170 Hygienic Guide Series.

The American Industrial Hygiene Association Quarterly announces the publication of a series of information bulletins, called Hygienic Guides. Each Guide gives information on: (1) maximum allowable concentration for short and long term exposures; (2) significant chemical and physical properties; (3) major uses; (4) evaluation of exposures; (5) engineering control procedures; (6) medical control procedures; and (7) references to the literature. Five of these guides will be published in each issue of the quarterly. They will also be made available in single sheet reprint form. The Guides included in the September, 1955, issue of the Quarterly which are now available include acetaldehyde, cadmium, carbon tetrachloride, butyl alcohol (n-butanol), and amyl acetate. The Guide Sheets may be obtained from the American Industrial Hygiene Association, 14125 Prevoist, Detroit 27, Michigan, at 25 cents each. All orders for less than \$2.00 must be prepaid.

1171 Temporary Disability Insurance Program.

A proposal for a system of temporary disability insurance for workers in the District of Columbia is stirring up interest, critical as well as favorable. Under the plan, all occupations and all fields would be covered on a compulsory basis, except for domestic service in homes, casual employment, and employment for any government, foreign or domestic. Benefits would be half the individual's average wage, with prescribed maximum and minimum benefits and time-limits. The cost would be shared jointly by employer and employee, but the charge against employees could not exceed 0.5% of earnings. The employer would have a choice in methods for handling his liability. The operation would be handled by the District of Columbia Unemployment Compensation Board. -- J. Am. Med. Assn.

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COMING EVENTS

- | | | |
|------|----------------|---|
| 1172 | Oct. -Jan. | American Management Association Workshop and Orientation Seminars, mostly New York. |
| | Nov. 7-11 | Postgraduate Course on the Lead Problem in Industry, Kettering Laboratory, University of Cincinnati, Cincinnati, O. |
| | Nov. 13 | Association of Teachers of Preventive Medicine, University of Kansas Medical Center, Kansas City, Kansas. |
| | Nov. 13-18 | American Society of Mechanical Engineers, Annual meeting, Chicago, Ill. |
| | Nov. 13-20 | Third American Congress on Industrial Medicine, Caracas, Venezuela. |
| | Nov. 14-17 | International Automation Exposition, Chicago, Ill. |
| | Nov. 14-18 | American Public Health Association, Kansas City, Mo. |
| | Nov. 15 | Third Industrial Noise Conference, Associated Industries of New York State, Buffalo, N. Y. |
| | Nov. 21-Feb. 3 | Short Course in Occupational Medicine, Graduate School of Public Health, University of Pittsburgh. |
| | Nov. 27-30 | American Institute of Chemical Engineers, Annual meeting, Detroit, Mich. |
| | Nov. 28-Dec. 1 | Ninth Exposition of Air Conditioning and Refrigeration Industry, Atlantic City, N. J. |
| | Nov. 28-Dec. 9 | Course in Air Pollution, Institute of Industrial Medicine, New York, N. Y. (see news item). |

- Nov. 29-Dec. 2 American Medical Association, Clinical Meeting,
Boston, Mass.
- Dec. 1-3 American Society of Refrigerating Engineers, Annual
meeting, New York, N. Y.
- Dec. 5-7 Chemical Specialty Manufacturers Association, Annual
meeting, Rochester, N. Y.
- Dec. 5-9 Exposition of Chemical Industries, Philadelphia, Pa.
- Dec. 10-16 Atomic Exposition, American Institute of Chemical
Engineers, Detroit, Mich.
- Dec. 10-17 Nuclear Congress and Atomic Exposition, and Nuclear
Engineering and Science Congress, New York, N. Y.
- Dec. 12-16 Nuclear Engineering and Science Congress, Cleveland, O.
- Dec. 15-17 Acoustical Society of America, Semiannual meeting,
Providence, R. I.
- 1956
- Jan. 9-20 Course on Introduction to Radiological Safety,
Institute of Industrial Medicine, New York, N. Y.
- Jan. 23-25 American Society of Heating and Air Conditioning
Engineers, Annual meeting, Cincinnati, O.

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OCCUPATIONAL DISEASE STATISTICS

1173 Occupational Disease Statistics.

	<u>Ind. 1 Sept. 1955</u>	<u>Total</u>
Dermatitis	8*	8
Silicosis	<u>1</u>	<u>1</u>
Total	9	9

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

* Rubber gloves, sulfur, synthetic glue, and water glass caused one each; petroleum oil and the cause of two other cases was not stated.

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LEGAL DEVELOPMENTS

1174 New Legislation.

In California many benefits have been increased, including maximum total payment in temporary disability cases, minimum and maximum average weekly earnings in case of disability, and maximum death benefits. Another provision prescribes compensation for second injuries resulting in additional disability. Connecticut increases the period of death payments. Delaware increases total disability payments and changes time of notice and claim. In Florida the time within which a claim must be filed has been extended to three years, and permanent total disability compensation will be paid during the continuance of the disability. In Ohio minimum and maximum weekly payments and maximum total payments for permanent and temporary disability have been increased. Maximum and minimum death benefits are also increased. The period of payment for permanent partial disability has been changed.

-- Cond. from CCH

1175 Aggravation of Unhealed Wrist Fracture—Occupational Disease.

Compensation was properly awarded to an employee, who had fractured his wrist while working for a prior employer, for disability resulting from an aggravation due to the fact that the bone had not healed properly. The award was against both the prior and present employers although the present employer argued that the present disability was unrelated to the prior injury. The court found that there was sufficient evidence of aggravation and upheld the finding of an occupational disease since it was found that the employee suffered an aggravation of his condition due to his employment as a steam fitter. Affirmed. Walling v. H. J. Bareham & Son. New York Supreme Court, Appellate Division, Third Judicial Department. No. 14-14. February 3, 1955. -- CCH

1176 Silicosis—Reopened Claim—Letter Constituting Application to Reopen.

The reopening of a silicosis claim to consider the benefits payable by the special fund under a new statute, which provided for reopening claims within three years from the date of the last payment of compensation, did not constitute a reopening for the purpose of enlarging the

original carrier's liability; and an application to reopen the claim generally, although it might be informal (by letter) must contain facts from which "it may reasonably be inferred that it is an application to reopen." The court did not consider that the letters from the claimant's wife within the three-year period after the last payment of compensation could reasonably be treated as an application to reopen the case generally within the three-year period to enlarge the liability of the original carrier. Award reversed. Mazza v. Frontier Bronze Corp. New York Supreme Court, Appellate Division, Third Judicial Department. No. 64-4. May 11, 1955. -- CCH

1177 Statute of Limitations.

An employee's claim for compensation for an occupational disease was properly denied because the two year limitation period prescribed by the statute of limitations had run. The employee brought an action against one employer and on appeal the court ruled that the employer was not the employer "in whose employment the employee was last injuriously exposed to the hazards of the occupational disease." The employee then filed an amendment to his original claim by adding two more employer's names. The amended claim was filed some two and one-half years after the employee had been last injuriously exposed to the hazards of the occupational disease. The Supreme Court concluded that the two employers could properly plead the statute of limitations and that the statute was not tolled during pendency of the appellate proceedings instituted by the first employer to attack the award which was originally made in favor of the employee and later reversed on appeal. As a result, the employee's petition for writ of certiorari was denied. McLean v. Mundy. Florida Supreme Court. No. 26,277. June 22, 1955. -- CCH

1178 Occupational Disease—Pulmonary Berylliosis—Employment Relationship—Employer or Employee.

A corporate officer was entitled to compensation for contracting pulmonary berylliosis even though there was no proof that the disease was contracted within twelve months of the date of disablement, where the commission properly found that berylliosis was "contracted" within the meaning of the statute when it first manifests itself so as to interfere with the functions of the body. The court further held that the claimant, a corporate executive officer, although owning all the stock of the employer corporation was nevertheless covered by the workmen's compensation act. The fundamental purpose of the workmen's compensation act was to provide compensation to workmen injured by accident while performing their work. Claimant was a workman who was skilled and who put in 50% of his time in that capacity. The fact that he was president of the

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corporation and that he acted in a managerial capacity part of the time, did not exclude him from classification as an employee. Affirmed. Corcoran v. P. G. Corcoran Co. Minnesota Supreme Court. No. 36,462. July 15, 1955. -- CCH

BOOKS, PAMPHLETS AND NOTICES

- 1179 The Diseases of Occupations. Donald Hunter. Little, Brown & Co., 34 Beacon St., Boston 6, Mass. 1045 pp. (1955). \$20.00.

This book, by a well known British physician who has given much study to occupational diseases, sets a new pattern in books on the subject. Much more attention is given to cultural aspects of man in relation to occupational diseases, and to treatment and management of the patient, than in most books in this field. The first four chapters, comprising nearly 200 pages, constitute a history of industrial diseases from the earliest times. This history includes the rise of modern industry, medical progress, and social reforms, especially in Great Britain, and the impact of each of those factors on occupational disease. These chapters are entitled: "Man and His Work"; "The Industrial Revolution 1760-1830"; "Social Reforms in the Nineteenth Century"; and "Health of the Worker in the Twentieth Century". They make very interesting reading; it is difficult to picture at the present the appalling conditions which continued even into the nineteenth century. The remainder of the volume is concerned with particular diseases and the hazards involved in the use of various materials: the metals, the aromatic and aliphatic carbon compounds, noxious gases, infections, skin diseases, diseases due to physical agents, the pneumoconioses, and accidents.

In the individual chapters, the historical approach is often used. While preventive measures and diagnosis are not neglected in the discussion, greatest emphasis is placed on treatment and management of the patient. The book is valuable both as a textbook for students and as an aid to the clinician and the industrial hygienists; and, moreover, the subjects are presented in a scholarly and interesting style. -- FFR

- 1180 Problems and Control of Air-Pollution. Frederick S. Mallette, editor. Reinhold Publishing Corporation, 430 Park Ave., New York 22, N. Y. 272 pp. (1955). \$7.50.

This book presents the proceedings of the First International Congress on Air-Pollution, held in March, 1955 under the sponsorship

of the American Society of Mechanical Engineers. It includes 24 papers by authorities on the subject under the following headings: "Gaps in the Available Knowledge on Air Pollution"; "Current Developments in Air Pollution"; "Sulfur Dioxide—Treatment and Recovery"; and "Experience in Air Pollution Abroad". Two general papers entitled "Growth of Public Opinion and Management Aspects of Air Pollution" are also included. Taken together, the papers afford a comprehensive survey of the present state of air pollution control and will be of value to management, technical personnel, civic groups, municipal officials, and others concerned with the medical, biological, and meteorological aspects of air pollution. The chapters on treatment and recovery of sulfur dioxide will prove especially interesting to those concerned.

-- FFR

- 1181 Annual Report for 1954, Federal Civil Defense Administration. 268 pp. (1955). For sale by Supt. of Documents, U. S. Government Printing Office, Washington 25, D. C. Price 75 cents.

Progress is reported in civil defense, research, and development during the year, in civil defense in peacetime disaster operations, in systems of warning and communications, education and information, and the various types of services provided.

-- FFR

- 1182 Digest of One-Hundred Selected Health and Insurance Plans under Collective Bargaining, 1954. Bulletin No. 1180. U. S. Dept. Labor, Bureau of Labor Statistics. 208 pp. (June 1955). For sale by Supt. of Documents, U. S. Government Printing Office, Washington 25, D. C. Price \$1.00.

By the end of 1954, more than 11,500,000 workers were estimated to be covered by health and insurance plans under collective bargaining. This report describes the principal features of 100 selected health and insurance plans in effect in 1954. The number of workers covered by these plans ranges from about 1000 to several hundred thousand. The selected plans are not presented as typical or model plans, but were chosen because they covered large numbers of workers in major industries, or because they illustrated different approaches to health and insurance coverage, or because of public interest. State temporary disability laws which affect some of the plans are summarized in an appendix.

-- FFR

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INDUSTRIAL MEDICAL PRACTICE

- 1183 Early Diagnosis, the Industrial Physician's Duty and Opportunity.
J. T. Beardwood, Jr. Proc. 7th Ann. Mtg. Am. Acad. Occ. Med.
pp. 24-29 (1955).

The author first traces the history of the periodic health examination, beginning with the first suggestion of its value in 1861. The enthusiasm for the periodic health examination in the late 1920's subsided on account of lack of time on the doctor's part and lack of education of the public in the advantages of preventive medicine. Within the last two decades, however, the financial and industrial values of the program have come to be realized. These examinations should be carefully conducted; multiphasic screening has not proved generally successful. Among the conditions to which attention should be especially given are obesity, early arteriosclerotic-renal changes, hypertension, diabetes, and malignancy. The importance of the detection of each of these diseases is discussed. The advantages of pre-employment examinations are discussed briefly.

- 1184 Modern Medical Care for the Reduction of Absenteeism in Industry. A Challenge to Free Enterprise. J. A. Langbord. Proc. 7th Ann. Mtg. Am. Acad. Occ. Med. pp. 78-82 (1955).

The work of the Sidney Hillman Medical Center as an example of health service for an industry with many small companies is described. Among the subjects discussed are functional procedure, quality and scope of service, medical records, educational program, rehabilitation, research, public health services, and budget.

- 1185 Small Plant Medical Services. M. L. Amdur. Proc. 7th Ann. Mtg. Am. Acad. Occ. Med. pp. 59-69 (1955).

The author discusses the work of the part-time industrial physician and some of the difficulties involved, with special reference to the Buffalo Industrial Medical Center. Typical forms and procedures are described. The physician in small plant practice has many of the duties of the industrial toxicologist, hygienist, chemist, or engineer, imposed upon him, and it becomes part of good service to acquire some proficiency in those fields. In conducting these additional services, a physician does not forsake the practice of clinical medicine, but actually finds his capacity enhanced.

- 1186 The Agency Concept of Industrial Medical Practice. I. R. Tabershaw and E. Sheckman. Proc. 7th Ann. Mtg. Am. Acad. Occ. Med. pp. 70-72 (1955).

The idea of group service in general or in industrial medicine is not new, but the authors propose the concept of an agency similar to other professional groups such as lawyers and accountants. The general characteristics of such a group include: (1) ability to provide ancillary services; (2) flexibility; (3) ability to provide qualified specialized skills; (4) objectivity; and (5) liaison between the agency and the company it serves. A medical agency would consist of industrial physicians in group service through an "account physician" on a retainer basis. It would be made up only of physicians qualified as industrial medical administrators, hygienists, or occupational physicians. The group would not provide fee for service except in unusual cases. The services would include planning and programming, physical examination, environmental control, and the other functions of an industrial medical department. In the authors' opinion, this type of practice answers more fully than any other type extant, the needs of both industries and the physician.

- 1187 The Emotional, Social, and Occupational Aspects of Disablement. E. D. Wittkower. Can. Med. Assn. J. 73, 371-375 (Sept. 1, 1955).

The evidence presented suggests that the emotional disabilities of the severely disabled are considerable. For the uninformed their rehabilitation is merely a surgical, medical, and financial matter, but the informed have long known that the working capacity and social readaptation of the disabled do not depend exclusively on their physical condition. While great strides have been made in many aspects of the aftercare of the disabled, it is felt that the psychological aspect has so far received insufficient attention. The physical handicaps of monocular persons are negligible. Physical handicaps apart, the difficulties are predominantly emotional in the one-eyed, social in the blinded, and occupational in the limbless. Tuberculous individuals encounter considerable difficulties in all three spheres. -- Author's summary

- 1188 The Responsibilities of the Medical Profession in Workmen's Compensation Cases. P. R. Hawley. Compens. Med. 7, 1-5 (Mar.-May 1955).

Workmen's compensation, as a social measure, is almost fifty years old. The medical profession was ignored in the drafting of the earlier laws, and no one seemed to be concerned with the rehabilitation of the injured worker. Admittedly the medical profession had little to offer. Organized labor, also, was not consulted. A Subcommittee on Industrial Relations was appointed by the American College of Surgeons to study compensations. The Principles adopted by the Subcommittee, pertaining to the medical aspects of industrial injuries, are summarized (see IHF Abst. 1024, Aug. 1955). The Principle

that calls for panels of "impartial medically qualified experts" is discussed extensively. A serious abuse of the present system is the appearance in court or before boards, of "medical experts" of questionable integrity, testifying for either the employer or the employee. A relatively small number of doctors present most compensation cases, and of this small number a large proportion are unethical and unqualified. It is the responsibility of the medical profession to enforce ethical standards covering compensation cases. That is not being done.

- 1189 Engineering Data Book, Preventive Medical and Occupational Health Program. SAC Tech. Pam. 160-2, Headquarters Strategic Air Command, Offutt Air Force Base, Omaha, Nebraska. 75 pp. loose-leaf, (Feb. 1955). Also Change 1 (Supplement) to above Pamphlet, pp. 76-117 (Mar. 1955).

This pamphlet is intended to provide information on program objectives, available references, and general data on occupational health, to engineers of the medical service and to others concerned. The material and references include a wide range of occupational health subjects. In the section on recommended limitations for airborne noise aboard ship are tables showing: (1) limits for deafness-avoidance and comfort; (2) maximum permissible speech interference levels; and in the section on temperature and ventilation, a table of necessary ventilation rates. A few of the other subjects are: materials causing skin irritation; materials toxic through skin absorption; materials toxic if swallowed; illumination; use of color; fatigue; sanitation; and insect and rodent control.

- 1190 Electromyography in Industrial Medicine. F. J. Bonner. Proc. 7th Ann. Mtg. Am. Acad. Occ. Med. pp. 8-13 (1955).

The principles of electromyography are described, and its possible uses in industrial medicine are discussed. Its advantages in herniated disc evaluation are outlined. Other conditions in which this method is of value include: shoulder weakness and shoulder pain, "whip-cord lesions" nerve injuries, pressure phenomena, and neuritis.

- 1191 Ballistocardiography in Industrial Medicine. E. W. Bixby, Jr. Proc. 7th Ann. Mtg. Am. Acad. Occ. Med. pp. 14-16 (1955).

The author describes a ballistocardiogram and explains how it is obtained. He emphasizes that the ballistocardiogram is the only test which gives a direct reflection of myocardial strength.

- 1192 Employment of Persons under Active Psychiatric Care. B. Behrend. Proc. 7th Ann. Mtg. Am. Acad. Occ. Med. pp. 42-48 (1955).

A number of papers that are reviewed agree that persons suffering from emotional disturbances can be employed, with some exceptions, provided they are given proper care and supervision. The parts that the industrial physician, the worker himself, the unions, the nurse, and management can play in the management of such cases is discussed. Nine case histories, varying in the type and extent of emotional disturbance, are presented. In some of these cases a cure was established, and in others the final outcome is uncertain. For a successful program the industrial physician must use every faculty at his command, in conjunction with patience, tact, diplomacy, and a genuine interest in his psychiatric patients.

- 1193 Training for Industrial Psychiatry. T. Burling and W. Longaker. Am. J. Psychiat. 111, 493-496 (Jan. 1955).

The demand for industrial psychiatrists, although limited, far outruns the supply, and the more is toward greater and greater use of psychiatrists in industry. A number of suggestions are made for courses and field work in the education of industrial psychiatrists in order to give them adequate training. Industrial psychiatry is preventive psychiatry, and therefore a broad knowledge of industrial organization is necessary.

- 1194 Some Aspects of Hypertension in Industry. C. A. D'Alonzo. Proc. 7th Ann. Mtg. Am. Acad. Occ. Med. pp. 30-41 (1955).

Statistics on hypertension are presented, based on a study of some 500,000 medical records of Du Pont employees over a period of 13 years. The principal object of the study was to learn, if possible, how hypertension can be detected in its incipient stages and how it can be prevented. Employees in the New York sales office had the highest prevalence of hypertension, and, those of a small explosive plant, who were carefully screened, had no hypertension. The incidence of hypertension increases gradually with age after age 30, while that of heart disease shows a definite break at age 45-50, much more pronounced in 1953 than in 1940. The incidence of hypertension among these employees is lower at all ages than in several other studies that have been made. Correlation was found between hypertension and each of the following: enlarged thyroid, fundus abnormalities, cardiac enlargement, albuminuria, obesity, elevated pulse rate, high diastolic readings, arcus senilis, and heart abnormalities. No relation was evident between hypertension and smoking, drinking, allergies, streptococcic throat, renal diseases, disease problems, emotional problems, and diet. The study confirmed the fact that family history is the most important factor in predicting hypertension.

Charts are presented and each of the points mentioned is discussed. A study of hypertension among executives as compared with all employees is described. The goal of predicting and preventing hypertension is not attained by this study, but the way is pointed to future investigations.

- 1195 A Rational Approach of Physical Medicine and Rehabilitation in the Low Back Problem. O. Fliegel and S. G. Feuer. Compens. Med. 7, 8-15 (Mar. -May 1955).

Physical therapy and rehabilitation procedures have a definite place in the treatment plan of the painful low back of various origins. An outline of the major causes of backache is presented and a comprehensive description of physical medicine and rehabilitation procedures, with detailed description of some special measures, is given. The causes of some failures and abuses are discussed.

-- Cond. from authors' conclusions

- 1196 Occupational Health on Wheels. Anon. Ind. Med. & Surg. 24, 383-391 (Sept. 1955).

An innovation in the facilities for the furnishing of periodic physical examination in industry has been portrayed. This new departure centers about the provision of services through mobile units traveling to employment premises. The program, the practices, and the facilities are described, and the scope and direction of the medical and economic future of the enterprise are indicated. -- Author's summary

- 1197 Legal Aspects of Nursing as Applied to the Workmen's Compensation Law. E. Bryant. (Condensed) Nursing World 129, 24-25 (Sept. 1955).

An industrial nurse should have at least a working knowledge of the Workmen's Compensation Laws. Her duties in handling a compensation case include: establishing confidence, taking a clear and accurate history, checking the pre-employment record, and making reports. Any dilemmas should be shifted to the doctor, personnel director, adjuster or attorney. The following "do not's" should be observed: try to interpret the law; make commitments to employees; discuss a case with the employee; try to diagnose the case; try to decide when an employee is able to return to work; give credence to gossip; authorize medical treatment; authorize hospital bills; waive the one-year limitation; or treat disputed cases. If a nurse sees situations recurring, or sees any way in which a particular accident could have been prevented, she should bring it to the attention of the overseer or personnel director.

- 1198 The Army Aviation Medicine Program. S. H. Neel. U. S. Armed Forces Med. J. 6, 1341-1348 (Sept. 1955).

The need for an Army aviation medicine program is stressed, and the program established by the Surgeon General is described. The current primary objective of the Army aviation program is the development of an effective organization for its implementation in the field. Aviation medical officers should be authorized to wear distinctive insignia on completion of certain qualifying experience and on designation by the Surgeon General. Additional flying pay for Army aviation medical officers should be contingent upon actual duties performed and should be the prerogative of the major commanders in the field. The Army Medical Service must keep pace with the rapidly growing Army aviation program. -- Cond. from author's conclusions

- 1199 A Pilot-Model Industrial Dental Program. H. K. Brown and H. R. MacLaren. Occ. Health Rev. (Canada) 6, 2-7, 32 (Mar. 1955).

A preventive dental service, set up in pilot-model form, is described. Industrial dental services are taking on the same type of preventive aspect as that assumed by general industrial health services. The advantages of the program and the qualifications of the industrial dentist are discussed. A dental service should be closely coordinated with an industrial health service but should not be subordinate to that service.

SKIN DISEASES AND BURNS

- 1200 Cutting Oils and Squamous-Cell Carcinoma. Part 1. Incidence in a Plant with Report of Six Cases. E. Mastromatteo. Brit. J. Ind. Med. 12, 240-243 (July 1955).

Six histologically verified cases of squamous-cell carcinoma and one of papilloma in workers of a single machine-operating plant are reported. Three of these cases had four new occurrences of squamous-cell carcinoma. The average period of exposure for five of the six cases was 21 years. Automatic machine workers, who comprised about 5% of the machine operators, constituted five of the six cases. The exposed

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skin of the hand and forearm constituted five of the cases. Two of the cutting oils in use were tested experimentally for their carcinogenic effect (see next abstract). -- Cond. from author's summary

- 1201 Cutting Oils and Squamous-Cell Carcinoma. Part 2. An Experimental Study of the Carcinogenicity of Two Types of Cutting Oils. J. P. W. Gilman and S. D. Vesselinovitch. *Brit. J. Ind. Med.* 12, 244-248 (July 1955).

A soluble cutting fluid (oil-in-water emulsion) used in industry has been shown to be carcinogenic to three different strains of mice. The response of test groups to a standard skin painting technique varied with the strain used from 19 to 61% tumors after 310 days' exposure. Results were comparatively constant in two repeated trials. The chief effect of dilution of the oils is the lengthening of the induction period. Results of tests using a straight cutting oil suggest that this type may also be carcinogenic to the mouse. -- Cond. from authors' summary

- 1202 Contact Dermatitis Encountered in the Production of Epoxy Resins. L. E. Savitt. *Arch. Dermatol.* 71, 212-213 (Feb. 1955).

Epoxy resins are being used with increasing frequency, particularly in the aircraft and electrical industries. The major raw materials are epichlorhydrin and bisphenol A. Uncured epoxy resins are viscous amber-colored liquids. In the curing process the resins are warmed to 55°C and amines are added as catalysts to harden them. The process takes 1 1/2 to 24 hours. During the process workers come in contact with the resins while pouring from one container to another. Contact with the resins causes dermatitis on exposed areas especially the eyelids, then the hands and face. Redness appears, then edema, and vesiculation with weeping, crusting, and scaling. If the amines are inhaled, asthma-like reactions may follow. Prevention consists in avoidance of contact, use of protective clothing and creams, sanitation, and adequate ventilation. Rules for first aid should be posted in the factory. -- Cond. from author's summary and *Bull. Hyg.*

- 1203 Contact Dermatitis from Platinum and Related Metals. Report of a Case. C. Sheard, Jr. *Arch. Dermatol.* 71, 357-360 (Mar. 1955).

A case of contact dermatitis due to platinum and related metals is here reported. This metal has heretofore been considered incapable of causing dermatitis in the metallic form, though it has caused dermatitis and even asthma in the form of more complex salts. Some features of the cleaning and repairing of rings by jewelers are discussed, and the results of patch tests to platinum and related metals are recorded.

-- Author's summary

- 1204 A Laboratory Evaluation of Silicone Skin-Protective Preparations. C. R. Denton, D. J. Birmingham, and V. B. Perone. Arch. Dermatol. 72, 7-12 (July 1955).

Six commercial silicone-containing skin protectives, two silicone oils, two industrial silicone greases, white petrolatum, and ten commercial non-silicone-containing preparations were tested as barrier agents against a variety of challenging liquids by a laboratory method. Two of the silicone ointments and the two silicone greases were found to be very effective, but the silicone oils gave poor protection. The non-silicone protectives were in some instances better than the commercial silicone ointments, but in over-all barrier action the two superior silicone ointments outperformed the non-silicone ointments. White petrolatum, U.S.P. grade, was as good a barrier ointment as the best silicone and non-silicone ointments used in the study. The materials that did not show good protective action in the laboratory tests would not be expected to give good results in clinical trials.

-- Cond. from authors' summary

- 1205 The Present Status of Silicone Protective Creams. R. R. Suskind. Ind. Med. & Surg. 24, 413-416 (Sept. 1955).

A report on the effectiveness of one silicone protective cream has been previously presented (IHF Abst. 381, Apr. 1954). Laboratory and clinical tests on that and three other silicone creams agreed in showing that the first preparation and one other give good protection against a variety of liquids. The other two, one of which contains only 2%, were found much less effective. None of the creams is effective against low-boiling petroleum fractions or chlorinated hydrocarbon solvents. Hindrances to wider acceptance of silicone creams include higher cost and unfavorable experience with the less effective creams.

- 1206 Silicones in Prophylaxis and Therapy of Industrial Dermatoses. H. Jarnecke. Deut. med. Wochschr. 80, 755-756 (May 13, 1955). German.

The constitution and protective action of silicones are discussed. The effect of the pure silicone oil on the skin was tested in 52 persons, and none of them suffered any damage to the skin, although some showed a positive reaction to a simultaneously performed soap test, suggesting a general hypersensitivity of the skin. A silicone protective ointment was then applied to the skin of 148 workers with industrial dermatoses. The eczematous lesions healed, and new skin irritations no longer occurred. Therapeutic failures were observed in only five of the 148 patients.

-- Cond. from J. Am. Med. Assn.

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- 1207 Silica Granuloma of the Skin. E. Epstein. Arch. Dermatol. 71, 24-35 (Jan. 1955).

A case of a patient suffering from silica granuloma 12 years after an automobile accident is presented. This case is unique, inasmuch as it is the first definitely due to glass and the first such instance responding to cortisone therapy. The importance of the solubility of glass, sand, pottery, and other silicon-containing products in the pathogenesis of such lesions is advanced. It is suggested that Schaumann bodies are a means of engulfing and excreting silica.

-- Cond. from author's summary

- 1208 Occupational Dermatitis. Queries & Minor Notes, J. Am. Med. Assn. 159, 154 (Sept. 10, 1955).

The query concerns several patients who have worked with metals and have dermatitis on their hands when they come in contact with magnesium. The nature of the work and what other metals are handled are not stated. The reply states that if magnesium founding was the work in question, dermatitis might readily arise not from the magnesium itself (apart from heat burns) but from the ammonium bifluoride or other fluorides put into the mold. In machining operations dermatitis might arise from cutting oils. Among the metals not mentioned, nickel is known as a source of allergic dermatitis. Magnesium slivers embedded in the skin cause subcutaneous gas tumors, but otherwise cause neither contact nor allergic dermatitis.

CHEMICAL HAZARDS

- 1209 Carbon Monoxide Asphyxia. W. D. Claudy. U. S. Armed Forces Med. J. 6, 1315-1328 (Sept. 1955).

The hazards of carbon monoxide poisoning are of particular interest to the military physician, as it may be encountered on almost any military installation. This article reviews the pathologic physiology and clinical picture of carbon monoxide poisoning and the sources and concentrations of the gas evolved under various conditions. In the treatment of carbon monoxide asphyxia it is emphasized that the inhalation of 100% oxygen, supplemented whenever indicated by artificial respiration of the push-and-pull type or by properly operated and approved

resuscitators, is the sheet anchor of adequate therapy. Individual protection by various types of masks is considered and the advantages and disadvantages of each type are presented. The problems of late effects of carbon monoxide asphyxia are discussed and the principles of establishing a justifiable disability claim are set forth.

-- Cond. from author's summary

- 1210 Muscle Necrosis Associated with Carbon Monoxide Poisoning. L. S. Mautner. Arch. Pathol. 60, 136-138 (Aug. 1955).

A case of muscle necrosis in the pectoral region occurring in a young man who attempted suicide by carbon monoxide poisoning is described, and the pertaining literature is briefly discussed.

-- Author's summary

- 1211 Substitutes for and Adjuncts to Atropine in Nerve Gas Poisoning. J. H. Wills. U. S. Armed Forces Med. J. 6, 1329-1333 (Sept. 1955).

At present no treatment other than large doses of atropine, careful cleaning of the airway, and effective artificial respiration can be recommended for treatment of severe nerve gas poisoning. The possibilities that adjuncts to increase the effectiveness of atropine and that specific antagonists to nerve gas can be found appear to be good, but further research on animals and man is required before definite recommendations can be made.

-- Author's summary

- 1212 Test of Chronic Toxicity of Iodine as Related to the Purification of Water. D. P. Morgan and R. J. Karpen. U. S. Armed Forces Med. J. 4, 725-728 (1953).

In the light of the favorable properties of tetraglycine hydroperiodide when used for water purification, an extended field test was carried out on a group of people in an area of constant high temperature and humidity where all the water consumed contained iodine. The average per man per day dose of iodine was estimated at 12 mg. during the first 16 weeks and at 19.2 mg. during the last ten weeks. The taste of the iodine-treated water which was at first objectionable to most of the personnel was only offensive to a few after a period of exposure. The compiled data did not reveal evidence of weight loss, failure of vision, cardiovascular damage, altered thyroid activity, anemia, bone marrow depression, or renal irritation among the personnel. Furthermore, consumption of the iodine-treated water did not result in an unusual incidence of any form of skin disease or in sensitization to iodine.

-- Iodine Absts. & Revs.

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- 1213 The Disability Found in Persons Exposed to Certain Beryllium Compounds. Harriet L. Hardy. Arch. Ind. Health 12, 174-181 (Aug. 1955).

The author briefly reviews numerous papers which confirm the existence of a disease caused by exposure to certain beryllium compounds and refute the contrary opinion held by a minority. A tentative classification including six degrees of chronic beryllium disease is presented, varying from no disability to total disability, and a seventh class includes cases in which recovery has been made. A typical case is presented to illustrate each category.

- 1214 Emphysema and Proteinuria in Men Casting Copper-Cadmium Alloys. J. A. Bonnell. Brit. J. Ind. Med. 12, 181-195 (July 1955).

An investigation of men employed at two copper-cadmium alloy factories in England is reported. Five cases of chronic cadmium poisoning, including the necropsy findings in one fatal case, are described. The findings in 18 other cases are summarized. Chronic cadmium poisoning is characterized by: (1) the development of emphysema, and (2) renal disease accompanied by urinary excretion of a protein with a molecular weight of 20,000 to 30,000. Both these diseases are distinguishable from the common types with other causes. Emphysema and proteinuria may both be present or may occur separately in a particular case. Cadmium was found in the urine in 62 of 83 cases studied, and 41 were excreting more than 30 micrograms per day. The cadmium concentrations in the working atmosphere were estimated under the present working conditions (see following abstract), but concentrations during wartime are not known and were probably much higher than at present.

An appendix by R. A. Kekwick (ibid. pp. 196-197) describes the physico-chemical examination of the serum and urinary proteins in some of the cases and presents the results given on the molecular weight of the proteins.

-- Cond. from author's summary

- 1215 An Environmental Study of Casting Copper-Cadmium Alloys. E. King. Brit. J. Med. 12, 198-205 (July 1955).

Mass concentrations of cadmium as cadmium oxide fume in the two factories making copper-cadmium alloy are reported. The soluble filter pad method was generally used but was supplemented by a continuous strip recorder. The concentrations varied from day to day and according to location, and the author does not attempt to present average figures. Concentrations in the area of greatest exposure in front of the furnaces varied from 43 to 270 micrograms cadmium per cubic meter on different half-day periods. These concentrations represent average exposures and do not include possible peak exposures. At other locations the average concentrations were generally below the U. S. accepted limit of 100 micrograms per cu. m. The significance of these results is discussed.

- 1216 Use of BAL Ointment in the Prevention of Chrome Ulcer. U. Sicca and G. Farris. *Rass. med. ind.* 24, 23-26 (Jan.-Feb. 1955). Italian.

The use of a protective ointment containing 3% BAL was found to reduce significantly the incidence of chromic ulceration in a group of 46 men at risk in a factory, as compared with a control group who did not employ the ointment.

-- Bull. Hyg.

- 1217 Lead Absorption Experiences in the Manufacture of Storage Batteries. G. B. Meyers. *Proc. 7th Ann. Mtg. Am. Acad. Occ. Med.* pp. 49-58 (1955).

Lead absorption control requires environmental control and educational and medical programs. Urine lead determinations are superior to stippled erythrocyte counts or porphyrin determinations for screening lead workers. Lead workers should be examined routinely for urinary lead excretion at intervals of four to eight weeks or more often if indicated. Blood lead determinations are necessary to supplement urinary lead findings. A hazardous lead absorption zone of urine lead levels from 0.15 to 0.20 mg. per liter and of blood lead levels from 0.07 to 0.08 mg. per 100 g. is useful and practical in a lead absorption control program. Signs and symptoms of hazardous lead absorption and early lead intoxication are scanty. Transfer to a non-lead job is the only treatment required in hazardous lead absorption or early lead intoxication. Lost time due to lead intoxication can be eliminated by early diagnosis.

-- Cond. from author's conclusions

- 1218 The Influence of Chronic Exposure to Lead on Blood Pressure. A. Jamnieki, M. Kilibarda, and N. Ilijev. *Arhiv Hig. Rada* 6, 23-27 (1955). Croatian with English summary.

The purpose of this investigation was to determine whether chronic exposure to lead increases the blood pressure. A group of 46 workers in a storage battery factory were examined. The concentration of lead in the air varied most frequently from 0.2 to 0.4 mg. per cu. m. Lead exposure was measured by the blood lead concentration, the coproporphyrin level in urine, and the number of stippled cells. The control group consisted of 46 workers with no known previous exposure to lead. The same examinations were performed on this group except the blood lead determination. The groups were balanced in age. The measurements of the systolic blood pressure gave an arithmetic mean of 106 mm. mercury in the exposed group and 116 in the control group. Thus the hypothesis that chronic exposure to lead increases the blood pressure cannot be accepted on the basis of this evidence.

-- Cond. from English summary

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- 1219 Mercurialism and a Thermal Cure. C. Thierry and S. Tara. Arch. maladies profess. 16, 67-68 (1955).

Two severe cases of mercury poisoning are reported. The patients went to Cauterets where they underwent the usual courses of treatment with sulfur baths and drank the waters. In a few weeks both improved rapidly and permanently. Such treatments have been common for patients receiving large doses of mercury in therapy. It is also claimed that other occupational diseases, such as dermatitis, have definitely benefited by sulfur treatment. The subject calls for research.

-- Cond. from Bull. Hyg.

- 1220 The Toxicity of the Products Formed by the Thermal Decomposition of Certain Organic Substances. J. F. Treon, J. W. Cappel, F. P. Cleveland, E. E. Larson, R. W. Atchley, and R. T. Denham. Am. Ind. Hyg. Assn. Quart. 16, 187-195 (Sept. 1955).

The toxicity of the products arising from the thermal decomposition of a synthetic lubricant was derived largely from its principal ingredient, di-2-ethylhexyl sebacate, and only slightly or negligibly from the small amount of tricresyl phosphates contained therein. The toxicity of these products was probably less than twice that of the thermal decomposition products of a paraffinic hydrocarbon lubricating oil. Fogs formed at 550° or 400° F were much less toxic than those formed at 600° F. The products of thermal decomposition are much more toxic than the undecomposed material. The products arising from heating 0.9 g. of either Teflon or Kel-F above 752° F resulted in the death of seven of 19, and seven of 20 experimental animals, respectively. Exposure to larger quantities increased the death rate and pulmonary damage. Large quantities of either material should not be stored in any vulnerable area, especially in an enclosed space, since large quantities of toxic fumes could be liberated in case of fire. Masks that protect against acid fumes, organic vapors, and finely divided particulate matter should be employed in fighting fires involving either of these materials.

-- Cond. from authors' summary

- 1221 Toxicity of Trichloroethylene to the Eye. R. Luvoni and B. Penzani. Rass. med. ind. 24, 27-40 (Jan.-Feb. 1955). Italian.

A brief review of the literature on trichloroethylene poisoning is followed by the results of the examination of 14 persons exposed to its vapors. Systemic effects are discussed but particular attention was given in the examination to possible ophthalmic changes. The capillary number test (or Kestenbaum index which gives a measure of optic nerve atrophy) in 13 patients was normal in five cases, somewhat reduced in four, and markedly reduced in the remaining four cases. In all cases

except one there was a significant constriction of the periphery of visual fields and most marked in the inferior temporal sector. Pallor of the temporal side of the optic disk was noted in seven cases. The pathogenesis of these cases is discussed and it is suggested that they may be an expression of chronic poisoning arising from an action in the central nervous system, perhaps by changes in the optic nerve.

-- Cond. from *Bull. Hyg.*

- 1222 Four Cases of Metol Poisoning. V. Palmovic and J. Frketic. *Arhiv Hig. Rada* 6, 135-142 (1955). Croatian with English summary.

After a brief account of the chemical properties of metol and its use, the authors describe local lesions in occupational metol poisoning and the way in which they occur. After peroral application of metol a resorptive action in addition to the irritative effect on the mucous membranes of the gastrointestinal tract is noticeable. Symptoms of experimental metol poisoning and lethal doses are discussed. The authors report four cases of accidental metol poisoning with fatal issue in one case. The postmortem findings and the results of toxicological analyses are given. The reducing effect of metol in tissues is also discussed. The authors do not consider the formation of methemoglobin in blood very probable. After being resorbed, metol changes very quickly and no chemical evidence of its presence can be obtained. The transformation of metol into quinone derivatives by oxidation is also partial. The minimal lethal dose for men by rectal application is estimated to be 0.2 g. per kg.

-- English summary

- 1223 Chemical Agents of Occupational Cancer. R. Truhaut. *Arch. maladies profess.* 15, 431-467 (1954). French.

This paper is an extensive review of the chemical and experimental aspects of industrial cancer, without reference to the clinical viewpoint. The principal substances causing industrial cancer are classified according to their chemical groups. The inorganic carcinogens include radioactive elements, arsenic, chromates, nickel, cobalt, and beryllium. Others, such as zinc and selenium compounds, are capable of acting as carcinogens under experimental conditions, but have never been associated with industrial cancer. The organic carcinogens, such as benzopyrene and similar materials are discussed extensively. The work on smog constituents as a possible source of cancer is reviewed. It is not generally known that various plastics, such as bakelite, cellophane, and acrylic resins have produced malignant sarcomas after implantations in the rat. The nitrogen-containing derivatives, including the dye intermediates are discussed in their relation to bladder cancer. Regarding dyes used in foods, the author concludes that it is impossible from the chemical formula to be certain whether a dye is destitute of carcinogenic properties and therefore is

safe to use in food. References are made to experiments with urethane, thiourea, acetylamino-2-fluorene, and the nitrogen mustards. Individual susceptibility and the influence of diet on the action of certain carcinogens are discussed. The extensive bibliography includes some of the most recently published work. -- Cond. from Bull. Hyg.

- 1224 Welding Fumes. Their Effects and Methods of Control. A. Bell. New Zealand Eng. pp. 263-268 (Aug. 15, 1955).

Fumes from welding constitute numerous potential health hazards. Some of the occupational illnesses which have occurred in New Zealand welders are briefly discussed. Their causes include oxides of nitrogen, extremely fine particles of metal, and fumes from the protective coating of the electrode and from paint on the metal being welded. Lead fumes and carbon monoxide may be present. Among the preventive measures discussed are: general ventilation, use of compressed air, and local exhaust hoods, including overhead hoods or canopies (not recommended), side hoods, "searching arm" type of local exhaust unit, and special applications of local exhaust ventilation. Relevant ventilation data are presented. Suitable approved respirators are effective and protect the worker, but they are frequently discarded; because of this every attempt must be made to control fumes by an efficient exhaust system.

- 1225 Edathamil Disodium Calcium (Na_2CaEDTA): Absorption by the Oral Route—Interactions with Metals in Vivo—Diagnostic and Therapeutic Use. F. Rieders and H. Brieger. Proc. 7th Ann. Mtg. Am. Acad. Occ. Med. pp. 83-84 (1955).

Orally administered disodium calcium EDTA is apparently not absorbed as such. Its total effect is a transfer of metal from the intestinal to the urinary route of excretion without appreciable removal of metal from the tissues. Experimental evidence supporting this statement is presented. Increases of urinary lead excretion by one parenteral administration of Na_2CaEDTA are much greater in lead poisoning than in other pathologic or normal conditions and hence are of diagnostic significance. In chronic occupational lead poisoning, intravenous treatment with one infusion per week mobilizes more lead per infusion than if the drug is given daily. Clinical improvement under such intermittent therapy is as rapid and as lasting as under continuous therapy. The effect of this reagent on excretion of iron, copper, and zinc is discussed briefly.

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INDUSTRIAL DUSTS

- 1226 Wetting Agents in Dust Control in Mines. A. Houberechts and G. Degueldre. Communication No. 121, Institut d'Hygiene des Mines, Hasselt, Belgium. 41 pp. (Oct. 1954). French.

The papers presented at a conference on wetting agents, held in Paris in August and September, 1954, are briefly reviewed. Several papers dealt with the use of wetting agents in fixation of dust on roads and in suppression of dust arising from drilling. Another paper described encouraging results obtained by spraying heaps of coal with water plus a wetting agent before loading. Two papers on the addition of wetting agents to water used in infusion of the coal seam reported contradictory opinions. The lack of success reported in one paper may have been caused by excessive formation of froth. Four papers on the use of water sprays from atomizers also presented contradictory results of the use of wetting agents. The authors of the review conclude that wetting agents are of value in this application. Two other papers dealt with the use of foam in dust suppression. Some findings of the Hasselt Institute on the characteristic physical properties of wetting agents, and the results of trials of water infusion and atomization are also described.

-- Cond. from Bull. Hyg.

- 1227 Current Problems in Dust Control in Metal Mines. C. S. Gibson. Arch. Ind. Health 12, 167-173 (Aug. 1955).

This paper deals with the principal dust control problems in Ontario mines, problems which are doubtless the same in many other mines. Dust counts have been reduced in many mines to an acceptable figure of 100 particles per cc. (konimeter measurements); however, many problems remain. A number of them are associated with drilling, mechanical shovels, scrapers and scrams, the ventilation of large-scale operations, and the effect of heat and cold on dustiness. These problems are discussed. The most important problem in dust control in any mine is the provision and maintenance of a stimulating interest in the subject. How well this will be done depends upon the attitude of management. Despite the good history of health in some industrial occupations, prolonged exposures to high dust concentrations do no good and in time may do harm. They are also bad for morale and efficiency.

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- 1231 Emphysema and Its Relation to Dust Exposure. Guest Editorial. O. A. Sander. J. Am. Med. Assn. 158, 1526-1527 (Aug. 27, 1955).

Recent literature on emphysema and its relation to dust exposure is reviewed. The whole subject of emphysema needs further definitive study, and the third dimensional technique seems ideal for the pathological evaluation. Many serial sections from a single case should give far more reliable information than is available at present. More meticulous lung tissue studies and lung function studies are necessary for better understanding of the various types of emphysema.

- 1232 Pulmonary Emphysema in Silicosis. E. Sartorelli. Med. lavoro 46, 25-34 (Jan. 1955). Italian with English summary.

The present research was carried out to show the incidence and severity of pulmonary emphysema associated with silicotic fibrosis. All 33 cases were first subjected to an accurate clinico-radiological examination. The results were compared with those given by the calculation of the ratio given below. Results are given in detail. On the basis of these results it is maintained that the clinico-radiological examination is sufficient for the estimation of severe emphysema in silicotics, while the study of the ratio of residual volume to total pulmonary capacity, times 100, is more reliable for an exact estimation of slight or mild emphysema. -- Cond. from English summary (Bull. Hyg.)

- 1233 The Antagonistic Biological Action of Quartz and Potassium Carbonate. G. W. H. Schepers and A. B. Delahant. Arch. Ind. Health 12, 109-115 (Aug. 1955).

The problem of the diffuse, sclerosing reaction and the high fatality rate in persons excessively exposed to quartz flour mixed with alkalis is reviewed. An intratracheal and intraperitoneal injection experiment with a mixture of quartz dust and potassium carbonate in a three to two ratio is described. The potassium carbonate effectively inhibited the necrotizing and fibrogenic properties of the quartz. This result is apparently not brought about by increased solubility of the silica which is promoted by the potassium carbonate.

-- Author's summary

- 1234 The Effect of Cortisone on Established Silicosis in the Lungs of Rats. E. J. King. Brit. J. Ind. Med. 12, 228-232 (July 1955).

It is concluded on the basis of animal experiments that cortisone does not have any appreciable effect on established silicosis as far as the grade of fibrosis is concerned, although a slight reduction

of fibrous tissue may be found. Cortisone retards the phagocytic transport of dust from the lungs to the lymph nodes. There was more silica remaining in the lungs of the cortisone-treated animals than in the controls, while their lymph nodes contained less than the control nodes.

-- Cond. from author's summary

- 1235 Silica in the Blood; Its Physiopathological Significance in Silicosis. H. Desoille, L. Derobert, R. le Breton, J. Lafuma, and J. Vacher. Arch. maladies profess. 16, 5-19 (1955). French.

The article is mainly concerned with describing a method for detecting silica in the blood, depending upon the color reaction of a silicomolybdic complex in a sodium bisulfite solution with a pH between 2.7 and 3. A self-registering galvanometer was used, eliminating the personal factor. The technique was used on guinea pigs which had been exposed for ten months to silica dust inhalation. Similarly the normal content of silica was determined in 96 normal persons and in 120 miners, silicotic or non-silicotic. Dusting with silica was followed by the passage of non-crystallized silica into the blood and into other organs (spleen, liver, and kidneys) as well as the lungs. The presence of this non-crystallized silica exerted a special physiopathological significance.

-- Cond. from Bull. Hyg.

- 1236 An Observation on the Electrophoretic Analysis of Serum Proteins in Silicosis. G. Proyard and A. Nizet. Arch. maladies profess. 16, 20-26 (1955).

Certain authors have claimed that when serum proteins are examined by electrophoresis in cases of silicosis the gamma globulins are increased, and in tuberculosilicosis the alpha globulins are increased. Therefore the rapidity of the development of silicosis or the importance of associated tuberculosis may be assessed. In order to test this claim, observations were made upon a number of normal persons chosen at random, and silicotic and non-silicotic miners, in none of whom signs of tuberculosis appeared. The findings of serum proteins in these groups are presented in tabular form. No differences were found except in cases of advanced silicosis. In these cases an elevation in the alpha₂ globulins was noted which seemed to be associated with necrosis; it was similar to their occurrence after surgical procedures. Even then the gamma globulins remained normal. The authors consider the claim advanced to be illusory and fallacious.

-- Cond. from Bull. Hyg.

03120090

- 1237 Adsorption of Serum Proteins at the Surface of Silica; Its Possible Importance in the Genesis of Silicosis. B. Pernis and M. Battigelli. Med. lavoro 46, 1-13 (Jan. 1955). Italian with English summary.

A series of recent hypotheses on the pathogenetic mechanism of silicosis is based on the adsorption of proteins by silica. The research described was undertaken to determine which proteins are most likely to be thus adsorbed. Experiments were made in which serum albumins, gamma-globulins, and whole human serum were adsorbed on carbon, quartz, and Aerosil powder. The experiments show that human serum globulins, and particularly gamma-globulins, have a high tendency to be adsorbed on silica. It is held probable that the adsorption on quartz is followed by a denaturation of the adsorbed proteins and that this phenomenon could have an importance in the genesis of silicosis.

-- Cond. from English summary (Bull. Hyg.)

- 1238 Rheumatoid Arthritis in Males: An Epidemiological Study of a Welsh Mining Community. W. E. Miall. Ann. Rheumat. Diseases 14, 150-158 (June 1955).

It has been shown (IHF Absts. 180, 181, Feb. 1954) that some coal miners with rheumatoid arthritis and with pneumoconiosis have characteristic chest x-rays. To determine whether the progressive massive fibrosis was a causal factor in arthritis, a survey of rheumatoid arthritis patients was undertaken in a Welsh mining valley, in which progressive massive fibrosis was common among the miners. The survey showed that, though the prevalence of rheumatoid arthritis among all patients with massive fibrosis is about 2.7%, compared with 0.6% among miners without massive fibrosis, the prevalence of the disease in miners does not differ significantly from that among non-miners, and therefore it is unlikely that massive fibrosis predisposes to rheumatoid arthritis. It is concluded, therefore, that neither exposure to dust nor the lung changes of complicated pneumoconiosis play a causal role in rheumatoid arthritis. Heredity seems to play a causal role in rheumatoid arthritis, in Caplan's syndrome, and in Caplan chest x-ray findings without arthritis.

-- Cond. from J. Am. Med. Assn.

- 1239 Pulmonary Disability in Asbestos Workers. K. W. Smith. Arch. Ind. Health 12, 198-203 (Aug. 1955).

Respiratory disease experience among several thousand male and female asbestos workers in the United States and Canada is reported. Of all workers exposed to the fibers, very few develop asbestosis. This disease is insidious in onset and progresses slowly with continued exposure, causing respiratory embarrassment and cardiac failure. Expansion of the lung is difficult, and there is impaired gas transfer through the lung. Diffuse, obstructive emphysema is not common. The typical x-ray pattern

cannot be confused with other pneumoconioses. An x-ray survey of 708 employees in a milling operation showed that the majority had normal x-ray patterns, that ten or more years of exposure were necessary to produce x-ray changes, and that no cases of asbestosis were found who had worked less than 20 years in the dust. The incidence and duration of nonoccupational respiratory disease were not increased by exposure. Asbestos does not predispose to tuberculosis, nor does it aggravate an apparently healed lesion. There are several reasons for different opinions expressed concerning the relationship of asbestosis and bronchogenic carcinoma. Differences in asbestos fibers were noted.

-- Cond. from author's summary

- 1240 The Effects of Inhaled Talc-Mining Dust on the Human Lung. G. W. H. Schepers and T. M. Durkan. Arch. Ind. Health 12, 182-197 (Aug. 1955).

The talc mined in Northern New York State consists of a mixture of talc, tremolite, and anthophyllite. Quartz is also present in moderate amounts in the dust generated in mining and processing. The three constituents of the talc were present in the lungs of deceased employees. Quartz was present in significant amounts only when the men had been additionally exposed in other mining industries. The histological features suggest that tremolite may be the main pathogenic agent in provoking the characteristic "talc" lung lesion. The roles of talc and of anthophyllite have not been wholly excluded. The presence of quartz modifies materially the nature of the "talc" reaction, and the presence of "talc" dust in the lungs modifies both the response to quartz dust and the course of associated infection. Marked pulmonary vascular damage was present in cases where the quartz content of the lungs was highest, and this feature is in harmony with the tendency to cardiac deaths. Bronchitis, bronchiolitis obliterans, and bronchiolectasis are associated major findings in this series.

-- Cond. from authors' summary

- 1241 Disabling Pneumoconiosis from Limestone Dust. A. T. Doig. Brit. J. Ind. Med. 12, 206-216 (July 1955).

Attention is drawn to the occurrence of cases of pneumoconiosis in limestone workers. This pneumoconiosis is associated with fibrosis of the lungs and, in advanced cases, with disability. The lesion produced is almost certainly silicosis, due to the free silica content of the limestone. The pneumoconiosis hazard, in the mining and grinding of at least certain limestones, is considerable, in spite of the relatively low free silica content. Whether or not calcium carbonate can modify the action of silica, it would not apparently, judging from these observations, have any inhibitory effect.

-- Author's summary

- 1242 Pathological Study of the Effects of Inhaled Gypsum Dust on Human Lungs. G. W. H. Schepers and T. M. Durkan. Arch. Ind. Health 12, 209-217 (Aug. 1955).

Chemical analyses of pulmonary tissues and histopathological features of four deceased gypsum-industry employees are presented. All four men had been industrially exposed to gypsum products only and died of nonpulmonary causes. No specific pneumoconiotic syndrome occurred, though parenchymal pleural, bronchial, and vascular lesions were present which, though indubitably attributable to the gypsum-dust exposure, assumed a nonspecific and minimal character.

-- Authors' summary

- 1243 An Epidemiological Study of Byssinosis among Lancashire Cotton Workers. R. S. F. Schilling, J. P. W. Hughes, I. Dingwall-Fordyce, and J. C. Gilson. Brit. J. Ind. Med. 12, 217-227 (July 1955).

A study of 190 male card-room and blow-room workers in 28 cotton mills is reported; 115 had symptoms of byssinosis characterized by tightness of the chest and breathlessness on Mondays. Twenty-six were seriously disabled and 12 others appeared to be approaching the same condition. Of 88 controls from engineering factories, only four, three of whom had bronchitis, showed any serious degree of respiratory disability. Symptoms of byssinosis were found in only nine of 331 women card-room workers, ring spinners, and mule spinners. The prevalence of byssinosis was inversely related to the distance of workers from the carding engines. The clinical differences between chronic bronchitis and byssinosis are discussed. It is probable that the extent of byssinosis has been obscured by the high prevalence of chronic bronchitis in Lancashire.

-- Cond. from authors' summary

- 1244 Edematous Allergic Bronchiolitis. A Statistical Study of Asthma Due to Vegetable Textile Dusts. G. C. H. Werner. Arch. maladies profess. 16, 27-45 (1955). French.

The clinical histories of 1,800 persons exposed to vegetable textile dusts were examined. The dusts were those arising in manipulating linen, hemp, and cotton fibers, especially hemp and linen. Statistical examination shows direct relationship between length of industrial exposure to the dusts and the existence of allergic reactions of the asthmatic type. The most pronounced exposure took place in men tending the carding machines. The reaction begins on Mondays on starting work and disappears on cessation of exposure. The sensitization varies with the kind of dust, but all the dusts produce the reaction to some extent. Improvement follows when the dust is minimized by exhaust ventilation. The air in the affected workshops must be freed from dust and the disease must be designated as occupational. -- Cond. from Bull. Hyg.

- 1245 An Experimental Study of the Effects of Rare Metals on Animal Lungs.
A. B. Delahant. Arch. Ind. Health 12, 116-120 (Aug. 1955).

Experiments are described in which six metallic substances, to which personnel may be exposed in the cemented tungsten carbide industry, were introduced intratracheally in guinea pigs. Four of these components proved to be relatively inert (tantalum oxide, tungsten, tungsten carbide and carbon, cobaltic oxide). Two of the components proved to be toxic (cobalt, tungsten carbide and cobalt).

-- Author's summary

- 1246 The Biological Action of Tantalum Oxide. G. W. H. Schepers. Arch. Ind. Health 12, 121-123 (Aug. 1955).

Tantalum oxide when introduced into the guinea pig lung by the intratracheal technique produces transient bronchitis, interstitial pneumonitis, and hyperemia with residual focal hypertrophic emphysema and organizing pneumonitis around metallic deposits. The dust is non-fibrogenic.

-- Author's summary

- 1247 The Biological Action of Cobaltic Oxide. G. W. H. Schepers. Arch. Ind. Health 12, 124-126 (Aug. 1955).

Intratracheal introduction of 150 mg. of cobaltic oxide produces a focal and peribronchial, transient, subacute, inflammatory reaction which becomes virtually completely reversed within one year. On this evidence, cobaltic oxide may be classified as a doubtfully toxic respiratory hazard.

-- Author's summary

- 1248 The Biological Action of Particulate Cobalt Metal. G. W. H. Schepers. Arch. Ind. Health 12, 127-133 (Aug. 1955).

Particulate cobalt metal is an acutely irritating substance when introduced into guinea pig lungs in 50 mg. and in 25 mg. doses. A single 5 mg. dose is not lethal, but repetition of such a dose proves to be so. Tolerance to cobalt metal may develop after the initial acute reaction has been overcome. The greatest damage caused by the cobalt metal is the obliterative bronchiolitis. A single instance of bronchial adenomatosis resulted from prolonged focal retention of cobalt metal particles.

-- Author's summary

- 1249 The Biological Action of Particulate Tungsten Metal. G. W. H. Schepers. Arch. Ind. Health 12, 134-135 (Aug. 1955).

The acute reaction to particulate tungsten when introduced into guinea pig lungs involves the production of focal interstitial pneumonitis

and bronchiolitis. While recovery is almost complete after a year, peribronchial, peribronchiolar, and perivascular fibrocellular reactions, with bronchiolitis obliterans and atrophic emphysema, may persist focally.

-- Author's summary

- 1250 The Biological Action of Tungsten Carbide and Carbon. G. W. H. Schepers. Arch. Ind. Health 12, 137-139 (Aug. 1955).

The acute response to the intratracheal introduction of tungsten carbide and carbon is confined to hyperemia and bronchial catarrh, minor interstitial pneumonitis, and lymphoid hyperplasia. The chronic residua include trapped dust masses and subpleural fibrocellular granulomata.

-- Author's summary

- 1251 The Biological Action of Tungsten Carbide and Cobalt. G. W. H. Schepers. Arch. Ind. Health 12, 140-146 (Aug. 1955).

The intratracheal introduction of 150 mg. of tungsten carbide and cobalt in a 10:1 ratio produces a transient inflammatory reaction, with residual papillary hypertrophy of bronchial mucosa and peribronchial and periarterial fibrosis in the vicinity of retained particulate matter. The response of lung tissue to the inhalation of tungsten carbide and cobalt in a ratio of 3:1 provokes an acute inflammatory reaction which is later replaced by focal pneumonitis and residual bronchial epithelial hyperplasia and metaplasia.

-- Author's summary

- 1252 The Pulmonary Disability Legislation of South Africa. A Rationale for its Enactment. G. W. H. Schepers. Arch. Ind. Health 12, 147-158 (Aug. 1955).

The South African legal definitions of pulmonary disability, silicosis, and tuberculosis are compared and shown to emphasize, respectively, functional, morphological, and infective disturbances. The dominant clinical syndromes of "pulmonary disability" include chronic bronchitis, emphysema and cor pulmonale. This condition is assuming the role formerly played by macronodular and massive silicosis in the causation of physical incapacitation among white miners. In those cases where dust is the causative factor, a possible explanation for this type of disability is the retarded transportation of quartz particles and their deposition around terminal bronchioles and pulmonary blood vessels and in alveolar walls instead of their transportation to lymph nodes. This nonsilicotic pulmonary disability appears at an earlier age and length of service than silicosis or tuberculosis. This disease is seemingly less prevalent among Negroes, although they tend to develop silicosis, tuberculosis, and tuberculosilicosis faster than do the white miners.

-- Cond. from author's summary

PHYSICAL ASPECTS OF THE ENVIRONMENT

- 1253 American Standard Method for Specifying the Characteristics of Analyzers Used for the Analysis of Sounds and Vibrations. Sponsor, Acoustical Society of America. Standard Z24.15-1955, American Standards Association, Inc., 70 East 45th St., New York 17, N. Y. 11 pp. (Feb. 1955). 50 cents.

The increasing use of sound analyzers for noise measurement in industry has necessitated the establishment of standards for such instruments. This standard is intended as a guide to the user and to the manufactures of analyzers. The standard considered in this pamphlet is limited to the analysis of a complex electrical signal of relatively long duration, such as that obtained from an electroacoustic or electro-mechanical transducer. The various terms employed are defined. Methods of specifying characteristics are described. These characteristics include, among others: frequency range and accuracy; input and output range and impedance; power requirements; pass-band response; extraneous influences of various types; size and weight; bandwidth; and transient response.

- 1254 Simulation and Aggravation in Audiometry. M. Prazic. Arhiv Hig. Rada 6, 165-180 (1955). Croatian with English summary.

In view of the data from the literature and his own experience the author discusses the problems of simulation and aggravation. There are three methods of verifying simulation: (1) classical otological methods, (2) special audiometry, and (3) methods of advanced audiometry and objective audiometry. Classical otological methods are not considered reliable and satisfactory; audiologic analysis may sometimes give good results; in most cases, however, the exact verification can only be obtained by using the methods of advanced audiometry and objective audiometry. In verifying aggravation methods of supraliminal audiometry and objective audiometry should be used, because the routine audiometric tests have rarely proved successful.

-- English summary

03120096

- 1255 Evaluation of Audiometric and Hearing Standards in Industry. C. I. Barron and A. A. Love. Ind. Med. & Surg. 24, 398-405 (Sept. 1955).

A review of a hearing conservation program at Lockheed Aircraft Corporation is presented, with detailed information concerning the establishment and effectiveness of audiometric and hearing standards. A very small number of applicants were either found unsuitable for employment as a result of ear pathology or progressive hearing loss, or were required to be restricted from areas where loss of hearing would constitute a hazard. Most applicants in both these classes were employed in other areas. It was possible to employ 99.4% of all tested applicants in some position in the company. An intensive program aimed at voluntary acceptance of ear protective devices resulted in wearing of ear protection by one-third to two-thirds of all employees requiring their use. Specially trained nurse-audiometrists were employed during the program, and their utilization is recommended. Re-check examinations were performed on many employees in noisy environments. There were relatively few significant binaural changes during the 18-month study; the total for all groups was less than 2%.

The company's experiences during 15 years established the desirability and necessity for a comprehensive hearing conservation program in the industry. Routine six-month hearing checks are entirely feasible and involve a minimum of risk to the employee and negligible liability to the company.

-- Cond. from authors' summary

- 1256 Quarterly Report No. 6, Subcommittee on Noise in Industry of the Committee on Conservation of Hearing of the American Academy of Ophthalmology and Otolaryngology, Apr. 1 to June 30, 1955. 12 pp.

Research progress on the following subjects is reported: (1) relations of hearing loss to noise exposure; (2) temporary threshold shift studies; (3) long time recovery of permanent hearing loss; (4) evaluation of speech test material; and (5) automatic audiometry. Two reports on temporary threshold shift study and one on the study of masking are presented. Complete reports on these subjects will be published in the near future.

- 1257 Personal Protective Devices against Noise. S. M. Williamson. Ind. Med. & Surg. 24, 406-407 (Sept. 1955).

Noise abatement and ear protection in the aircraft industry are discussed. Recommendations have been made for reducing the exposure time of various workers, but personal protection is still necessary. Specifications are given for ear plugs, muffs, and helmets. The V-51 ear plugs gives good protection for high frequency noise in riveting areas. The same is true of muffs, but they are expensive in comparison with

ear plugs for the slight extra protection they afford. A combination of helmet and muff gives about the same protection as a muff. The industrial physician will be able by audiometric findings to determine the efficiency of the various protective devices.

- 1258 Ultrasonics, Diagnostic and Therapeutic Aspects. J. J. Newman. Proc. 7th Ann. Mtg., Am. Acad. Occ. Med. pp. 5-7 (1955).

Ultrasonics or ultrasound has been described as mechanical energy too high in frequency to be audible. Means of generating and using ultrasonics in medicine and industry have been reviewed together with examples of typical applications. In the hands of trained and qualified personnel, ultrasonics can be an important medical tool, but the techniques are still relatively new and careful evaluation of indication and contra-indication remains, as always, quite important.

-- Author's summary

- 1259 Compensation for Ocular Injuries in the United States. M. Davidson. Am. J. Ophthalmol. 39, 821-828 (June 1955).

A survey of the situation of workmen's compensation for ocular injuries in the United States discloses a disconcerting lack of uniformity. Of 46 states reporting, only eight use the American Medical Association committee's recommendations; 25 states still use "uncorrected" visual acuity as a basis; and the remaining 13 use a compromise. Little progress has been made since 1940 in obtaining acceptance of those recommendations. A concerted effort should be made by ophthalmologists to call attention to the serious objections in compensating for minor eye damage at the expense of other workers who have suffered serious eye damage. This results from the use of "uncorrected" vision as a basis for compensation. Attention is also called to the emphasis on central visual acuity for distance as the sole approach to eye damage, and to the problem, very often ignored, of disabilities due to impairment of binocular depth perception in eye injuries. It is suggested that pre-employment eye examinations be extended and that a standard procedure of eye examination and recording be adopted, with examinations being made exclusively by ophthalmologists.

-- Cond. from author's summary

- 1260 The Energy Cost of Some Industrial Operations. D. Turner. Brit. J. Ind. Med. 12, 237-239 (July 1955).

Assessments of the severity of the work involved in 48 industrial processes are reported. The assessments were made on two bases: (1) measurements of the metabolic rate during work, and (2) subjective appraisal by an observer. Close agreement between the two methods of

assessment suggests that for the placement of unfit or elderly workers satisfactory results can be obtained without recourse to metabolic measurements. A single observer could rapidly survey processes in local industry and compile an index of suitable occupations which could be of value to medical officers.

-- Author's summary

- 1261 Distribution of Weight in Feet. D. J. Morton. Proc. 7th Ann. Mtg. Am. Acad. Occ. Med. pp. 73-77 (1955).

Reports of studies of weight distribution in feet are summarized. Every metatarsal bone was found to have supporting contact with the ground, disproving the concept of an "anterior metatarsal arch." The first metatarsal bone carries most of the weight; shortness or looseness of this bone causes a shift of weight to the others, bringing undue weight upon them. Treatment can be accomplished by a weight distributing platform or by a pressure diffusing cushion. Conspicuous structural weakness and deformity, evident in early childhood, account for 1% of the cases of foot disability, and they are rarely found in industry. Functional disorders in adults, comprising 20 to 30% of the public, are of industrial importance. These are classified and discussed. They predominate in women to the extent of six to ten times the cases found in men. They are largely caused by high heels. The rapidly increasing use of low and flat heels will reduce the foot trouble among women, and their wearing during work should be encouraged.

- 1262 Rheumatism in Coal Miners. Part 3. Occupational Factors. J. S. Lawrence. Brit. J. Ind. Med. 12, 249-261 (July 1955).

Factors responsible for the high incidence of intervertebral disc degeneration in miners have been investigated. Disc degeneration is also severe in dock workers but less so than in miners. The following factors were found to have a close relation to disc degeneration: duration of heavy lifting, back injuries, working in wet conditions, position at work, and personal factors, such as body height, length of back, and evidence of old rickets. Only the first three factors led to radiological changes. Osteoarthritis of the knees was found most frequent in underground roadway workers. It was related to injury but not to the other factors mentioned. Radiological changes in the knees were related to body weight but symptoms and incapacity were unrelated. Deformity of the knees, on the other hand, affected symptoms and incapacity but not radiological changes. Osteoarthritis of the elbow, wrist and hand were more frequent in miners than in other occupational groups.

-- Cond. from author's summary

03120099

RADIOACTIVITY AND X-RADIATION

- 1263 The Radon Problem in Deep-Level Mining. D. A. Holaday. Arch. Ind. Health 12, 163-166 (Aug. 1955).

High concentrations of radioactive dust and gas can be demonstrated in a high proportion of uranium mines. However, appreciable concentrations have likewise been demonstrated in many nonuranium mines. Adequate data are not available for interpreting these concentrations in terms of effects on human health, but it is very important that standards be agreed upon. It is urged, therefore, that a concerted effort be made to study records of miners who have worked for years in nonuranium mines, in hopes that data bearing upon the establishment of reasonable maximal allowable concentrations can be obtained.

-- Author's conclusions

- 1264 The Status of Lenticular Opacities Caused by Atomic Radiation: Hiroshima and Nagasaki, Japan, 1951-1953. R. M. Sinskey. Am. J. Ophthalmol. 39, 285-293 (Mar. 1955).

A study of some of the most highly exposed survivors of the atomic bomb explosions in Japan, in comparison with a control group, showed that subcapsular plaques are statistically significant effects of nuclear radiations. The incidence of these plaques can be correlated with age, epilation, shielding, and distance from ground zero. Observations over a four-year period revealed that the opacities increased slowly or not at all. Although in most persons the lenticular opacities are so insignificant as to be invisible with the ophthalmoscope, they are important in terms of dosimetry. With the increasing exposure to nuclear radiations as atomic energy is used in power production, it is important to recognize the earliest signs of radiation injury, one of which is lenticular opacity.

-- Cond. from J. Am. Med. Assn.

- 1265 Ocular Effects Produced by High Intensity X-Radiation. P. A. Cibis, W. K. Noell, and B. Eichel. Arch. Ophthalmol. 53, 651-663 (May 1955).

The effect of high-intensity ionizing radiation upon the eyes of four species of animals was studied. Results are presented in detail.

Minimal lethal radiation doses are given for rod and cone cells. Some of the changes result in extreme constriction of the visual field, others in blindness. Transient impairment of photopic vision and blindness can be expected to develop after a latent period of a few hours following exposure to high-intensity radiation.-- Cond. from authors' summary

- 1266 Protection against Betatron-Synchrotron Radiations up to 100 Million Electron Volts. Handbook 55, National Bureau of Standards. 52 pp. (Feb. 26, 1954). For sale by Supt. of Documents, Government Printing Office, Washington 25, D. C. 25 cents.

Recommendations are presented for the protection of operating personnel, patients receiving treatment, and the public against the hazards of the various radiations produced by betatron and synchrotron sources. Protection from hazards from associated effects such as noise, electricity, and ozone are also considered.

-- Nuclear Sci. Absts.

- 1267 Emergency Radiation Exposure Control—Development of Criteria. A. F. Meyer, Jr. Am. Ind. Hyg. Assn. Quart. 16, 210-214 (Sept. 1955).

In certain situations such as combat and rescue work, exposure to excessive radiation may be unavoidable. There is a twofold implication in the problem of emergency exposures. First, every effort must be exerted in normal situations to insure that doses below the maximum permissible are received. Second, since emergency exposures will unfavorably alter an individual's ability to tolerate incidental exposures, the utmost care must be exerted to insure that the facts of such emergency exposures as are necessary are carefully recorded and suitable restrictions are imposed with regard to future radiation.

-- Cond. from author's conclusions

- 1268 Radiological Hazards from Nuclear Explosions and Nuclear Power. J. Cockroft. Nature 175, 873-875 (May 21, 1955).

The level of radioactive contamination in the world produced by all the nuclear bomb explosions and peaceful atomic energy activities is at present so low that it should not cause any anxiety. The radiation level which would give rise to serious harmful effects is probably at least a thousand times the present level of contamination. We do not at present know this figure with any accuracy, and long-time genetic studies are required to determine it.

-- Cond. from author's conclusions

03120101

- 1269 Medical Civil Defense. The Story of Hamburg. H. G. Brandeis. Summarized in Penna. Med. J. 58, 928-930 (Aug. 1955).

The effects of the air raids on Hamburg in July, 1943, and the actions taken in dealing with the results of the raids are described, including medical services, evacuation and feeding, recovery and identification of the dead, verification of the missing, hygiene, and drinking water supply. The lessons of the successes and failures of the emergency are discussed as a guide to civil authorities and physicians who may have to deal with an atomic disaster. Among the measures stressed as necessary are: protection of telephone exchanges and other means of communication; adequate telephone repair squads; emergency generating sets; a well-trained messenger service; protected first-aid posts away from densely populated districts; first-aid personnel trained in nursing; and the formation beforehand of a reserve of doctors and surgeons. The assistance of very strong reinforcements from other localities was required.

ENVIRONMENTAL MEASUREMENTS

- 1270 The Design and Operation of an Experimental Gas Chamber. V. B. Vouk. Arhiv Hig. Rada 6, 29-32 (1955).

An experimental gas chamber for industrial hygiene investigations is described. The chamber consists of a steel cylinder of about 10 cu. m. capacity, equipped with sampling openings, windows, and mixing and ventilating equipment. Testing of the chamber and methods of producing known concentrations are described. The chamber can be used for reduced and moderately increased pressures.

- 1271 The Determination of Fluoride in Urine. F. A. Smith and D. E. Gardner. Am. Ind. Hyg. Assn. Quart. 16, 215-220 (Sept. 1955).

A procedure is described for the quantitative determination of fluoride in urine. The fluoride is separated from a perchloric acid solution of ashed urine by steam distillation of volatile fluosilicic acid; fluoride in the distillate is titrated with thorium nitrate using alizarin red S as indicator. A statistical evaluation of the precision and accuracy of the method is presented.

-- Editor's summary

03120102

- 1272 The Demonstration of Aluminum in Animal Tissues. D. A. Irwin.
Arch. Ind. Health 12, 218-220 (Aug. 1955).

In the course of experiments in which animals were exposed to quartz and aluminum dust, difficulties were experienced in the identification of aluminum and alumina in the tissues. Chemical analysis did not indicate the distribution of aluminum in the lung, or the presence of alumina as a coating on the quartz particles. A method of identifying aluminum and alumina particles was developed, depending upon the use of aluminon (ammonium aurintricarboxylate). The method proved successful. The principle of the method is explained and full directions are given.

- 1273 The Determination of Acrolein in the Presence of other Aldehydes.
W. A. Van Sandt, R. J. Graul, and W. J. Roberts. Am. Ind. Hyg. Assn. Quart. 16, 221-224 (Sept. 1955).

A polarographic analysis of acrolein adsorbed from a typical workroom atmosphere on silica gel is described. The method is specific for acrolein, and the common aldehydes do not interfere. The analysis is complicated by the necessity of securing air-free conditions because of the high volatility of acrolein. It is suggested that a redesigned extraction cell could also serve as a polarographic cell, making the various transfers less cumbersome.

-- Adapted from authors' summary

- 1274 Dust Measurement. Study of the Midget Scrubber D-18. J. Patigny, and S. Cartigny. Communication No. 113, Institut d'Hygiene des Mines, Hasselt, Belgium. 54 pp. (Dec. 1953). French.

This communication describes a series of tests of the "midget scrubber D-18" for particle counting and sizing. The errors involved in the use of the instrument and in subsequent counting of particles are discussed. They include: (1) the limited resolution of the optical microscope; (2) statistical errors of counting; (3) errors arising from collecting dust samples in liquids; (4) the use of violent agitation in order to capture small particles; and (5) errors in measurement of the volume sampled. By weight, the percentage capture, (99%), is considerably better than that of the midget impinger (97%); the difference is attributed to improved capture of small particles. The midget scrubber is, however, rejected for use in sampling in coal mines.

-- Cond. from Bull. Hyg.

03120103

TN RE: ABRAMS
November 1955

HWBB-0016275

- 1275 Handpump Sampling in Coal-Dust Clouds; Optical Density Method. J. G. Dawes. Research Report No. 83, (Great Britain) Safety in Mines Research Establishment, Portobello St., Sheffield, England. 24 pp. (Jan. 1954). Price at above address 1s. 6d.

The coal dust stains on filter paper which are obtained by the hand-pump method are interpreted by the application of an empirical equation. Unexplained inconsistencies that arose were avoided by the substitution of an esparto filter paper for Whatman No. 1 paper, on account of finer and more uniform texture. For interpreting the optical density of the stain a new equation based on a theoretical formula is given. It has been tested and found adequate. Variations in the calibration factor, which were substantial in the earlier method of calculation, are far smaller when the new equation is used. One appendix gives some information about the variations in dust clouds in mines, and another describes some results obtained underground with the new paper and the new equation.

-- Cond. from Bull. Hyg.

- 1276 Bulk Sampling of Airborne Dust. D. T. O'Connor and G. E. Winder. Research Rept. No. 110, Safety in Mines Research Establishment, Portobello St., Sheffield, England. 25 pp. (Feb. 1955).

The collecting efficiency of a filter bag sampler fitted with a horizontal elutriator has been investigated in underground conditions. The sampler could be suspended in a roadway at the average breathing level of the workers; there was negligible penetration of the filter bag by particles in the size range above 0.2 micron; the equipment was pit-worthy and robust, and was assembled from readily available components. Compressed air was used as the source of power and the sampling rate was readily controlled. A few grams of dust of respirable size was collected in two or three shifts. The size selection characteristic of the horizontal elutriator was satisfactory in all circumstances only if the inlet was tilted downward at a small angle to the horizontal (about 10°) and if the plates in the elutriator were cleaned at regular intervals. A cyclone eliminator was also tested, but the size selection characteristic was unsuitable.

-- Atm. Poll. Bull.

- 1277 Dust Counting Reliability. H. M. Chapman and R. C. Ruhf. Am. Ind. Hyg. Assn. Quart. 16, 201-209 (Sept. 1955).

The reliability of a dust count is easily calculated, and is shown to depend on the total number of particles counted. Statistical methods are used to show that the difference in collection efficiency of two impingers under test is negligible and that samples drawn from a dust suspension for counting are representative. Counting a total of 500 to 750 particles as suggested by the standard method is found to give a possible error of 7 to 9%. It is recommended that 500 to 750 particles

be counted in every sample by the method described to attain a uniform level of reliability between laboratories. At this level of reliability, procedures are given for accepting or rejecting cell totals obtained. A third cell is counted in case of doubt, and rules are given for using all three or rejecting one of the original pair. An analysis of counts from 1344 dust samples shows that dust concentrations are most frequently based on a total count of 200 to 500 particles. Roughly 7 to 8% of all cell pairs should be tested for acceptability by counting a third cell.

-- Authors' summary

- 1278 The Measurement of Size and Concentration of Airborne Dusts with the Electron Microscope. J. Cartwright and J. W. Skidmore. Research Report No. 79, (Great Britain) Safety in Mines Research Establishment, Portobello St., Sheffield, England. 31 pp. (Sept. 1953). Price at above address 2s.

The techniques available for the evaluation of thermal precipitator samples by electron microscopy and their sources of error are discussed. Discrepancies between electron and optical microscope assessments found with earlier methods were partly due to faulty methods of sampling for electron microscopy. A new method which overcomes most of these difficulties is described. It is possible, by using this new method to measure the size distribution and concentration of dust clouds in the range from 10 microns to 0.01 micron with an optical and an electron microscope. There is good correlation between the results from both instruments in an overlap range of 0.23 to 3.6 microns. Such discrepancies as are found using the modified technique are mainly due to the greater resolving power of the electron microscope. The electron microscope assessments are considered to be sufficiently accurate for use as a standard against which optical errors of sizing can be judged.

-- Authors' summary (Bull. Hyg.)

- 1279 Comparative Measurements on Aerosols of Fine Particles with a Thermal Precipitator and a Slit Ultramicroscope. G. Zebel. Staub, No. 39 21-29 (Mar. 15, 1955). German.

Counts of the number of particles per cc. were made on an aerosol containing particles of dried India ink between 0.5 and 5 microns in diameter. Results with the electron microscope using Cartwright and Skidmore's method (preceding abstract) agreed within 0.5% with those with the thermal precipitator and ultramicroscope, by a method described, but the older method with a collodion film were 37.5% lower. Reasons for the discrepancy are discussed.

-- Cond. from Bull. Hyg.

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PREVENTIVE ENGINEERING

- 1280 Industrial Smoke Removal by Ultrasonics. W. Muller. *Energietechnik* 4, 431-432 (Oct. 1954). German.

The fact that fine particles of dust are more injurious to health and less easy to trap than larger particles makes the ultrasonic agglomeration of the fine particles in flue gases technically attractive. The theory of ultrasonic agglomeration and the installation of sirens in the flues of boiler plants are briefly discussed. -- *Atm. Poll. Bull.*

COMMUNITY AIR HYGIENE

- 1281 Pitfalls in Using Maximum Allowable Concentrations in Air Pollution. H. H. Schrenk. *Am. Ind. Hyg. Assn. Quart.* 16, 230-234 (Sept. 1955).

The derivation and application of threshold limit values of air pollutants encountered in industry are discussed. The values are derived from the results of animal experimentation, and, as far as possible, on clinical experience. Slight physiological effects and discomfort or sensory effects are considered in addition to pathological effects. Application of the values is limited by occasional exposures to high concentrations of a pollutant and by variations in the resistance of individual workers. The appraisal of the effects of community air pollution is difficult because numerous contaminants are present in varying degrees in the atmosphere, and some of them have not been identified. Here also, individual resistance is a large factor. It is clear from a comparison of the essential features in the two types of exposure that they are entirely different. Acute effects of air pollution on health have been observed at levels much lower than those found to be safe in industry. This fact does not justify the use of fractions of industrial safe limits for assessing the effects of general air pollution, because the basic principles are different. Such arbitrary limits would be without foundation and meaningless. The fact that the industrial safe limits are not applicable, however, should not inhibit the use of the toxicological information and experience accumulated

in the fields of industrial hygiene and industrial medicine. Intelligent interpretation and utilization of available data can contribute to a better understanding of the air pollution problem and serve as a guide in the development of research problems on the evaluation of the chronic effects of air pollution on health.

- 1282 Air Pollution—Some Epidemiological Aspects. W. M. Gafafer. Am. Ind. Hyg. Assn. Quart. 16, 196-200 (Sept. 1955).

A preliminary review of the health data in the California and Detroit-Windsor air pollution studies does not generally suggest that air pollution affects health. The data do not, however preclude the possibility that air pollution is responsible for sickness or for hastening deaths in periods such as during the London fog. The data from all investigations indicate that much is still to be learned about quantitative aspects of cause and effect. Factors that have not been studied may be the most important. The negative results indicate that greater effort should be made in the sickness survey. Several areas of further investigation are suggested. -- Cond. from author's conclusions

- 1283 Air Pollution. F. W. Went. Sci. American 192, 62-72 (May 1955).

The author discusses the definition of air purity, the characteristic color and external and internal appearance of different forms of air pollution, the smog found in a number of European and North and South American cities, and its effect on vegetation. The character and effect of summer, autumn, heat, and night hazes are described and the hypothesis is set forth that summer haze is a smog derived from volatile organic compounds emitted from vegetation. Further hypotheses are made that these compounds settling to earth may be the source of petroleum deposits and that man-made and natural smogs are different manifestations of the same mechanism.

-- Cond. from Public Health Eng. Absts.

- 1284 Mortality and Morbidity During the London Fog of December 1952. Report by a Committee of Departmental Officers and Expert Advisers appointed by the Minister of Health. Great Britain, Ministry of Health, Reports on Public Health and Medical Subjects No. 95. 61 pp. (1954). Obtainable from British Information Services, 30 Rockefeller Plaza, New York 20, N. Y. Price 65 cents.

The main body of the report analyzes the available data on deaths and sickness during and immediately after the fog period, and confirms the previously demonstrated pattern of excessive mortality and increased morbidity. The number of deaths attributable to the fog is again estimated at between 3,500 and 4,000. Between 80 and 90% of the increase in deaths was due to respiratory diseases, mainly chronic,

and over 90% of the increased deaths occurred in persons aged over 45 years. Deaths of infants under one year were approximately doubled. Although no comprehensive morbidity statistics were available, evidence of increased illness, mainly respiratory, was provided by data from several sources. The atmospheric conditions prevailing during the fog are described and data are given on the atmospheric pollutants known to be present. Although all evidence suggests that the increased mortality and morbidity were the result of respiratory irritation by contaminants in the fog, it is not possible to incriminate any one pollutant. It is considered probable, however, that the irritants mainly responsible were those derived from the combustion of coal and its products.

-- Cond. from Bull. Hyg.

- 1285 Air Pollution in Relation to Manufacture of Cement. G. T. Rheam. Steam Engr. 24, 135 (Jan. 1955).

The main problem of chimney emission is aggravated by severe corrosion owing to the high moisture content of the flue gases. Electrostatic precipitators are generally used to dedust the gases. Final choice of dust collecting equipment should be based on pilot plant tests. More attention should be paid to the amount of dust emitted from the plant and less to the collecting efficiency, which could from the pollution point of view, be misleading. If gas washing were installed in all power stations, as has been recommended, the power bill for the cement industry would be greatly increased.

-- Cond. from Atm. Poll. Bull.

- 1286 Air Pollution in Relation to Manufacture of Iron and Steel. N. H. Turner. Steam Engr. 24, 134 (Jan. 1955).

In the case of blast furnaces operating on low grade ores, preparation of the ore has decreased the amount of dust released to the atmosphere by furnace slips. In coke making the ancillary plant requires modification to reduce dust emission to a minimum. Steps taken at a British plant are described. The advantages of using by-product gases for firing boilers and the use of waste heat are discussed. The use of steam heat to deal with smoke from steam locomotives and cranes is described.

-- Atm. Poll. Bull.

- 1287 Air Pollution in Relation to Operation of Foundries. J. G. Watkins. Steam Engr. 24, 134 (Jan. 1955).

Difficulties in operation and maintenance of coke-fired mold and core stoves are emphasized. Pattern making, dried sand handling, and fettling of castings are discussed: particle sizes of dust created by these operations range from 1 to 200 microns with dust densities of

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2 to 10 grains per cu. ft. The simple dry cyclone commonly used does not efficiently trap all dust produced in foundry operations. It is concluded that at least two different methods of dust collection working in tandem would be required.

-- Atm. Poll. Bull.

- 1288 A Comparison of Carbon Monoxide Concentrations in Detroit and Los Angeles. V. J. Castrop, J. F. Stephens, and F. A. Patty. Am. Ind. Hyg. Assn. Quart. 16, 225-229 (Sept. 1955).

Test data on atmospheric carbon monoxide concentrations at street and 150-foot levels support the conclusion that increased usage of automobiles has not increased the hazard due to carbon monoxide. Possible reasons for the lack of increase include reduction of carbon monoxide emission per car to half, and reduction of gasoline consumption per car to two-thirds, as compared with 1927 figures. The carbon monoxide concentration at street level in heavy traffic averaged 28.9 ppm in Detroit and 58.0 ppm in Los Angeles. The highest concentration found in Los Angeles during smog was 160 ppm. At 150 feet above ground level the concentration averaged 2.0 ppm in Detroit and 6.0 ppm in Los Angeles, but a lower inversion would yield higher values. These levels are not considered high enough to cause concern for the populace at large. Adequate information is not available to judge the effect of these levels upon infants or those already ill.

- 1289 Incinerator Design and the Fly-Ash Problem. Part I. S. A. Greeley, S. M. Clarke, and R. H. Gould. Am. City 70, 102-103 (May 1955).

Air pollution from a municipal refuse incinerator can be controlled only when the quantity and nature of materials to be burned are known. The most striking characteristic of municipal refuse is its variability. Its heterogeneous character prevents use of mechanical handling. Design of an incinerator to minimize fly ash production depends upon a number of characteristics of the refuse, which are discussed: unit weight of refuse, ash and water content, and percentage of volatile matter.

-- Cond. from Public Health Eng. Absts.

MANAGEMENT ASPECTS

- 1290 Presenteeism—A Constructive View. G. W. Canfield and D. G. Roash. Personnel J. 34, 94 (July-Aug. 1955); Ind. Med. & Surg. 24, 417-418 (Sept. 1955).

A survey of absenteeism was made in Los Angeles to obtain statistics which might help companies deal with the problem constructively,

and to work toward presenteeism rather than away from absenteeism. The survey covered 219 companies. Absences of over four hours in any one day were included. They are classified according to industry, shift, day of the week, and for types of workers. The cost of absenteeism to industry is estimated at \$125 per employee per year. Well-known methods of controlling absenteeism were observed. In addition, the following factors making for absenteeism are considered: (1) ineffective selection and placement procedures; (2) excessive industrial fatigue; (3) over-staffing and under-staffing; (4) irregular flow of production; and (5) other morale factors, both community and personal.

- 1291 Industry and the Senior Citizen. E. L. Bortz. Proc. 7th Ann. Mtg. Am. Acad. Occ. Med. pp. 17-23 (1955).

The author discusses the problem of the older worker. Among the subjects considered are: the continual increase in life span; the superiority of the older worker in reasoning, judgment, and other qualities; the need of further study of the degenerative diseases; the difference between chronological and psychological age; and the need of motivation. The author pleads for greater use of the abilities of older workers and abandonment of the principle of a fixed retirement age. In the discussion of the paper, Dr. Leo Wade points out practical difficulties in the way of applying the ideals that Dr. Bortz presents.

- 1292 Older Workers and Their Job Effectiveness. R. L. Peterson. Geriatrics-10, 34-38 (Jan. 1955).

The results of three surveys on the effectiveness of older workers are summarized. Among the conclusions, based on the experience of supervisors, are: (1) supervisors consider a majority of their workers 60 years and older to be at least as good as younger workers with reference to absenteeism, dependability, judgment, work quality, work volume, and human relations; (2) there is no specific age at which a worker becomes unproductive; (3) organizations retiring workers at 65 are losing much valuable productivity; (4) about one-quarter of the workers 60 years and older will be able to continue working indefinitely; (5) a majority of the workers over 60 have no specific age-connected weaknesses; (6) supervisors have had generally favorable results with new employees recruited from the ranks of the middle-aged; and (7) the age of the supervisor has no effect on the favorableness of ratings. -- Cond. from author's summary

- 1293 The Continued Employment of Older Workers. Geneva Mathiasen. Geriatrics 10, 137-140 (Mar. 1955).

This paper reviews the work of the National Committee on the Aging of the National Social Welfare Assembly relating to retirement practices and more effective use of older workers. It also points out some current developments in pension plans and preretirement counseling.

- 1294 Employment of the Aged in South Dakota. W. H. Franke. S. Dakota Business Rev. 14, 1, 6, 7 (Aug. 1955).

Census figures are tabulated showing the increase in the number and percentage of elderly persons in the United States and in South Dakota, where the aging of the population has been more pronounced than in the United States as a whole. Another table shows the decreasing percentage of population aged 65 and over in the labor force since 1890. A few of the causes for this decrease are discussed: (1) the declining place of agriculture and self-employment; (2) maximum hiring ages in recruiting workers; and (3) compulsory retirement at a fixed age. The problems of operating flexible retirement systems are discussed. A program for expanding employment opportunities is not suggested, but it is stated that labor and especially management share a large responsibility to find ways to make more extensive use of older workers.

- 1295 What Employees Want to Know. W. K. Kirchner and J. Belenker. Personnel J. 33, 378-379 (Mar. 1955).

A survey is reported showing what employees of two companies think they want in information about their company. The most desired information was about the company's product. Employees also wanted information about company services, company finances, computing of wages, and work rules. The least liked type of information was about management people. Other items of information not favored by employees were American business in general, company history, and company employees. In general, the employee wants to know about the things that affect him directly. Management people generally agree with their employees on what is wanted. Office, shop, and supervisory employees show high agreement in their preferences. The question arises why companies do not communicate this information more effectively.

ACCIDENTS AND PREVENTION

- 1296 Fire Department Operations—Use of Wetting Agents. Special Interest Bull. No. 249, National Board of Fire Underwriters, 85 John St., New York 38 N. Y. 1 p. (Aug. 1955).

The use of wetting agents added to water for extinguishing fires is discussed. They are of special use for small fires, smoldering fires within a quantity of combustible material such as baled cotton, stacked hay, some rubber compounds, and some flammable liquids, and brush

and grass fires. The use of wetting agents is questionable in materials soluble in water, and undesirable on electrical equipment involving the use of fabric-covered wire. "A Standard for Wetting Agents", N.F.P.A. No 18, is available from the National Fire Protection Association, 60 Batterymarch St., Boston, Mass., at 35 cents per copy.

- 1297 Methods for Safe Handling and Storage of Compressed Gas Cylinders. W. M. Halliday. Occ. Hazards 17, 33, 34, 58, 59 (Aug. 1955).

An unduly high proportion of industrial accidents arises from explosions involving portable compressed gas storage cylinders. Such accidents can be avoided by complying with a number of precautions both in handling and in storage of such cylinders. The author describes a number of precautions both for handling and for storage, not intended to be exhaustive. They include safe devices to be used on hand trucks, methods of safe loading and unloading, proper methods of storage, and straps for holding cylinders in an upright position when they are being used.

- 1298 Transportation of Explosives. Special Interest Bull. No. 101. 1 p. (Aug. 1955). National Board of Fire Underwriters, 85 John St., New York 38, N. Y.

Attention is called to the widespread damage resulting from the explosion of munitions and similar cargo. Rules and regulations to prevent accidents of these types have been established and are being enforced by the Interstate Commerce Commission, U. S. Coast Guard, and Department of Defense. Suggestions are given for safety when a fire occurs in the transportation of explosives. References are given to codes and regulations.

MISCELLANEOUS

- 1299 Airborne Infections. 1. Progress in the Study of Airborne Infections. B. Cvjetanovic. Arhiv Hig. Rada 6, 47-59 (1955). Croatian.

The author reviews the present state and progress in the study of airborne infections, and their control with special reference to this problem in Yugoslavia.

-- English summary

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- 1300 Airborne Infections. 2. Methods for Detection of Airborne Bacteria. B. Cvjetanovic. Arhiv Hig. Rada 6, 97-113 (1955). Croatian with English summary.

Two simple instruments and methods for quantitative measurement of airborne bacteria are described. One is a new type of apparatus named "rotor for solid media;" the other is a modification of the bubbler-type instrument. Both instruments have considerably lower efficiency than the slit-sampler which was used for comparing their efficiency in collecting airborne bacteria. However, they can be used with advantage in field work if no electricity or piped water is available.

-- English summary

- 1301 Anthrax—Agricultural and Industrial—Infection, Treatment, and Prevention. R. Vaswami. Ind. Med. & Surg. 24, 408-412 (Sept. 1955).

Agricultural anthrax is a serious menace in the Asian countries. Although anthrax is not prevalent in the United States, 60 human deaths have been reported. In human infection, anthrax affects the lung and skin and has a toxic effect on the whole body. Industries where it is likely to occur include the woolen mills, wool carpet industry, goat hair handling industry, brush bristle industry, hide processing industry, slaughter houses, cattle handling, and sometimes even cargo unloading. Several typical cases are reported. Symptoms are fully described. Sulfa drugs and penicillin help in recovery but fail in some cases. Chloromycetin and aureomycin have not been tried sufficiently for evaluation. The following are among the preventive measures recommended: control of imports, avoiding exposures of animals, inoculation of animals, insect control, burying of infected carcasses, no autopsy of animals, personal protection and ventilation where hides are handled, general sanitary precautions, and education in the hazards.

- 1302 Anatomy without Dissection: Evaluation of Body Composition in Vivo. J. Brozek. Arhiv Hig. Rada 6, 151-163 (1955).

The author presents a study of body composition, by biochemical, biophysical, and anthropometric methods, which has a bearing on the science of human work and other fields dealing with energy metabolism at rest and at work and other metabolic and physiological functions.

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