

PLAINTIFF'S EXHIBIT

IHF-535



INDUSTRIAL HYGIENE DIGEST

AND INDUSTRIAL
HYGIENE
OPERATIONS
SAFETY

REVIEW
OF
THE
LATEST
TRENDS
IN
INDUSTRIAL
HYGIENE

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INDUSTRIAL HYGIENE DIGEST

Literature and News

NEWS ITEMS

1152/73 Telecommunications - Proposed Safety and Health Standards.

The foremost concern of these standards is to assure that cautionary measures and have proper training with respect in the carrying out of their duties. The primary basis to the prevention of injuries caused by electricity and used in telecommunication work as well as in other industrial standards relating to their use in construction (29 CFR 192 proposed are not intended to apply to construction which proposed new Subpart T--"Telecommunications" is subcommittee telecommunications standards committee. The committee, communications unions, and other affected groups.

--Federal

communication workers will take proper precautions and will use appropriate protective equipment to which these standards are directed relate. As helicopters and aerial lifts are frequently the subject of this notice also proposes to make the current (29 CFR 1926.558) generally applicable. The standards specifically the subject of 29 CFR Part 1926. The standards are based on the recommendations of a 28-member committee of telephone companies.

Register 38: 23038-23049, August 28, 1973

1153/73 Occupational Safety and Health Standards - Industrial Slings.

The Labor Department has proposed revised safety standards for slings made from alloy steel chain, wire rope, metal mesh, natural or synthetic fiber rope, and synthetic webbing. The proposed standards are based on the consensus standard, ANSI B30.9-1971, with certain changes. These changes are listed in detail in the following table.

--Federal

and inspection procedures for slings made from alloy steel chain, wire rope, metal mesh, natural or synthetic fiber rope, and synthetic webbing. The proposed standards are based on the consensus standard, ANSI B30.9-1971, with certain changes. These changes are listed in detail in the following table.

Register 38: 23490-23503, August 30, 1973

1154/73 Claims for Black Lung Benefits Payable Under Part C of the Federal Coal Mine Health and Safety Act, as Amended.

The entire text of Part 725 incorporating the changes made published here. The amended Part 725 of Title 20 CFR, Chapter VI become effective September 17, 1973. Those changes which should be especially noted are as follows: (1) A number of changes have been made in Subpart B to reflect the decision that the Social Security Administration will continue claims taking responsibilities for an indefinite period after December 31, 1973; (2) Section 725.102 has been revised to reflect the decision made to permit certain Social Security Administration black claimants to file for benefits under this Part 725; (3) Subpart D, especially §§ 725.311-725.323, has been substantially revised to clarify the procedures to be used by the Department of Labor for purposes of identifying the coal mine operator who shall be responsible for the payment of benefits under this part; (4) Sections 725.400-725.487 have been revised to more clearly describe the procedures to be followed upon the conclusion of any formal hearing proceedings conducted; (5) Section 725.541-725.544 have been revised to more clearly describe the nature of medical benefits which shall become available to certain claimants after December 31, 1973; and (6) New §§ 725.551 and 725.552 have been added to clarify the availability of vocational rehabilitation services.

--Federal Register 38: 28042-28068, Sept. 17, 1973

1155/73 Conferees Meet on Toxic Substances.

House and Senate conferees have begun hammering out the final version of toxic substances control legislation, and, barring some unforeseen hangup, ought to have a compromise bill ready for House and Senate action early next month. If so, then the landmark legislation--which even in its more moderate form would have an extensive impact on chemical industry R & D, production, and sales--may well be ready for President Nixon's signature by Oct. 15. Generally overlooked is an important effort by the Environmental Protection Agency, which will have to administer the new law eventually, to help shape the final form of the legislation. Both the Senate and House versions provide much of what John R. Quarles, Jr., EPA's acting administrator considers to be essential in sound toxic substances legislation and are similar in many ways to H.R. 5087, the Administration's proposed Toxic Substances Control Act. Both bills, for example, provide authority for the administrator to require testing of new and existing chemicals, to control such substances through the imposition of use and distribution restrictions, and to take action when a substance presents an imminent hazard to human health or the environment. Further, both bills provide for the creation of a Chemical Substances Board which would serve in an advisory capacity to review test standards and use and distribution restrictions which the administrator intends to propose, according to Mr. Quarles. He notes

two other areas of particular interest to EPA: the relationship of the proposed toxic substances control law to other laws and provisions for premarket screening or testing of chemicals. There are other differences between the House and Senate bills that the conferees will have to resolve, of course, including confidentiality of information provided EPA by industry and the reporting requirements for small producers of chemicals. Chances are good that, at least on the major issues, the differences will be resolved close to EPA's recommendations.

--Chem. & Eng. News 51: 11-12, Sept. 24, 1973

1156/73 Interim Order Denied in Asbestos Standard Variance Request.

OSHA has denied a request for an interim order for 332 companies seeking a temporary variance from federal standards that require monitoring and medical examinations in areas of asbestos exposure. The interim order was sought by the National Insulation Contractors Association of Silver Spring, Md. In applying for the variance, the Association said: --Trained professional and technical personnel are not readily available to perform monitoring for its members; --By December 1973 construction contractors will no longer be using materials containing asbestos; --The expected elimination of asbestos makes it impractical to interest new persons in taking the necessary training to monitor for asbestos; --It is impossible to arrange a program for making available in all parts of the country qualified medical personnel for the OSHA-required medical examinations; --The rapid elimination of asbestos materials from the market makes a program of medical examinations of limited use. In denying the request for an interim order, OSHA stated that to do so would be detrimental to the health of employees.

--Occupational Safety and Health Administration Technical Notes no. 11, p. 1-2, Sept. 14, 1973

1157/73 OSHA Proposes Amended Rules on Walking, Working Surfaces.

OSHA has proposed amendments to its job safety and health standards on walking and working surfaces. The result would be a complete revision of Subpart D of OSHA's general industry standards. The proposed Subpart D appeared in the Federal Register September 6, 1973. The essential differences between the existing rules and the proposed amendments follow: --A new policy that would consider as de minimis violations (no accompanying citations or penalties) insignificant differences from structural and dimensional requirements where the disparities do not directly or immediately affect the safety or health of employees; --A change in format of the Subpart to permit easier reading by increasing the number of section designations and by placing definitions closer to substantive requirements; --A relaxation of current rules to permit ship stairs and spiral stairs as acceptable means of moving from one level to another under specified conditions; --An easing of specifications for standard railings and inclusion of provisions for accommodating OSHA requirements with those of other federal agencies; --The substitution of safety belts and/or nets for guardrails where guardrails cannot be properly installed, as well as changes in minimum scaffold plank spacing and in wire gauge for protection between guardrails and toeboards; --A more specific requirement for a climbing ladder or stairway to be used with a manually propelled scaffold.

--Occupational Safety and Health Administration Technical Notes no. 16, p. 2-3, Sept. 14, 1973

1158/73 New Rapid Method to Test Chemicals for Carcinogenic Potential.

Scientists at the National Cancer Institute have developed a new rapid method of testing chemicals for potential carcinogenic activity that uses animal embryo cells and that may offer an efficient and economical procedure for the screening of thousands of environmental substances. Environmental chemicals are presently tested for cancer-causing activity by feeding them to mice and rats throughout the animal's lives. Costly and time-consuming, each test requires over 300 laboratory animals and two to four years to evaluate a chemical. The new method, which may indicate cancer-causing activity in as little as two weeks, is a modification of an earlier technique developed by Joseph A. DiPaolo, Ph.D., of the NCI, and scientists at other institutions. With the new procedure, a test chemical is first injected into a pregnant hamster. The hamster embryos are later removed and the embryonic cells grown in the test tube. Cancerous transformation is detected microscopically and confirmed by injecting the transformed cells into healthy hamsters, where they produce cancers. Cancerous transformation in the embryo cells has been observed microscopically within two weeks of their exposure to the hazardous chemicals.

--Hospital Tribune 1: 17, Sept. 3, 1973

1159/73 Introducing Hearing Protection.

A survey of hearing protection programs suggested that such programs had their best chance of success when the introduction was well-planned, had management's active support and was continuous over a period of weeks before the wearing of hearing protection was made mandatory. The general resistance to change was cited as an important obstacle to be overcome, especially with older workers. This was further complicated by their having achieved a tolerance of noise in their occupations, frequently as a result of deterioration in their hearing. Younger workers appeared more willing to accept personal protective equipment. The reactions of management respondents ranged from strongly determined to resignedly indifferent. One

company reported introducing ear muffs at the demand of employees and their union, only to find that the employees could no longer hear their machines and many discarded the protection. Another said that it made ear protection available for those who wanted it but avoided making an issue of its use. Still another found the administration of the program difficult because of the fact that employees moved in and out of areas of excessive noise. Most respondents recognized the introduction of hearing protective equipment as needing a progressive, steady program, similar to those that introduced hard hats and eye protection. In one program, where personal ear protection was fitted to each employee, after a month-long trial period complaints disappeared. The success of one program is credited to the method of introduction. At a meeting of all noise-exposed employees the hazards of noise and the methods and benefits of protection were outlined clearly. A one-month shake-down period, during which alternate types of protection were provided for individuals who complained of discomfort, ironed out the problems. Management was behind the entire program and at the expiration of the trial period, hearing protection was made mandatory. --Safety Canada, p.6, August 1973

1160/73 New Job Safety Office Proposed.

The American Medical Association suggested that the federal government help small businesses meet the requirements of the Occupational Safety and Health Act. Since most small firms have neither the personnel nor facilities to evaluate the government office, staffed by health and safety professionals. Further, the AMA recommended that first-visit consultation according to the National Federation of Independent Business, expected, is being fined for violations of the law. The fines

government establish an Office of Consultation and Safety and Health Act. Since most small regulations, the AMA suggested that the government provide on-site guidance to employers. Subject the firm to penalty. At present, about of four small business firms, when in- costs average \$7,627. Amer. Med. News 16: 19, Sept. 10, 1973

1161/73 A Special News Report on People and Their Jobs in Office Unions Step Up Monitoring of Unsafe Working Conditions.

Fear of mercury exposure persuades 400 Oil, Chemical & Atomic to a union-hired lab. Results show "apparently significant" OCAW districts begin measuring lung capacity of members. tests to measure job stress. Airline stewardesses send their they must use. Worried about carbon monoxide, some Teamsters unions buy a special device to measure temperature, humid trend is toward "environmental shop stewards trained to handle safety expert. Some union members agree to have their evidence of possible occupational disease.

Fields and Factories. Safety Sleuthing:

Workers to submit hair and urine samples items at two plants, officials say. Three Connecticut, fire fighters take periodic heart photos, complaints of unsafe jump seats Union drivers monitor truck-cab air. More bad wind movement at hot locations. The "sting equipment," says a United Auto Workers suspended after death to provide medical Street Journal 182: 1, August 28, 1973

1162/73 Lead Toxicity Effects Linked to Drop in Brain Dopamine.

Even a relatively mild degree of lead poisoning in infant rats produces a decrease in brain dopamine, accompanied by abnormal behavior, such as hyperactivity and aggressiveness, two University of Cincinnati investigators reported. Some of the observed behavioral changes resemble the sequelae seen in children with inorganic lead poisoning. I. Arthur Michaelson, Ph.D., and Mitchell W. Sauerhoff told the fall meeting of the American Society for Pharmacology and Experimental Therapeutics, held at Michigan State University. The investigators concluded that the changes in concentrations of dopamine--the biogenic amine known to play a regulatory role in some extrapyramidal motor areas--relative to other monoamines "suggests a relationship" between central nervous system dysfunction due to lead and dopamine metabolism in the brain.

--Hospital Tribune 7: 2, Sept. 17, 1973

1163/73 More Vitamin C May Be Put in Cured Meat in Bid To Block Possible Cancer Danger.

The problem involves cured meats, frankfurters, ham, bacon, bologna and many others, and especially the 1.5 billion pounds of bacon consumed in the U.S. each year. For thousands of years, man has been preserving and flavoring meats by curing them with salts called nitrates and nitrites. The salts add flavor, protect the natural color and prevent the growth of dangerous bacteria that might spoil the meat and poison the eater. Scientists recently discovered that the nitrites can combine with other substances to form nitrosamines, a group of chemicals that are potent carcinogens (cancer-causing agents). Nitrosamines haven't only been found in cured meats. Some scientists believe the dangerous compounds can be formed in the stomach after the cured meat has been consumed. Adding to the problem is the fact that other than nitrites, no other meat additive is known that will prevent the formation of botulism toxin, a deadly poison. If nitrites have to be removed from foods because of their potential danger, there simply won't be any cured meats. A solution may be at hand. Based on preliminary tests that showed that Vitamin C prevented the formation of nitrosamines in cured meats, large-scale trials have been conducted by the meat industry in cooperation with the Food and Drug Administration and the Department of Agriculture.

--Wall Street Journal 182: 16, Sept. 4, 1973

1104/73 Small SO₂ Detector Uses NBS Technology.

Most present methods for measuring sulfur dioxide tend to be time consuming, complex, and/or expensive. The method developed by Dr. Hideo Okabe, an NBS photochemist, does not have these drawbacks. His method is based on the principle that when sulfur dioxide absorbs ultraviolet light it emits a fluorescence at a particular wave length dependent upon its concentration. The instrument Dr. Okabe uses has a zinc light source and uses photon counting to measure the fluorescence. The instrument's sensitivity range is from 8 to 2000 p.p.m. The method is unaffected by water vapor or other chemicals. The first prototype model was developed by Celesco Industries, Costa Mesa, Calif. The instrument is small, portable, and, the company hopes, will be inexpensive to produce. Sulfur dioxide concentrations in stack gas emissions can be measured in either of two ranges--0 to 500 p.p.m. or 0 to 5000 p.p.m.--with a sensitivity of 5 to 10 p.p.m. The instrument also has a dual-range internal calibration source. The instrument is now being field tested and Celesco hopes to start production in October. --Chem. & Eng. News 51: 47, Sept. 3, 1973

COMING EVENTS

- Nov. 3 Conference of State and Provincial Health Authorities of North America, San Francisco. Write: Jacob Koomen, Jr., MD, 225 N McDowell Street, Raleigh, N.C. 27602
- Nov. 4-6 American College of Preventive Medicine, Hilton Hotel, San Francisco. Write: Mr. Ward Bentley, 601 Old Lancaster Rd., Bryn Mawr, Pa. 19010
- Nov. 4-7 Industrial Pharmacy Management Conf., Fontana, Wis. Write: K.W. Kirk, Extension Services in Pharmacy, Univ. of Wisconsin, 425 N. Charter St., Madison, Wis. 53706
- Nov. 4-8 Conf. on Engineering in Medicine and Biology, Institute of Electrical and Electronics Engineers, Minneapolis, Minn. Write: Technical Activities Board, IEEE, 345 E. 45 St., New York 10017
- Nov. 4-8 American Public Health Association, [E], Hilton Hotel, San Francisco. Write: James R. Kinney, MD, 1015--18th St., N.W., Washington, D.C. 20036
- Nov. 4-9 International and Civil Affairs Health Soc., San Francisco, Calif. Write: Dr. J.P. Pappas, CAHS, 960 E. 7th St., Chattanooga, Tenn. 37403
- Nov. 5-9 15th Industrial Environmental Health Workshop (S-100), San Francisco, Calif. Write: Navy Industrial Environmental Health Center, 3333 Vine, Cincinnati 45220
- Nov. 5-9 Symposium on Environmental Surveillance around Nuclear Installations, Intern. Atomic Energy Agency, Warsaw, Poland. Write: J.H. Kane, Office of Information Services, Atomic Energy Commission, Washington, D.C. 20545
- Nov. 6-8 Conference Designing to Survive Disaster, IIT Research Institute, Chicago. Write: Special Affairs, IIT Research Institute, P.O. Box 4963, Chicago, Ill. 60680
- Nov. 7-9 American Cancer Society, Waldorf-Astoria, New York. Write: Mr. Lane W. Adams, 210 E 42nd St., New York 10017
- Nov. 7-9 Radiologic and Other Biophysical Methods in Tumor Diagnosis, 18th conf., Houston, Tex. Write: J. Brandenberger, M.D., Anderson Hospital and Tumor Inst., Houston 77025
- Nov. 7-10 American Medical Women's Assoc., Palm Beach, Fla. Write: Mrs. G. Conroy, 1740 Broadway, New York 10019
- Nov. 7-10 American Soc. of Cytology, Salt Lake City, Utah. Write: M.R. Lang, 7112 Lincoln Dr., Philadelphia, Pa. 19119
- Nov. 7-10 Gerontological So., Miami Beach, Fla. Write: E. Kankavits, GS, Suite 520, 1 Dupont Circle, NW, Washington, D.C. 20036
- Nov. 8-10 American Social Health Assoc., New York, N.Y. Write: E.G. Zippinow, ASHA, 1740 Broadway, New York 10019
- Nov. 8-11 American Health Assoc., 46th scientific session, Atlantic City, N.J. Write: A. Salerno, AHA, 44 E. 23 St., New York 10010
- Nov. 11-14 American Association for Respiratory Therapy, Atlanta Civic Center, Atlanta. Write: E.L. Strickland, 7421 Hines Pl., Dallas 75235

INDUSTRIAL HYGIENE FEATURES

Pulmonary Edema of Environmental Origin	--	Abst.	1185/73
Measurement of Impairment and Disability in Dermatology	--	Abst.	1186/73
Occupational Exposure to Mercury Vapors and Biological Action	--	Abst.	1197/73
Effects of Single Exposures of Carbon Monoxide on Sensory and Psychomotor Response	--	Abst.	1205/73
Ozone As An Occupational Health Hazard	--	Abst.	1207/73
Asbestos and Laryngeal Carcinoma	--	Abst.	1223/73
A Monumental Study--Reconstruction of a 1920 Granite Shed	--	Abst.	1224/73
Extra-Auditory Effects of Occupational Noise. Part 1: Disturbances to Physical and Mental Health	--	Abst.	1227/73
Pollutant Burdens and Biological Response	--	Abst.	1238/73
Air Pollution and Pulmonary Cancer	--	Abst.	1240/73
Ergonomics: Designing for Man	--	Abst.	1253/73
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NOTICE

The Symposium on Coke Oven Emissions originally scheduled for November 28-29 has been postponed because of the unavailability of key speakers on these dates.

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The next Symposium will be held December 12-13, 1973 at Mellon Institute, Pittsburgh, Pennsylvania on the subject of Carbon Monoxide.

- Nov. 11-15 American Soc. of Mechanical Engineers, 94th annual, Detroit, Mich. Write: A.B. Conley, AIME, 345 E. 47 St., New York 10017
- Nov. 11-15 Academy of Pharmaceutical Sciences, San Diego, Calif. Write: W.C. Roemer, APS, Room 824, 211 E. Chicago Ave., Chicago, Ill. 50611
- Nov. 11-15 American Institute of Chemical Engineers, Loss Prevention in the Chemical Industry Symposium, Philadelphia, Pa. Write: J.C. Grossel, Hoffmann-La Roche, Nutley, N.J. 07110
- Nov. 13-14 Health and Safety in Industrial Plants, Univ. of Wisconsin, Madison. Write: Charles E. Jorgensen, Dept. Engineering, U. Wisconsin Extension, 432 North Lake St., Madison, Wis. 53706
- Nov. 14-15 IHF Training Course for Industrial Nurses, Webb Hall Hotel, Pittsburgh, Pa. Write: George H. Reilly, Industrial Health Foundation, 21 Centre Avenue, Pittsburgh, Pa. 15232
- Nov. 14-15 Consumer Safety and Product Liability Seminar, Americana Hotel, N.Y. Write: Seminars Secretariat, Bureau of National Affairs, 1231 25th St., N.W. Washington, D.C. 20037
- Nov. 14-16 International Conf. on Health Technology Systems Research Soc. of America, San Francisco, Oakland, Calif. 94611
- Nov. 14-17 American Assoc. for Automotive Medicine, Oklahoma City, Okla. Write: A. Carriere, 801 Green Bay Rd., Lake Bluff, Ill. 60044
- Nov. 15-17 American Soc. for Cell Biology, Miami Beach, Fla. Write: G.D. Pappas, Dept. of Anatomy, Albert Einstein College of Medicine, 1300 Morris Ave., Bronx, N.Y. 10461
- Nov. 18-21 Academy of Psychosomatic Medicine, Williamsburg Shreveport, La. Write: K. Shannon, Jr., 813 River Rd.,
- Nov. 25-30 Radiological Soc. of North America, Chicago, Ill. Write: J.W. Beeler, RSNA, 713 E. Genesee St., Syracuse, N.Y. 13210
- Nov. 28-29 Coke Oven Emissions Symposium, Mellon Institute of Industrial Research, Pittsburgh, Pa. Write: Industrial Health Foundation, 5231 Centre Avenue, Pittsburgh, Pa. 15232
- Nov. 29-Dec. 1 National Conference on Virology and Immunology Society and National Cancer Institute, Waldorf-Astoria Hotel, New York. Write: Sidney C. Arje, American Cancer Society Inc., 218 E 42nd St., New York 10017
- Nov. 30-Dec. 2 Southeastern Regional Industrial Health Conf., Williamsburg, Va. Write: Clint W. Stallard, Jr., Newport News Shipbuilding and Dry Dock Company, Newport News, Va. 23607

LEGAL DEVELOPMENTS

1165/73 Insurers Say 10-Million Workers to Benefit from Overhauled Compensation Laws.

At least 10-million American workers stand to benefit from a radical overhauling of the current system of state workmen's compensation laws during next few years, Insurance Information Institute has reported. Citing recommendations for improvement of state laws to eliminate existing inequities, made last year by National Commission on State Workmen's Compensation Laws, and a new survey by Department of Commerce showing that workmen's compensation benefits are now running at about \$3.4-billion annually, the Institute said most of the 10-million workers to be brought under the laws are farm workers, domestic servants, and persons working for small firms. Passage of OSHA has been the most recent impetus for updating and strengthening workmen's compensation laws, since it imposed so many new obligations on employers. Even small employers have begun asking their state legislatures for stronger compensation insurance laws.

--Job Safety & Health Report 3: 1, July 30, 1973

1166/73 D.C. Worker Fired for Safety Complaints Alleges Discriminatory Discharge.

A Metro construction worker in Washington, D.C., fired for complaining about alleged dangerous conditions in subway tunnels under construction has contracted silicosis, a lung disease caused by exposure to silica rock dust. The worker dismissed by the Construction Co. for what the firm claimed was "unreasonable questioning of safety on the job which had been proven to him to be safe," was shown five years ago to be free of the disease. Since then, his only exposure to conditions causing silicosis was during the two years he worked in the tunnel. He said he was on the job 16 months before respirators were provided and that ventilation at the face of the tunnel was inadequate. About three months ago, when he developed shortness of

breath and a cough, Occupational Safety and Health Administration industrial hygienists conducted tests in the tunnel and concluded that the worker had mild disability due to early simple silicosis. He has filed a discriminatory discharge complaint with OSHA. Although the firm has been cited twice for 28 alleged safety violations resulting from this worker's complaints, the firm's area manager, reaffirmed the stated reasons for his dismissal. The complaint that triggered his discharge was his allegation that a rock 30 feet long and four feet in diameter was dangerously poised above tunnel lining. The area manager said the firm has been unable to get information on the worker's illness, and tests to determine whether rock in the tunnel could cause silicosis were inconclusive. In the meantime, he said, "we are requiring any men working in that situation to wear masks, which will keep them within tolerance." A physician with Ralph Nader's Health Research Group said the firm's decision to fire this worker undermines Federal law "by intimidating employees who have a right to complain about safety violations." A Metro spokesman said that while the subway building agency had no authority to intervene between prime contractors and employee, it was calling for test results and would investigate if a silicosis danger existed.

--Job Safety & Health Report 3: 158, July 30, 1973

1167/73 OSHA to Mean a Lot of Business for Lawyers.

The impact of the Occupational Safety and Health Act on practicing attorneys could represent a bonanza--financial and otherwise--for attorneys. A practicing attorney in Boston, lists the following as causes of potential civil litigation under the Act: "An action by or on behalf of the injured or damaged employee against the manufacturer, distributor or supplier of the product violating the General Duty Clause or its standards and causing the injury to the employee. "An action by or on behalf of the injured employee against a third party, not an employer, who may be in control of the place of employment. For example, an injured window washer employed by a cleaning service hired by a tenant to clean the exterior windows of a skyscraper might take action against the owner of the building. "An action by the employer or employee against the architect or designer of a place of employment in violation of OSHA standards causing damage or injury. "An action by an injured or damaged third party, not an employee, against the employer because of a violation of OSHA by an employer. "An action by an injured or damaged third party against the employee because of a violation of OSHA by the employee. Section 5(b) raises the duty of the employee although OSHA establishes no penalty to the employee for violation. A violation of these standards would be evidence of negligence in most states, and in some states would be negligence, per se, the attorney said. "Just about all places where a person is employed would seem to be covered by OSHA," he declared. "Therefore, when an injury or damage is sustained by a client in a place where people are employed, it is suggested that counsel look into the possibility of a violation of OSHA standards. A check should be made of the Code of Federal Regulations to determine if a specific standard has been promulgated.

--Occupational Health & Safety Letter 3: 3, July 22, 1973

1168/73 Penalties Should Be Assessed Only When Real Risk Involved, OSHRC Rules.

Job safety penalties should be assessed only for violations that bear a real relationship to safety of employees, Occupational Safety and Health Review Commission has ruled, vacating penalty against a California packing and shipping firm for failing to maintain a job safety administrative record, while upholding \$30 penalty for failing to secure dockboards that could be displaced during loading operations and for not keeping them in good repair. The review commission judge ruled the \$30 penalty was appropriate for the dockboard violation because it presented a real risk of employee injuries, but declined to assess the \$100 penalty for the record-keeping failure because of its low gravity, and because the firm properly maintained other records required by OSHA.

--Job Safety & Health Report 3: 159, July 30, 1973

1169/73 Other OSHRC Decisions.

A charge against a crane service company arising out of investigations of the electrocution of a worker when a crane boom came in contact with a high power line, has been dismissed by OSHRC because the Labor Department failed to carry the burden of proving that a missing boom brace made the crane unsafe to operate. The commission stated that the standard required the department to prove the crane was not in safe condition and that the record was "devoid of convincing expert testimony" to show the crane was unsafe.

--Job Safety & Health Report 3: 159, July 30, 1973

BOOKS AND PAMPHLETS

- 1170/73 Handbook of Environmental Control, Vol. 2: Solid Waste. R.G. Bond, C.P. Straub, and R. Prober, eds.
Available from: CRC Press, 18901 Cranwood Parkway, Cleveland, Ohio 44128. 580 p. (1973)
Price: \$30.00.

The editors have endeavored to select tabular data relating to the overall problem of collection, transportation, treatment, and disposal of solid wastes. The data are presented intending to provide information about the sources of such wastes, and their characteristics, both quantitatively and qualitatively. Management of the major sources of solid wastes - residential, institutional, agricultural, and industrial - has been of major concern to the public in terms of environmental degradation for only a relatively short period of time. Only recently have new technologies for treatment been developed, and systematic studies conducted to attack the great expense of collection and disposal practices. Hopefully, during this time of accelerating activity, the information compiled in this handbook will prove useful to the wide spectrum of disciplines which are now engaged in the many facets of solid waste management. As with Volume I of the series the hope is that the handbook can provide answers to questions about the specific nature of the problem that now exists, and possible projections for the future. Also included is information about the significance of the problem in terms of health effects, environmental impact, costs, and energy requirements. --Cond. from Preface

- 1171/73 Pollutant Removal Handbook. M. Sittig. Available from: Environmental Data Corp., Mill Road at Grand Ave., Park Ridge, N.J. 07856. 528 p. (1973) Price: \$38.00.

The book attempts to clarify the ways and means open to the polluting wastes down to a minimum. It contains a total of 1 and encyclopedic fashion. Because of its encyclopedic and professional aid to eager students in the fields of antipollution handbook gives pertinent and concise information on such slicks in oceans to the containment of odors and particulate siderations such as indicating by its extensive bibliographic information, this book is also helpful in explaining the developing new concepts and a new terminology all its own. fication, recycling, activated sludge, gas incineration, cat-

rt industrial processor who must keep his
subject entries arranged in an alphabetical
ement, it can also serve as a textbook and
engineering and pollution abatement. This
ely divergent topics as the removal of oil
from paper mills. Aside from practical con-
sts, further sources to consult for additional
ngo of pollution abatement. This field is de-
ample, particulates, polyelectrolyte, floc-
conversion, industrial ecology, etc.

--Cond. from Foreward

- 1172/73 Vibration and Acoustic Measurement Handbook. M.P. Bla and W.S. Mitchell, eds. Available from: Hayden Book Co., Inc., 50 Essex Street, Rochell Park, N.J. 0862. 649 p. (1972) Price: \$30.00.

In this handbook an effort is made to start at the measuring end of the spectrum of information on vibration and acoustics. It attempts to begin with the industrial or technological problem and throw light on it by discussing known practical methods and such theory as may be unavoidable. Vibration measuring is now at the stage whereat Audio found itself about forty years ago. A vast amount of measuring has been done in the past decade or two, and a vast body of theory has been brought to bear in some areas. Nevertheless, the theoretical and measuring activities are still, as it were, two separate worlds, particularly as regards the vibratory and acoustic control of existing machines, as distinguished from design work. This present handbook tries to join the two worlds. It tries to form one bridge among the many that are still needed. The field is vast, and so expanding that its progress outpaces the capacity of writers to document it. For this reason, and as will be noticed, the handbook is simply a selection. But this lack is the natural result of starting to document a field like vibration measuring which has grown from almost nothing in a decade or two to a complete world that now includes maintenance, medicine, design, ecology, transportation, space travel, and so on almost without end. Out of all the possible areas of specialization, the present book tends to focus on maintenance or on the well being and control of existing machines more than on anything else. Just as an effort is made to consider always the practical problem and the industrial need, every effort is also made to address the maintenance engineer, the informed technician, or any one who is charged with the task of using vibration and acoustic measurements in the day-to-day world of practice. Indeed it is hoped that the industrial operator will find that the authors meet him as far as possible on his own ground and in his own terms. In its constant effort to accentuate the need and character of the actual field situation, the present handbook is unique. The first eleven chapters include some of the fundamentals of acoustics and vibration together with what seemed to be some of the more useful highlights of analytical methods and of vibration isolation. The next eight chapters are devoted entirely to examples drawn from the field of machine maintenance. In this field, vibration measuring covers the entire gamut from safety to economy of operation. Throughout, the topics of velocity measuring and of severity levels have been given the prominence that their importance deserves. Seven more chapters are then devoted to miscellaneous measuring examples and measuring instrumentation. Finally, a chapter is devoted to such

standards and general information as seemed likely to prove most valuable in the industrial situation. The handbook does not replace nor attempt to replace existing handbooks or other books. It will be found to be a useful supplement for reference in a variety of spheres of work, such as in understanding some of the implications of codes relating to noise and vibration, in following courses of instruction devoted to vibration and acoustics, or for example in design and test work.

--Cond. from introduction

- 1173/73 Noise Pollution Resources Compendium. Technology Application Center, University of New Mexico. Available from: Technology Application Center, University of New Mexico, Albuquerque, N.M. 87106. 157 p. (1972) Price: \$30.00.

Of all the problems facing our modern world, noise is perhaps the most ubiquitous. By the most simple definition, noise is unwanted sound. Unfortunately, many of the amenities of civilized life, whether they are for productive purposes or related to recreation, produce unwanted sound that may have by-products which will deteriorate the functioning of the amenities themselves, and through the transmission of sound, affect the satisfaction and performance of individuals, perhaps entire communities. The purpose of this reference book is to provide information with which to better understand noise in terms of its physical properties, which may be measured, and its nonphysical effects on human populations. In order to prepare this volume, thousands of journals and indexes were searched for information on the subject of noise. The articles and books which were located have been indexed by keywords which may be found in the subject index. Each citation contains information which will assist the reader in identifying and locating the original article. To further improve the usability of this volume, the citations have been categorized into eight major sections, with each of these subclassified into a number of subsections. These subsections are designed to reduce the work of a researcher in a particular field by decreasing the references he must review. The major sections are: Noise Sources, Noise Detection and Measurement, Noise Abatement and Control, The Physical Effects of Noise, Psychological and Physiological Effects of Noise, Noise Regulations and Standards, Patents and Contracts, and Noise Research.

--Cond. from introduction

INDUSTRIAL MEDICINE

- 1174/73 Coalworkers' Pneumoconiosis. H. Campbell, et al. Br. Med. J. 3: 351, Aug. 11, 1973. 6 refs.

Professor A.L. Cochrane, in his report on the 20-year follow-up of miners and non-miners examined in the Rhondda Fach in 1950-51 (J. 2, p. 532) showed that the survival of the miners was independent of the radiological category between category 0 and category A but that there was a decrease in the survival rate of men with progressive massive fibrosis of category B or C. The method he used to classify the chest x-rays was essentially similar to that ultimately recommended by the International Labour Office in their Radiological Classification of Coalworkers' Pneumoconiosis (Geneva 1958). This was based upon the extent of simple nodulation and of massive fibrosis, but it did not pay regard to other evidence of functional disability in the lung. The 1968 I.L.O. classification recommended that nodulation should be classified separately from irregular markings. Though the primary purpose of this addition was for use in the asbestososis, it has proved useful in the anthracoses. If the Rhondda miners in radiological category 0 contained cases with significant clinical pneumoconiosis which did not present as nodulation, then the failure to detect a gradient in survival rates with increased nodulation would not be evidence of the failure of the disease to influence survival. This hypothesis could be put to the proof by examination of the lung sections of the deceased miners where these are still available. Professor Cochrane's own data suggest that some such phenomenon may be occurring. Standardized mortality ratios have been calculated for each of his radiological categories for each decade of age using as a standard a mean of the survivals between the 1951 and the 1971 life tables calculated by the Registrar General for England and Wales.

--Cond. from text

- 1175/73 Pulmonary Edema of Environmental Origin. E.M. Cordasco and F.D. Stone. Chest 64: 182-185, Aug. 1973. 27 refs.

Fifty-five patients with chemical intoxication evoking pulmonary edema were seen in the past several years. In addition, environmental pulmonary edema from heroin intoxication, edema associated with cerebral trauma and edema associated with pulmonary insufficiency were also encountered. Most patients recovered. Treatment included inhalational therapy utilizing 40-60 percent oxygen with intermittent positive pressure breathing, endotracheal intubation or tracheostomy in the most severe problems. Digitalis and diuretics may be beneficial in a limited number of patients. Corticosteroids and hexamethylentetramine are effective in specific types of intoxications. Morphine sulfate and other narcotic agents are to be avoided in those patients with respiratory depression due to hydrogen sulfide, hydrogen cyanide, osce, carbon monoxide and heroin intoxication. As previously mentioned, assisted or controlled ventilation may be of considerable benefit in the latter problem. Most of these patients should be treated in intensive care units and appropriate monitoring of the cardiopulmonary system should be implemented, since the majority of these patients are acutely ill.

- 1176/73 Aerobic Capacity of Relatively Sedentary Males. A.E. Coleman, C.L. Burford, and P. Kreuzer. *J. Occ. Med.* 15: 628-632, August 1973. 25 refs.

PWC, an accurate measure of aerobic capacity, was determined for 78 male volunteers from the Texas Tech University faculty. These results were then related to age, activity patterns, athletic histories and smoking habits of the subjects. On the basis of the data generated in this investigation the following conclusions are warranted: (1) Maximal oxygen intake declined with age and rank. The rate of decline was less for the more active subjects in each age category and academic rank. (2) No relationship was observed between previous athletic experience and fitness. This observation was apparently attributable to the non-athletes being five to ten years younger than the former athletes. (3) No difference existed between the aerobic capacity scores for smokers and nonsmokers. The relatively low values observed for smokers may have been influenced more by youth and activity than by the effects of smoking. (4) The PWC values of the test population were comparable to those reported for European males and comparable or superior to those reported for other U.S. males. (5) Comparison of the aerobic capacity scores of the sedentary volunteers to trained athletes revealed that the average $\dot{V}O_2$ max of the untrained subjects was noticeably less than that observed for their trained colleagues. (6) Comparison of adjusted norms revealed that 44% of the test population had to be rated as low, 41% as average and 15% as high or better physical condition. These findings suggest that the effects of sedentary living and aging may be balanced or delayed with regular physical activity.

--Authors' summary

- 1177/73 Supine Hypoxemia and Erythrocytosis Due to Airway Closure at Low Lung Volumes. P. Hamosh and A.M.T. Da Silva. *Am. J. Med.* 55: 80-85, July 1973. 23 refs.

Two patients with polycythemia and supine hypoxemia are described. Lung function was within normal limits in both with the exception of an increased alveolar-arterial oxygen gradient, and one of them showed a frequency dependence of dynamic lung compliance. Expiratory reserve volumes (ERV) were very low, and the "closing volume" significantly overlapped with the tidal volume. The resulting ventilatory impairment caused shunting of venous blood in the lung which, in turn, led to arterial hypoxemia. Hypoxemia caused by this mechanism has been described in obese subjects with minimal lung disease. These two patients are only moderately obese and have only minimal lung disease, probably involving the "small airways." However, the erythrocytosis is entirely due to supine hypoxemia, and therefore airway closure during supine breathing is the primary cause of this clinical entity.

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--Authors' abst.

- 1178/73 Involvement of Leukocytic Proteases in Emphysema and Antitrypsin Deficiency. J. Lieberman. *Arch. Env. Health* 27: 198-200, Sept. 1973. 16 refs.

Evidence is presented to support the postulate that leukocytic proteases may be intimately involved in pathogenesis of pulmonary emphysema associated with antitrypsin deficiency. Leukocytic proteases extracted from purulent sputum are capable of digesting human and animal lung tissues, and this enzymatic activity is strongly inhibited by the antitrypsin from normal serum. Lung tissue may have affinity for binding antitrypsin from serum and this may have some therapeutic implications. Two mechanisms are described whereby antitrypsin deficiency develops: (1) a block in the release of an abnormal antitrypsin from the liver cell and (2) increased lability of the abnormal antitrypsin molecule in the serum. Both of these mechanisms could account for the most severe deficiencies of serum antitrypsin, but increased lability alone may result in the milder deficiency states associated with some variants of the antitrypsin molecule. --Author's abst.

- 1179/73 Antitrypsin Deficiency and Abnormal Protease Inhibitor Phenotypes. C. Mittman, T. Barbella, and J. Lieberman. *Arch. Env. Health* 27: 201-206, Sept. 1973. 15 refs.

Protease inhibitor phenotypes associated with severe and intermediate antitrypsin deficiency were observed more frequently than expected in 164 patients with chronic, obstructive lung disease. The risk associated with any phenotype appears related to the severity of the deficiency. An association between the intermediate deficiency and chronic, obstructive lung disease would have been obscured if only the serum concentration of antitrypsin had been measured. When compared with patients with normal protease inhibitor types, those with the intermediate deficiency generally developed overt disease after relatively little exposure to cigarette smoke. It is suggested that antitrypsin deficiency is one inherited abnormality that is predisposing to the development of lung disease by rendering individuals more susceptible to the harmful effects of environmental factors. In this circumstance, lung disease in these individuals is preventable.

--Authors' abst.

- 1180/73 Respiratory Disease in Young Adults: Influence of Early Childhood Lower Respiratory Tract Illness, Social Class, Air Pollution, and Smoking. J.R.T. Colley, J.W.B. Douglas, and D.D. Reid. *Br. Med. J.* 3: 185-188, July 28, 1973. 9 refs.

The prevalence of cough during the day or night in winter has been studied in 3,888 20-year-olds. These were members of a cohort born in England, Scotland, and Wales in the last week of March 1948. The prevalence of cough and current smoking habits have been related to events recorded during infancy and childhood—that is, exposure to air pollution, social class of father, and lower respiratory tract illness under 2 years of age. At age 20, of these factors, cigarette smoking was found to have the greatest effect on symptom prevalence, followed by a history of a lower respiratory tract illness under 2 years of age. Social class and air pollution had little effect. —Authors' abst.

- 1181/73 Malignant Pulmonary Neoplasms Predisposing to Spontaneous Pneumothorax. D.E. Dines et al. *Mayo Clinic Proceedings* 48: 541-544, Aug. 1973. 23 refs.

Between Jan. 1, 1953, and Jan. 1, 1973, 1,143 patients with spontaneous pneumothorax were seen at the Mayo Clinic; 10 of these cases were attributed to malignant pulmonary neoplasm. Five of these 10 patients had sarcomas and one had lymphosarcoma. In two of the cases, the spontaneous pneumothorax preceded the development of roentgenographically demonstrable pulmonary metastasis. —Authors' abst.

- 1182/73 Pseudomonas Pneumonia - A Retrospective Study of 38 Cases. J.E. Pennington, H.V. Reynolds, and P.P. Carbone. *Am. J. Med.* 55: 155-160, Aug. 1973. 15 refs.

The clinical course in 38 cases of *Pseudomonas* pneumonia collected over a 15 year period (1958 to 1970) at the Clinical Center of the National Institutes of Health were reviewed to identify factors which increased the risk of infection and affected prognosis. In all cases, the patients had a serious underlying disease which predisposed to infection, and the majority had neoplastic diseases, particularly acute leukemia; cardiac or pulmonary diseases were less frequent. *Pseudomonas* related mortality was 81 per cent and was not influenced by type of antibiotic therapy or by the year of occurrence. Many patients were neutropenic, usually subsequent to cytotoxic chemotherapy, and frequently had been treated with steroids or antibiotics just prior to the development of pneumonia. Adequate numbers of circulating granulocytes were essential to survival. No patient with a positive blood culture survived. Possibilities for new means of prevention and treatment of *Pseudomonas* pneumonia are discussed. —Authors' abst.

- 1183/73 Desquamative Interstitial Pneumonia. A.S. Patchefsky, W. Fraimow, and W.S. Hoch. *Arch. Int. Med.* 132: 222-225, Aug. 1973. 17 refs.

Of 13 patients having desquamative interstitial pneumonia, six patients had abnormal serum antibody for extrapulmonary symptoms, while eight patients had interstitial fibrosis as a histological feature. Follow-up has shown that three patients died of disease and one shows progressive pulmonary insufficiency. The presence of pulmonary fibrosis in the biopsy specimen correlated with the clinical outcome. —Authors' abst.

- 1184/73 Exercise ECG Changes in Normal Women. G.R. Cumming, C. Dufresne, and J. Samm. *Can. Med. Assn. J.* 109: 108-111, July 21, 1973. 17 refs.

Submaximal and/or maximal exercise was carried out by 357 women without a history of cardiovascular disease, using a bicycle ergometer and/or treadmill while monitored by a bipolar ECG lead CM₃. In 40- to 60-year-old women the incidence of an ischemic ECG pattern during or after exercise ranged from 20 to 30%. Because clinical coronary disease can be expected in less than 10% of normal women followed for 16 years, most of these ECG changes were not considered to be due to occult coronary disease. At the present time exercise ECG changes in women cannot be used with any reliability as an aid in the diagnosis of chest pain or in screening normal female populations for coronary heart disease. —Authors' abst.

- 1185/73 Exercise vs Drugs for Treatment of Hypertension. B. Kiveloff and O. Huber. *J. Am. Med. Assn.* 225: 314, July 16, 1973. 2 refs.

Recent research has indicated that both isotonic and isometric exercise are alternatives for hypotensive drugs in the treatment and prevention of hypertension. The danger of becoming a drug-oriented society may be reduced with attention to this other approach. With the new trend in screening for early detection of hypertension, hope of alleviating this condition is assured for innumerable people of all ages. The sphygmomanometer may join the thermometer as a household necessity and thereby arrest the development of advanced medical problems by early care by a physician. Early detection seems indicated in this modern civilized society with its technological pressures. The rationale for utilizing an normal, physiological, hygienic

method of exercise for maintaining normal blood pressure and lowering hypertension possibly may rest with the explanation of feedback from the muscles in regulating cardiovascular adjustments. Preliminary experiments with brief, extensive, maximal isometric exercises are indicating this possibility. --Authors' abst.

- 1186/73 Sudden Death in Nonhospitalized Cardiac Patients. A.B. Simon and A.A. Alonso. Arch. Int. Med. 132: 163-170, Aug. 1973. 36 refs.

Sudden death due to coronary heart disease in nonhospitalized patients in south-eastern Montgomery County, Maryland, was investigated over one year to determine prognostic factors. One hundred thirty-eight patients between the age of 35 to 75 were studied. Fifty-seven percent had a history of heart disease. Premortary symptoms were present in 65%; only 22% had chest pain. Three-fourths died at home; 4% at work, 8% in the ambulance; and 15% died unwitnessed, but 15 of these had informed someone of their symptoms before being left unattended. Previous symptomatic heart disease was associated with a rapid demise. Based on the time of cardiac arrest and the call for emergency aid, no more than 22% could have been aided by mobile coronary care units.

--Authors' abst.

- 1187/73 Mammalian Cells for Carcinogen Identification. C.H. Evans and J.A. DiPaolo. J. Am. Med. Assn. 225: 631-632, Aug. 8, 1973. 5 refs.

The need for more rapid bioassay is apparent, and the development of mammalian cells in culture has created new approaches to the assessment of chemicals with carcinogenic activity and new avenues for investigating the process of carcinogenesis itself. Cell culture provides an environment where it is possible to evaluate the primary events in carcinogenesis, an environment where host modifications are eliminated and where cells alone or in combination with other chemicals, irradiation, or systems of chemical carcinogenesis employing cells from several animal species are now available. It is imperative that cells altered by chemical carcinogens give rise to a cell type counterpart significant in the human population. A major development has been the establishment of quantitative systems permitting determination of change following exposure to a chemical carcinogen. Cells treated with carcinogenic chemicals, can be identified reproducibly in a period of days and the neoplastic nature of the transformation can be verified by the formation of progressively growing colonies. Following inoculation of appropriate hosts with the tumor cells, the number of cells undergoing neoplastic transformation occurs after a single application of one of a variety of chemical carcinogens. Neoplastic transformation is not seen with cells exposed to noncarcinogenic chemicals. Neoplastic transformation is the result of induction by the chemical rather than by selection of preexisting neoplastic cells. The frequency of transformation in cell culture is dose-related, correlates with the carcinogenic activity of chemicals in vivo, and the results in culture are consistent with the one-hit hypothesis, indicating that at least in these systems there is no threshold dose.

--Cond. from text

- 1188/73 Yellow Nail Syndrome - Response to Vitamin E. S. Ayres and R. Mihan. Arch. Dermatol. 108: 267-268, Aug. 1973. 9 refs.

The yellow nail syndrome includes slow-growing, opaque yellow nails with exaggerated lateral curvature, lymphedema, and chronic respiratory disorders such as chronic bronchitis, pleural effusions and chronic sinusitis. The nail changes may precede the lymphedema by a number of years and may persist for many years. In one reported case the yellow nails had persisted for 41 years. A case is described in which the classical yellow nails, of 11 months' duration, returned to normal within 6 months after oral treatment with vitamin E in the form of d, alpha-tocopheryl acetate, 800 international units daily was begun, and with parallel improvement of an associated chronic bronchitis and chronic sinusitis.

--Authors' abst.

SKIN DISEASES AND BURNS

- 1189/73 Measurement of Impairment and Disability in Dermatology. H.M. Robinson. Arch. Dermatol. 108: 20-29, Aug. 1973. 7 refs.

Occupational dermatoses cause the highest percentage of industrial disabilities and the greatest number of man days of labor lost from nonfatal disease. The terms "impairment" and "disability" are recognized as distinct entities by the American Medical Association; however, such distinction is not uniformly accepted by Workmen's Compensation Commissions, Civil Courts, or Welfare Agencies. Financial settlements are

not based on impairment but are awarded on the extent of disability. Disability determination is an evaluation of present and future ability to engage in gainful activity as it is affected by impairment in relation to other factors. Except for impairment, other factors which modify disability existed prior to development of skin lesions. The system devised for computation of disability has undesirable features, but represents an improvement over the present arbitrary manner used in making such decisions. --Author's abst.

- 1180/73 The Most Common Contact Allergens. R.L. Beer, D.L. Ramsey, and E. Biondi. Arch. Dermatol. 108: 74-78, July 1973. 18 refs.

The 24 contact allergens are presented which produced positive patch test reactions in 3% or more of the patient population of the New York University Skin and Cancer Unit during the years 1968 to 1970. The ten most common among these were mercury bichloride, mercaptobenzoethiazole, paraphenylenediamine, potassium dichromate, ethylenediamine, nickel sulfate, turpentine oil, formaldehyde solution, poison ivy, and bismark brown. Some of the sources of exposure to these allergens and some of the known cross-sensitizing compounds are listed. The clinical significance of strong vs weak patch test reactions is discussed. --Authors' abst.

- 1181/73 Contact Dermatitis from Animal Feed Additives. R.M. Caplan. Arch. Dermatol. 107: 918, June 1973.

An article that appeared in the November issue of the Archives (106: 722, 1972) about contact dermatitis in two individuals who handled medicated animal feed brought to mind a report of similar instances (J Iowa Med Soc 58: 295-298, 1969). Physicians should realize that such drug additives can also provoke urticarial reactions and diffuse dermatitis, via the airborne route in farmers and feedmill workers. Furthermore, farmers often engage in do-it-yourself veterinary care for their animals and, thus, have contact exposures to solutions of penicillin and other drugs. Probably the most frequent hazard for this agricultural group is the primary irritant hand dermatitis due to handling herbicides and pesticides (J Iowa Med Soc 62: 295-298, 1969; 419, 1972). Modern agriculture is chemically complex, and we must appreciate the implications of such chemicals on human health and disease. --Author's text modified

- 1182/73 Contact Dermatitis to Chrysanthemums. E. Bleumink, J.C. Mitchell, and J.P. Nater. Arch. Dermatol. 108: 220-222, Aug. 1973. 8 refs.

Nine patients with strong skin reactions to chrysanthemums of florists were studied. From four different common chrysanthemum varieties, alcohol and aqueous extracts were prepared. Extracts of stems appeared negative while the highest skin reactivity was found in alcohol extracts of leaves and flowers. Aqueous extracts were mainly negative. No significant differences in skin reactivity between the four varieties assayed occurred. Six out of seven persons allergic to chrysanthemums showed positive reactions to alantolactone (a sesquiterpene lactone) and two of four who were tested showed positive reactions to cumambrin A. --Authors' abst.

- 1183/73 Pemphigus Foliaceus Occurring in a Roofer. B.W. Berger. J. Occ. Med. 15: 742-743, Sept. 1973. 10 refs.

A case history of a roofer with a photosensitive disease (pemphigus foliaceus) who works with a phototoxic agent (pitch) is presented. Individuals who will be working under natural sunlight should be evaluated for the possibility of future photosensitivity reactions during their pre-employment examinations, particularly when they might be exposed to phototoxic agents. Photosensitivity reactions should be considered in the differential diagnosis of cutaneous eruptions occurring in employees exposed to natural sunlight. --Author's summary

- 1184/73 Allergic Contact Dermatitis from Tolnaftate. E.A. Emmett and J. M. Marrs. Arch. Dermatol. 108: 88-89, July 1973. 2 refs.

A 48-year-old man developed a recurrent dermatitis which subsided after the application of a cream containing tolnaftate was discontinued. Patch tests showed delayed hypersensitivity to tolnaftate but not to the other ingredients of the cream. This is the second instance of tolnaftate allergy reported in the literature. --Authors' abst.

- 1185/73 Topical Steroid-Antibiotic Combinations. R.R. Marples, A. Rebora, and A.M. Kligman. Arch. Dermatol. 108: 237-240, Aug. 1973. 12 refs.

Whether antibiotics should be combined with topical steroids in the treatment of chronic dermatoses is a question that is extraordinarily difficult to answer. The alternative proposed in this study is appraisal of efficacy in experimental human infection with *Staphylococcus aureus* and *Candida albicans*. With a broad

spectrum steroid-antibiotic combination containing triamcinolone acetoneide, neomycin gramicidin, and nystatin, it was possible to show that omission of any one component decreased the effectiveness of the mixture. The steroid by itself suppressed the experimental lesion without influencing the multiplication of the pathogen.

--Authors' abst.

- 1196/73 A Clinical Evaluation of 0.05% Desonide Cream. W.C. Gentry, E.W. Rosenberg, and R.W. Goltz.
Arch. Dermatol. 107: 870-871, June 1973. 3 refs.

Desonide cream, 0.05%, is a new non-fluorinated topical steroid. A study of 133 patients demonstrates it to be as effective as 0.025% flu-
steroid responsive dermatoses with no statistically significant

cream. A double-blind clinical evaluation alone acetamide cream in the treatment of spondyralgia for either steroid.

--Authors' abs.

CHEMICAL HAZARDS

- 1187/73 Occupational Exposure to Mercury Vapors and Biological
Arch. Env. Health 27: 65-68, Aug. 1973. 24 refs.

In workers exposed to an average atmospheric mercury vapor limit value (TLV, 0.050 mg/cu m), the following biological urine mercury concentrations, increased plasma galactoside, red blood cell (RBC) cholinesterase activity. A significant level and urinary mercury concentration ($r = 0.47$), between ($r = 0.36$), and between airborne mercury concentration and Serum cholinesterase, RBC delta-aminolevulinic acid (ALA). No significant anomalies were found on the amino acid chromatogram and urine.

1. R.R. Lauwerys and J.P. Buchet.

concentration below the current threshold
ages were detected: increased blood and
d plasma catalase activities, decreased
ation was found between airborne mercury
cury concentration in blood and in urine
cholinesterase inhibition ($r = 0.33$).
dratase, and urine ALA levels were normal.
aphs and protein electrophoresis of serum

--Authors' abst.

- 1108/73 Mercury Exposure Evaluations and Their Correlation with
of Mercurialentis Among Mercury Chlor-Alkali Workers. }
J. Occ. Med. 15: 647-648, Aug. 1973. 10 refs.

Although there are reports that exposure to mercury vapors in both humans and stump-tail monkeys, examinations of employees using mercury cell processes have all been negative. not been performed routinely as a part of the medical surveillance. This examination should be performed for completeness: chronic mercurialism in workers exposed to mercury. Mercurials exposed to inorganic mercury where the urinary mercurial population is too few to ascertain with any degree of certainty mercury levels might occur with Atkinson's sign. Since mercurial employees with potential exposures to high atmospheric mercurials. Any individual with mercurialism, whether occupational exposures to mercury.

Mercury Extractions. 3. Occurrence
Lovejoy, J. Berry, and Z.G. Bell.

duce a condition described as mercurialentropia.¹ Eyes for this condition at two chlor-alkali nodic ophthalmological examinations have a program for employees exposed to mercurial. Supportive evidence of the diagnosis of mercurialentropia does not appear to occur among individuals whose levels are below 1.0 mg/l. However, the actual what air concentrations and urinary mercurialentropia is considered a permanent condition. Levels should have regular ophthalmological monitoring or not, should avoid further oc-

—Authors' conclusion

- 1199/73 Mercury Poisoning...A Danger to Dentists. S. DeLuca. Texas Health Bull. 20: 11. Aug. 1973.**

Six San Antonio dental students have undertaken a project to determine whether private dentists in the Alamo City area are inadvertently poisoning themselves with mercury. Two of the students recently visited the Texas State Department of Health for technical consultation and assistance. Dentists commonly use mercury in preparing silver amalgams for filling and restoring teeth. As long as the mercury is properly handled, there is no danger in its use. The problem comes from dropping minute quantities of mercury as the amalgam is being prepared. Jerry Lauderdale, Division of Occupation Health and Radiation Control, advised the dental students on mercury detection procedures. The problem in a dental office can take many forms. While the amalgam is being prepared, unnoticed spills can occur. Since mercury is normally liquid at room temperature, it is extremely difficult to clean up. It can get into small crevices, carpet fibers, soft wood surfaces, and other places where ordinary cleaning procedures are ineffective. Too often, dentists and assistants who are unaware of the hazards handle the mercury with their bare hands. This can lead to contamination of foods, direct ingestion, and, of course, some skin absorption. Another part of the problem is that mercury vaporizes at a relatively low temperature and at normal air pressure. Thus it reaches out of contaminated areas into the room environment. Respiration of mercury vapor is the most common form of mercury intoxication. There is little danger to patients, but those who breathe mercury-contaminated air for hours at a time, every day, can be seriously harmed.

--Cont. from text

- 1200/73 Summary of Recent Studies in Japan on Methyl Mercury Poisoning. K. Kojima and M. Fujita. Toxicology 1: 43-62, March 1973. 83 refs.

Subjects covered in this review article include: further observations on methyl mercury in the environment; studies of the methylation of inorganic mercury and the decomposition of organic mercury; clinical and pathological studies on patients; animal studies on metabolism; animal studies on toxicology and pathology, and levels in the human body.
--Cond. from text

- 1201/73 Criteria for a Recommended Standard...Occupational Exposure to Beryllium and Its Compounds. 1. Recommendations for a Beryllium Standard. H.M.D. Utidjian. J. Occ. Med. 15: 659-685, Aug. 1973.

This month the Criteria Document for a Beryllium Standard is reviewed. Sections 1.2.4.7. and 8 of Part I (Recommendations for a Beryllium Standard), Part VI (Development of the Standard), and Part VII (Compatibility with Emission Standards) are reproduced in full. The commentary is contributed, by invitation, by Mr. Harry Schulte, Group Leader of the Industrial Hygiene Group at the Los Alamos Scientific Laboratory in New Mexico.
--Author's abst.

- 1202/73 Toxic Metal Fumes from Mantle-Type Camp Lanterns. K. Griggs. Science 181: 842-843, Aug. 31, 1973. 2 refs.

The users of mantle-type lanterns, while familiar with the fire risks associated with them, may be unaware of another very serious hazard, namely, the emission of toxic fumes from the mantle. The mantle is made up almost entirely of the oxides of thorium (85 percent), magnesium, aluminum, cerium, beryllium, and silicon. It is the presence of beryllium which poses the greatest threat. The mantle of a gas lantern contains about 800 micrograms of toxic beryllium metal. Most of the beryllium is volatilized and becomes airborne during the first 15 minutes of use of a new mantle. The inhalation of this quantity of beryllium can be hazardous.
--Cond. from text

- 1203/73 Excerpts from Criteria for a Recommended Standard...Occupational Exposure to Coke Oven Emissions. Commentary. H.M.D. Utidjian and R.J. Halen. J. Occ. Med. 15: 733-739, Sept. 1973.

The September issue of the JOM featured "Criteria for a Recommended Standard---Occupational Exposure to Coke Oven Emissions. Dr. Marcus Key's preface to this work practices document is given, Part I is excerpted, and the entire text of Part V is presented. The commentary is by Dr. Robert J. Halen, Medical Director, Jones & Laughlin Steel Corporation.
--Author's abst. modified

- 1204/73 Effect of Carbon Monoxide on Time Perception. R.D. Stewart, et al. Arch. Env. Health 27: 155-160, Sept. 1973. 16 refs.

Twenty-seven healthy, adult, male and female volunteers were exposed to carbon monoxide at concentrations of less than 2, 30, 100, 200, and 500 ppm for periods up to five hours for the purpose of determining the effect of this gas on time perception. These exposures, which resulted in a range of carboxyhemoglobin saturations up to 20%, produced no impairment in the ability of the subjects to perform the Beard-Wertheim time discrimination test, to estimate 10- or 30-second intervals, or to perform the Marquette time estimation test.
--Authors' abst.

- 1205/73 Effects of Single Exposures of Carbon Monoxide on Sensory and Psychomotor Response. J.M. Ramsey. Am. Ind. Hyg. Assoc. J. 34: 212-218, May 1973. 14 refs.

Twenty young, healthy male subjects exposed to a single exposure of 850 ppm carbon monoxide (CO) for 45 minutes increased their mean carboxyhemoglobin (COHb) by 7.81%. Another twenty subjects exposed to 850 ppm CO for 45 minutes increased their COHb by 11.32%. Before and after exposures all subjects were given tests for depth perception, visual discrimination for brightness, reaction time to a visual stimulus, and Zicker fusion discrimination. The only test showing significant mean decrement after exposure was the reaction time test ($P = 0.005$ for one exposed group; $P = 0.006$ for the other). However the decrement produced by each group was essentially the same ($P = 0.88$).
--Author's abst.

- 1206/73 Carbon Monoxide Inhalation Effects Following Myocardial Infarction in Monkeys. D.A. DeBias, et al. Arch. Env. Health 27: 161-167, Sept. 1973. 9 refs.

While it appears that normal individuals may compensate for decreased oxygen availability resulting from 10% to 15% carboxyhemoglobin, the patient with heart disease may be unable to compensate. An experimental study was undertaken to test this hypothesis. Normal monkeys and monkeys with induced myocardial infarction were continuously exposed to 100 ppm (115 mg/cu m) carbon monoxide for 24 weeks (23 hr/day) and the physiologic effects on the cardiovascular system were evaluated. Significant and persistent characteristic elevations in the hematocrit, hemoglobin, and red blood cell were observed after three weeks of exposure in both noninfarcted and infarcted animals. The animals inhaling the carbon monoxide displayed increased P wave amplitudes. The incidence of T wave inversion was higher in infarcted than in noninfarcted animals, indicating a greater degree of myocardial ischemia in the infarcted animals breathing carbon monoxide. --Authors' abst.

- 1207/73 Ozone As An Occupational Health Hazard. E.F. Seagle. C Health Nursing 21: 14-17, Aug. 1973. 24 refs.

There are certain precautions which administrators can recognize. First and foremost, the worker should be encouraged to wear a respirator if there is a possibility of previous or present heart damage, eye irritation, or respiratory distress. Secondly, the worker should be made aware of any warning signs and instructions pertaining to the use of the respirator. Thirdly, early symptoms of ozone poisoning such as headaches or coughing and breathing difficulty, should be reported to the supervisor. If symptoms are noticeable, and brought to the attention of the industrial or safety engineer for a check on concentration levels. Additional professional help from governmental agencies, prior to evaluating the situation and develop suitable control measures. Ozone poisoning in industry is preventable if standards and proper use of in-plant health services and professional surveillance of the health protection.

and to workers to avoid over exposure to ozone. Inform the plant physician or nurse of any disease. Secondly, the worker should be made aware of the hazards of ozone and what to do to protect himself. Irritation of the mouth, throat, or chest, by the worker and/or the supervisor if symptoms are noticeable, and brought to the attention of the physician or nurse and industrial hygienist. If problems of exposure continue, get professional help from governmental agencies, or elsewhere to evaluate the situation and develop suitable control measures. The provision of in-plant health services and professional surveillance of the health protection is an integral part of worker health protection. --Cond. from text

- 1208/73 Pulmonary Function in Man After Short-Term Exposure to Ozone. 27: 183-188, Sept. 1973. 19 refs.

Normal subjects, smokers and nonsmokers, were exposed to ozone in an environmental chamber. Two hours of intermittent exposure produced major changes in the lung function tests derived from the measurement of ozone. Slightly greater effects were noted in smokers than in nonsmokers. The difference was not evident. The total lung capacity was not affected. Residual volume increased. This increase is closely related to changes in the closing volume and indicates an early effect in the small airways. We may conclude that a period of two hours is unacceptably high if impairment of pulmonary function is to be avoided in a normal, active population.

- e. M. Hazucha, et al. Arch. Env. Health 27: 183-188, Sept. 1973. 19 refs.

or 0.37 or to 0.75 ppm ozone for two hours. At such atmospheres of ozone produced no significant changes in expiratory flow. At higher concentrations ozone produced significant changes in expiratory flow, but at lower concentrations this was not the case. The changes in the closing volume and residual volume were not significantly affected by the exposure, but the changes in the closing volume and residual volume were not significantly affected by the exposure. A concentration of 0.37 ppm ozone for a period of two hours is unacceptably high if impairment of pulmonary function is to be avoided in a normal, active population. --Authors' abst.

- 1209/73 Chronic Exposure to Nitrogen Dioxide. J.D. Fenters, et al. Arch. Env. Health 27: 85-86, Aug. 1973. 11 refs.

Squirrel monkeys continuously exposed to 1 ppm of nitrogen dioxide (NO₂) for 483 days were challenged five times with monkey-adapted influenza A/PR/8/34 virus. All monkeys exposed to NO₂ produced serum neutralization antibody within 21 days after virus infection, whereas only one control monkey exposed to filtered air showed comparable response. The differences observed in hemagglutination-inhibition antibody titers, body temperatures, respiratory functions, body weights, and hematological values between the experimental and control monkeys were not significant. Histopathologic examination of lung tissues indicated slight emphysema and thickened bronchial and bronchiolar epithelium only in monkeys exposed to NO₂ and challenged with the influenza virus. Transmission electron microscopic examination did not disclose any ultrastructural changes that could be attributed to the experimental exposures. --Authors' abst.

- 1210/73 Protein Content of Lung Lavage Fluid of Guinea Pigs Exposed to 0.4 ppm Nitrogen Dioxide. R.P. Sherwin and D.A. Carlson. Arch. Env. Health 27: 80-83, Aug. 1973. 15 refs.

Lung lavage and disc-gel electrophoresis of the lavage fluid were carried out in a study of 18 guinea pigs, half of which were exposed continuously over a one-week period to 0.4 ppm nitrogen dioxide. Of the nine animal pairs, eight were characterized by higher protein levels for the exposed animals (P less than .001).

The values for eight - nine control animals were .1097 (arbitrary units) or less, whereas those for eight of nine exposed animals had levels .1164 or higher, with a maximum of .1898. The methodologies represent a relatively simple means of detecting a physiologically important alteration and have the potential of greater sensitivity to and specificity of protein content through new advances in electrophoretic techniques.

--Authors' abst.

- 1211/73 Pulmonary Disease Associated with the Inhalation of Cosmetic Aerosols. D.R. Ehrhardt, C. Ahn, and T.M. Sawyers. Chest 64: 251-254, Aug. 1973. 19 refs.

A case of pulmonary disease due to cosmetic aerosol inhalation in a 43-year-old woman is presented. A hypersensitivity mechanism for the disease is suggested with the etiologic agent being some constituent of cosmetic aerosols, such as polyvinylpyrrolidone. Methods for substantiating pulmonary disease due to cosmetic aerosols, such as specific stains, infrared spectroscopy and skin tests, are discussed.

--Authors' abst.

- 1212/73 Thesauriosis: Illness or Illusion? M. Bergmann. Chest 64: 153-154, Aug. 1973.

The first cases of a clinical illness affecting the lungs and thought to be caused by inhalation of hairspray were reported about 15 years ago. The condition was thought to result from storage in the reticuloendothelial systems of nonbiodegradable macromolecules, primarily PVP and its copolymers, and hence was termed thesauriosis, or storage disease. Since then a total of about 30 such cases have been described. Nevertheless, the existence of pulmonary disease caused by inhalation of hairspray has remained a matter of controversy. Investigations into this problem have been surprisingly sparse, considering that the product under suspicion is used by literally millions of people the world over. The main arguments against the existence of thesauriosis are that inhalation experiments in dogs, rabbits and guinea pigs have failed to cause pulmonary lesions, that a number of surveys of beauticians have failed to uncover any lesions in this highly exposed group, and that the PAS-positive granules which were thought to be uniquely associated with the histologic lesions, can also be found in a number of other conditions and are not specific for thesauriosis. Furthermore, it has so far not been possible to identify PVP in the lungs of man or animals by histochemical means. Citing these facts, those in the chemical, drug and cosmetic industries involved in the manufacture of PVP and in the fabrication and sale of hairspray have maintained that their product has been subjected to unjustified vilification and they have loudly denied the existence of any hairspray-caused illness. Despite the comforting negative findings cited above, there are others that are less reassuring. Despite the negative results of experiments in other animals, lung lesions have been described in albino rats chronically exposed to hairspray. In one careful survey of beauticians there was an incidence of unexplained lung lesions significantly beyond what one would expect in the general population. Moreover, it is well established that parenterally injected PVP is, indeed, stored in the reticuloendothelial system in experimental animals and in man, and that it causes malignant tumors of the reticuloendothelial system of experimental animals.

--Cont. from text

- 1213/73 Cocoa Beans: An Unloading Hazard for Longshoremen. N. Williams, et al. J. Occ. Med. 15: 642-646, Aug. 1973. 4 refs.

Seventeen Longshoremen unloading cocoa beans from an inadequately ventilated tank at the bottom of a ship's hold complained, within 20 minutes of starting work, of nausea, eye irritation, substernal burning chest pain, shortness of breath and labored breathing. It is suspected that they were exposed to an environment with a depleted oxygen level, increased carbon dioxide concentration and acetic acid--the result of fermentation of the cocoa beans. On admission to hospital one man was found to have complete heart block, subsequently requiring an artificial pacemaker; another had a temporary wandering pacemaker. The remainder recovered uneventfully. The role of hypoxia and hypercapnia in the cardiac disorders is discussed. It is possible, though unlikely, that the minor reticulocytosis resulted from hypoxia and hypercapnia.

--Authors' abst.

- 1214/73 Foam Hazards. Anon. Occ. Health 25: 247, July 1973.

The Trades Union Congress (Gr. Britain) is pressing the Employment Secretary to make firms storing, using or making isocyanates take special precautions. The premises should be marked with a symbol that indicates the presence of the highly inflammable material, and the fire brigade should be informed, says the TUC. It has also asked the Home Secretary to publicise the dangers when products containing isocyanates catch fire. 'Isocyanates present a health hazard to workers employed in many industries', says the TUC General Council. 'But particularly to firemen.' A Government working party is to be set up to produce a code of practice for the safe use and storage of plastic foams in industry. The TUC says it wants the chance to put trade union representatives on the working party.

--Text modified

- 1215/73 Fluroxene and Animal Toxicity Studies. Anon. Can. Med. Assn. J. 108: 188, Aug. 4, 1973.

Fluroxene or trifluoroethyl vinyl ether is a highly respectable inhalation anesthetic which has been safely used for many years simply because it was apparently never tested on dogs, cats or rabbits. This omission appears to have been a fortunate one, for Johnston et al (Anesthesiology 38:313, 1973) have now discovered that, for beagles, instead of being a safe anesthetic it invariably leads to vomiting, diarrhea, seizures and death. When they repeated the studies with a fluroxene-oxygen mixture on cats and rabbits they found that a 8% mixture inhaled for four hours killed all the animals after one to three exposures. They vomited, had bloody diarrhea and became ataxic. At autopsy, hemorrhages were found in the gastrointestinal tract mucosa. It seems that these alarming lesions are due to the for- ethanol, only a trace of which appears after fluroxene inhalation. This makes it so dangerous to extrapolate results of animal testing. Penicillin tests on guinea pigs and hamsters had been taken not using it, for the antibiotic kills both species. Two questions arise: toxic effects of such drugs as fluroxene in man, or could the risk? The second question relates to the present application of a number of drugs such as fluroxene and penicillin would a penicillin is indeed an awful one. Should one therefore still use drugs which appear useful but toxic to animals? Wardell thinks the mountains of animal data. What is probably much more important after marketing, when their use on large numbers of subjects.

--Cond. from editorial

- 1216/73 Exposure of Japanese Quail and Parakeets to the Pyrolysis and Common Cooking Oils. F.D. Griffith, S.S. Stephens, J. 34: 176-178, Apr. 1973. 4 refs.

Japanese quail and parakeets were exposed to the pyrolysis with Teflon finish. (2) plastic fry pan handles, (3) corn oil, test were commercial aluminum fry pans and cast iron fry pan. ALT was determined for each test material for each species. The ALT for a fry pan coated with Teflon finish was keets with ALT's of 280°C for both the pan coated with Teflon butter. The ALT for a fry pan coated with Teflon finish was

ducts of Fry Pans Coated with Teflon
O. Tayfun. Am. Ind. Hyg. Assn. J.

jects of: (1) commercial fry pans coated (4) butter. Other materials used in the four-hour Approximate Lethal Temperature. All products tested were lethal to Japanese 370°C for a plastic handle in a glass container. All products were also lethal to parakeets plus butter and the cast iron pan plus C.

--Authors' abstr.

- 1217/73 The LD₅₀ and Chronic Toxicity of Reactor Terphenyls. I. J. Health 27: 69-73, Aug. 1973. 14 refs.

Acute ingestion of reactor coolant terphenyls (HB-40) revealed mg/kg mouse for nonirradiated coolant and 6,000 mg/kg mouse. Ingestion of the mixtures by mice produced mitochondrial changes. At high doses these cells became necrotic as interstitial nephritis. Irreversible and followed 16 weeks' ingestion of 1,200 mg/kg of irradiated HB-40 or 600 mg/kg of irradiated HB-40. Hepatic changes were observed only at the ultrastructural level where abundant smooth endoplasmic reticulum was seen. It appears that organic terphenyl coolants are potentially toxic when ingested in high doses. This could only occur as a result of chronic exposure at a level greatly in excess of that currently observed in the reactor working environment.

Adameon and J.L. Weeks. Arch. Env.

LD₅₀ values of 17,500 mg/kg rat and 12,500 mg/kg rat for irradiated coolant. Chronic ingestion of the mixtures by mice produced epithelial cells of proximal tubules, and at high doses these cells became necrotic as interstitial nephritis developed. The nephritis was irreversible and followed 16 weeks' ingestion of 1,200 mg/kg of irradiated HB-40 or 600 mg/kg of irradiated HB-40. Hepatic changes were observed only at the ultrastructural level where abundant smooth endoplasmic reticulum was seen. It appears that organic terphenyl coolants are potentially toxic when ingested in high doses. This could only occur as a result of chronic exposure at a level greatly in excess of that currently observed in the reactor working environment.

--Authors' abstr.

- 1218/73 Saccharin in the Balance. Anon. Brit. Med. J. 3: 185-186, July 28, 1973. 24 refs.

In 1969, with what many toxicologists as well as food manufacturers regarded as ill-considered haste, the use of cyclamates was suddenly banned in the United States and then in other countries. This was because the consumption of large amounts of cyclamate increased the risk of bladder cancer in rats. Now we are faced with the possibility that the use of saccharin might also be prohibited, and for reasons remarkably similar to those which led to the ban on cyclamates. Saccharin was in use many decades before regulations required the use of animal tests to establish that a substance added to food is not a carcinogen. The first suspicion of bladder carcinogenicity came in 1957 when workers at the Chester Beatty Institute in London reported the occurrence of one papilloma and three carcinomas of the bladder in mice after the intravesical implantation of pellets containing one part of saccharin to four parts of cholesterol. This finding was later confirmed, but evidence of this kind was not sufficient to lead to the banning of saccharin because it was arguable that irritation, attributable simply to the presence of solid pellets within the lumen of the bladder, might have contributed co-carcinogenically to the development of tumors. Recently R.M. Hicks and her colleagues at the Middlesex Hospital compared the incidence of bladder tumours in rats given 2g saccharin

per kilogram body weight per day in their drinking water with that in rats provided with unadulterated drinking water after pretreatment with a single intravenous instillation of 2 mg methyl-N-nitrosourea (MNU). Previous studies had shown that a single 2-mg dose of MNU was insufficient to induce bladder tumours, but a series of four 2-mg doses resulted in 100% of animals developing such tumours. Five out of 12 rats pretreated with MNU and then fed on saccharin were found at necropsy between three and 50 weeks later to have both stones in and neoplasms of the urinary bladder. Mild hyperplasia of the bladder epithelium was seen in 2 out of 12 rats given saccharin without MNU-pretreatment, and hyperplasia but no neoplasm was seen in 3 out of 12 rats given MNU but no saccharin. According to the authors these results suggest that saccharin taken by mouth may be co-carcinogenic in the urinary bladder. Contrary to what has hitherto been thought, recent studies suggest that man may not excrete in the unchanged form all the saccharin he ingests. Some hydrolysis to orthosulphamoyl benzoic acid is suspected. In any case, the rules of the carcinogenesis game are that no amount of negative data from man or laboratory animals cancel out positive data derived from only one experiment in another species. Negative data from a study in which mice were fed on a diet containing 5% saccharin do not do so. The fact that bladder cancers have been seen in rats exposed only to daily doses equivalent to perhaps 500 times as much saccharin as even the sweetest-toothed human does not move those who argue, on purely theoretical grounds, that reduction of dose may reduce carcinogenic risk but not abolish it. It is just possible that impurities which find their way into saccharin during its manufacture, such as orthotoluene sulphonamide, will be shown to be responsible for the bladder changes in rats and that purer forms of saccharin will be found to be free from such activity. —Cond. from text.

- 1219/73 Pesticides: Environmentalists Seek New Victory in a Frustrating War. L.J. Carter. *Science* 181: 143, 145, July 13, 1973.

A current priority of the Environmental Defense Fund (EDF), the environmental law group that has led the fight against persistent pesticides, is to bring about a ban of aldrin and dieldrin, which must be thought of together because aldrin converts to dieldrin in soil, in water, and in living organisms. This particular campaign in the war of attrition is now entering a critical stage. A long series of administrative hearings is about to begin in which the opponents and proponents of aldrin and dieldrin will present scientific testimony on a scale never before equaled in any previous pesticide case and probably never in any other environmental controversy of whatever kind. Parties in the aldrin-dieldrin case have given notice of plans to call 272 witnesses, and the list is expected ultimately to exceed 300. There will be scores of agricultural witnesses, especially from the Midwest where aldrin is often used by corn growers as insurance against outbreaks of soil insects, but the majority of testimony will be given by scientists. The hearings will be conducted by EPA's chief administrative law judge, Herbert L. Perlman, beginning with field hearings in summer. Judge Perlman will eventually submit an advisory opinion to the administrator of EPA, who will decide whether to proceed with cancellation of the registration of aldrin and dieldrin for most currently permitted uses.

- 1220/73 Toxic Alopecia from Ingestion of Boric Acid. K.M. Stein, et al. *Arch. Dermatol.* 109: 95-97, July 1973. 10 refs.

The hair loss in a young woman with an obscure diffuse alopecia was traced to her chronic ingestion of mouthwashes containing boric acid. Cessation of this occult source of boric acid resulted in complete regrowth of hair. It appears that boric acid may have accumulated in the hair follicles, with a resultant toxic effect on the susceptible hair bulbs. This case indicates that boric acid poisoning should be suspected in patients with profuse unexplained alopecia, since cessation of the boric acid ingestion results in complete hair regrowth and may be lifesaving. —Authors' abst.

- 1221/73 Poisoning by Animal-Immobilizing Agent. J.A.H. Forrest and H. Matthew. *Lancet* 2: 211, July 28, 1973. 4 refs.

The authors note that despite the patient exhibiting the classical signs of opiate poisoning and, indeed, showing the anticipated dramatic response to nalorphine—that is, full awakening followed by a further period of unconsciousness—only 20 mg. nalorphine was given in hospital. Endotracheal intubation and intermittent positive-pressure ventilation were then used, lest further doses of nalorphine might cause respiratory depression. They have treated a considerable number of patients suffering from narcotic overdose with intravenous nalorphine, and on numerous occasions have observed the response described by Dr. Fira (in his letter of July 14, p. 85 of this journal). However, by continuing to use further doses of nalorphine they have never needed to resort to intermittent positive-pressure ventilation. There is no maximum dosage of nalorphine. The figure of 40 mg. as mentioned by Dr. Fira is almost invariably cited in discussion on the use of this antidote. The amount required for each individual patient must be tailored to meet the clinical situation. —Cond. from text.

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INDUSTRIAL DUSTS AND INHALANTS

- 1222/73 Industrial Hygiene Summary Reports. Asbestos, Talc and Nitrites in Relation to Gastric Cancer.
W.E. Smith. Am. Ind. Hyg. Assn. J. 34: 227-228, May 1973. 10 refs.

An experiment in which the hamster-intraleural method was used to test for carcinogenicity of a sample of talc containing asbestos. The negative results of the test and the earlier test on feeding asbestos to hamsters do not offer support to the view that asbestos-containing talc contributes to the incidence of gastric cancer in Japan. Although death rates for gastric cancer are high in Japan, the highest rate comes from Chile. Studies from the Health Research Institute Laboratory have been concerned with an hypothesis that the high rates for esophageal and gastric cancer may be due to the conversion of nitrates to nitrites by soil bacteria with subsequent synthesis of nitrosamine carcinogens in plants used as food, or through interaction in the stomach with secondary amines in food.

--Cond. from text

- 1223/73 Asbestos and Laryngeal Carcinoma. P.M. Stell and T. H. . Lancet 2: 416-417, Aug. 25, 1973. 6 refs.

One hundred male patients with squamous carcinoma of the various non-malignant diseases were questioned about their exposure to asbestos. Thirty-one patients and three controls had experienced an important degree of exposure to asbestos. The difference between the mean interval between first exposure and development of laryngeal carcinoma was 30 years, and the mean duration of exposure was 27 years.

- 1224/73 A Monumental Study--Reconstruction of a 1920 Granite H.E. Ayer, et al. Am. Ind. Hyg. Assn. J.
34: 206-211, May 1973. 16 refs.

A small granite shed in Barre, Vermont was operated for granite cutters by means of respirators. "Respirable" dust-free silica concentrations up to 4.4 mg/m³ were observed; 10 to 20 mg/m³ of which 15% was free silica. Under the conditions of granite dust was equivalent to about 0.2 mg/m³ of "respirable" free silica. Implications for the quartz disease are discussed.

--Authors' abst.

- 1225/73 Bureau of Mines Procedure for Analysis of Respirable Iron Coal Mines. S.A. Goldberg.
L.D. Raymond, and C.D. Taylor. Am. Ind. Hyg. Assn. 20.-205, May 1973. 4 refs.

The Federal Coal Mine Health and Safety Act of 1969 delegates health inspections. Specifically, the Bureau is required to perform one health inspection per year. The Act, however, permits the operator's samples to substitute for the Bureau's health inspections. Samples of coal mine respirable dust are collected by Bureau of Mines inspectors, weighed to determine dust concentration, then sent to the Dust Group, Pittsburgh Technical Support Center at the Bureau of Mines to be analyzed for ash and quartz content. The number of samples to be analyzed required staffing a laboratory for processing the coal mine respirable dust. This paper describes the processing of respirable coal mine dust analytical data to the Bureau of Mines computer center at Denver, Colorado. Included in the article is a summary of analytical data.

--Authors' abst.

- 1228/73 Quantitative Differential Thermal Analysis of Small Dust Samples Containing Quarts. B. Weiss, K. Hosto, and E.A. Boettner. Am. Ind. Hyg. Assn. J. 34: 183-190, May 1973. 12 refs.

Quantitative differential thermal analysis has been used to analyze mine and foundry dust samples varying in size from 40 to 2 mg. As little as 1% quartz has been determined in 2-mg samples by use of a specially modified microholder. Sandwiching techniques permit the analysis of the same amount of quartz in 40-mg samples with a standard 300-mg powder holder. The effects of particle size variation and control of this variable are discussed. Preliminary experimentation indicates that the micro method may be applicable to the quantitative analysis of some asbestos minerals. --Authors' abst.

PHYSICAL HAZARDS

- 1227/73 Extra-Auditory Effects of Occupational Noise. Part 1: Disturbances to Physical and Mental Health. A. Cohen. Natl. Safety News 108: 83-89, Aug. 1973. 40 refs.

This article focuses on extra-auditory problems in the interest of broadening concern for the full range of real or alleged effects of noise, primarily in the context of work-place noise conditions. Indeed, mechanized job operations, as a group, can be ranked highest in measured noise levels, with usual work routines necessitating frequent and prolonged exposures to such sounds. Because of this severity factor, one would expect that the full array of adverse noise effects on man would be most clearly seen in the industrial setting. Disturbances to physical and mental health falls into four categories: general stress reactions; physical disorders; mental and emotional difficulties; special problems.

--Cond. from text

- 1228/73 Guidelines for Noise and Vibration Control. L.F. Yerges. Sound & Vib. 7: 18-21, Aug. 1973.

Almost all equipment and most processes in industry involve one or more noise and vibration producing mechanisms. The sources are coupled to many transmission paths and ultimately the noise reaches a receiver--man or equipment--which can tolerate only limited amounts of acoustic or vibratory energy. Using simple force, energy, and power relationships, the engineer can predict noise output of most equipment. Ordinary, time-tested noise and vibration control methods are outlined, and their effectiveness and cost are described.

--Author's abst.

- 1229/73 How to Select Vibration Isolators for Use as Machinery Mounts. C.M. Salerno and R.M. Hochheiser. Sound & Vib. 7: 22-28, Aug. 1973. 4 refs.

This article is devoted specifically to the concepts, benefits, and types of isolators used to mount machinery and equipment upon support structures, platforms or floors. These isolators are referenced, throughout the article, as "machinery mounts" to differentiate this family of isolators from those which might be designed, as components, into the internal structure of machinery. The reader will find this article to be a handy reference in the selection of machinery mounts as well as in the application of these mounts to specific types and classifications of machinery and equipment.

--Authors' abst.

- 1230/73 Buyer's Guide to Materials for Noise/Vibration/Shock Control. Anon. Sound & Vib. 7: 4-6, July 1973.

This Buyer's Guide lists manufacturers and suppliers of materials for the control of noise, vibration, and mechanical shock. The four major categories for the various classifications by material type are: sound absorption materials; sound barrier materials; vibration and shock isolation materials; and vibration damping materials.

--Cond. from text

- 1231/73 Viscoelastic Materials for Panel Vibration Damping. M.A.K. Hamid. Sound & Vib. 7: 20-28, July 1973. 8 refs.

This article is concerned mainly with the possibilities and advantages of using viscoelastic vibration damping materials on ventilation ducts to reduce low-frequency vibrations induced by turbulent air flow. Experimental results are presented for a number of commercially available viscoelastic damping materials. It is demonstrated that a thin adhesive damping layer can be quite effective in solving low-frequency panel noise problems, particularly if the layer is restricted to regions of greatest panel deformation.

--Author's abst.

- 1232/73 Steel-Viscoelastic Composites. R.C. Miles. Sound & Vib. 7: 27-30, July 1973.

Steel-viscoelastic-steel composites can be used to absorb noise-producing vibrational energy in manufactured products and in factory equipment. In sheet thicknesses the viscoelastic layer and the steel cover layer should be approximately one-third the thickness of the base layer.

--Author's abst.

- 1233/73 Temporal Effects in Frequency Discrimination by Hearing-Impaired Listeners. R.W. Gengel. J. Acoust. Soc. Am. 54: 11-13, July 1973. 19 refs.

The purpose of this experiment was to determine whether temporal effects on frequency discrimination were the same for persons with sensorineural loss and for persons with normal sensitivity. Estimates of the difference limen for frequency (DLF) were obtained for signals of 80- and 500-msec durations, for standard frequencies of 0.5, 1.5, and 3.0 kHz. In most of the conditions, the temporal effects on frequency discrimination were similar for hearing-impaired and normal-hearing subjects. Speech discrimination of the five hearing-impaired subjects also was measured. The highest rank-order correlation ($r_s = 1.0$) was found between DLF at 3.0 kHz and vowel- and consonant-discrimination scores.

--Author's abst.

- 1234/73 Mechanism of the Short-Term Poststimulatory Depression of the Cochlear Microphonics (Hysteresis). J.P. Legoux and A. Pierson. *J. Acoust. Soc. Am.* 54: 16-21, July 1973. 16 refs.

The characteristics of the short-term poststimulatory depression (hysteresis) have been studied by recording cochlear microphonics (CM) with differential electrodes at several locations along the guinea-pig cochlea. The depression appears, with high-intensity tones, in regions where the vibratory amplitude of the cochlear partition is the largest. It is accompanied by a negative summing potential (SP) whose time course follows exactly the variation of the CM amplitude with stimulus. At the same time, complex hydrodynamic effects of perilymph from scala vestibuli toward the vestibular partition are displaced in an extreme position. These displacements might provide a protective mechanism against acoustic trauma.

—Authors' abst.

- 1235/73 Cold Injury and Clubbing: A Possible Relationship. V. 256-259, Aug. 1973. 12 refs.

A 40-year-old Negro truck driver with pneumonia showed clubbing of the fingers and toes, unrelated to his acute infection. No reliable hereditary basis served changes suggested that an episode of exposure to cold was a crucial initiating factor in the development of his clubbing, bony changes, and a possible unidentified mechanism. The rarity of this response to cold injury remains unexplained.

—Authors' abst.

clubbing of the fingers and toes, unrelated to his acute infection. The chronology of the observed cold in Korea at age 21 might have been the clubbing exposed to severe cold develop produced produce similar changes in man. However, in man.

—Authors' abst.

RADIATION

- 1236/73 Irradiation Treatment of Rheumatoid Arthritis. Anon. B

For several years irradiation was a common form of treatment for the spine in skin doses ranging from 900 to 2,000 r. It often produced true long-lasting remission. The diminution of pain in months or at most a few years. After 1952 it became less popular because of the appearance on the market of phenylbutazone and the public concern about developing leukaemia, aplastic anaemia, and other serious diseases. The risk of developing leukaemia was estimated to be increased ten times. It was shown to cause aplastic anaemia, agranulocytosis, and thrombocytopenia. Therapeutic agents such as indomethacin became available which produced relatively little success in the treatment of the pain of knee and hip, but irradiation of these areas has now become unsatisfactory. In 1963 Barbara M. Ansell and her colleagues reported on synovectomy in persistent effusions of the knee with intra-articular Au-198. At one-year follow-up in only 16 of 30 cases was the effusion reduced. The authors suggested that the failure of this form of therapy was due to the failure of the Au-198 to penetrate far enough into the thickened synovial membrane. As it was suggested that this might be preferable and worth investigating, chromosome studies on peripheral blood lymphocytes from 20 patients with rheumatoid arthritis treated with yttrium-90. Chromosome damage was less if patients received a smaller optimum dosage of yttrium was required. Appreciable chromosome damage was found in some of the Finnish cases. In general yttrium-90 appears to be a more effective and less dangerous agent than Au-198, which spreads from the joint to regional lymph nodes, liver, and spleen and also emits gamma rays, which give an unwanted whole-body radiation to the patient.

—J. 3: 247-248, Aug. 4, 1973. 13 refs.

ankylosing spondylitis, applied locally, produced symptomatic improvement but self-healing seldom lasted for more than several months for two main reasons. These were the reports of an increase in deaths from leukaemia in patients treated by irradiation. The risk of myelodysplasia by irradiation. In turn phenylbutazone was found to be effective anti-inflammatory agent, but other effective anti-inflammatory agents carry the same risks. Irradiation was also used for shoulder (periarthritis) and osteoarthritis of the hip. It has been given up as results were in general disappointing. The Finnish workers performed synovectomy in patients with rheumatoid arthritis after injection of colloidal radioactive gold. The therapeutic result considered satisfactory. It might be due to inability of the Au-198 to penetrate far enough into the thickened synovial membrane. The Finnish workers performed synovectomy in patients with rheumatoid arthritis after injection of colloidal radioactive gold. The therapeutic result considered satisfactory. It might be due to inability of the Au-198 to penetrate far enough into the thickened synovial membrane. The Finnish workers performed synovectomy in patients with rheumatoid arthritis after injection of colloidal radioactive gold. The therapeutic result considered satisfactory. It might be due to inability of the Au-198 to penetrate far enough into the thickened synovial membrane.

ENVIRONMENTAL PROBLEMS

- 1237/73 Establishing Environmental Criteria. Medical Perspectives. D.C. Braun, J.A. Jurgiel, and P. Gross. *Arch. Env. Health* 27: 121-123, Sept. 1973.

Physicians, especially those concerned with public health, are becoming more aware of the relationship of man's well-being to his environment. It is imperative that they maintain a scientific and professional approach, and calmly appraise all the facts relating to health, disease, and ecology. Scientific research is a

slow, methodical process, and no amount of hysteria, government funding, or legislation will hasten resolution of the problems of physiological reactions. This article has merely referred to some of the aspects of the various kinds of pollution, meanwhile urging physicians to become involved, albeit on a sound and professional basis.

--Cond. from text

- 1236/73 Pollutant Burdens and Biological Response. A.V. Colucci, et al. Arch. Env. Health 27: 151-154, Sept. 1973. 8 refs.

Studies aimed at linking pollutant burdens to biological response and environmental exposure have yielded interesting preliminary results. Whereas easily collected specimens such as hair and blood have proven utility in estimation of environmental exposure, these tissues cannot, as yet, be considered a good quantitative indicator of man's body pollutant burdens. Studies of occupationally exposed groups or groups of individuals with clinically evident disease have failed to clearly implicate pollutant burdens with either disease production or aggravation although, in general, the blood levels of these individuals do reflect increased exposure to pollutants. Studies of multiple tissue sets collected at autopsy are encouraging inasmuch as it appears these tissues will provide useful information about the pollutant burden for constructing predictive models and, in addition, provide flashback capabilities.

--Authors' abst.

- 1238/73 Health Effects of Exposure to High Concentrations of Automotive Emissions. S.M. Ayres, et al. Arch. Env. Health 27: 168-178, Sept. 1973. 20 refs.

On-site and remote health evaluations were performed on 550 employees of the Triborough Bridge and Tunnel Authority in New York City. Extremely high ambient air pollution was observed. Carbon monoxide averaged 63 ppm over a 30-day period with a maximum hourly concentration of 217 ppm in one facility. Eighty-five percent of the smoking and 47% of the nonsmoking tunnel workers had carboxyhemoglobin saturations in excess of 3%. A high percentage of the group had symptoms suggestive of chronic bronchitis; airway resistance was elevated in one third and almost all bridge and tunnel workers had an increase in closing volume, suggesting small airway disease.

--Authors' abst.

- 1240/73 Air Pollution and Pulmonary Cancer. B.W. Carnow and P. Meier. Arch. Env. Health 27: 207-218, Sept. 1973. 37 refs.

Studies were carried out to examine the relationships between air pollution, as indexed by benzo(a)pyrene, and pulmonary cancer, comparing urban with rural, migrant with nonmigrant, and smoking with nonsmoking populations. Epidemiologic studies of effects of solid fuel and cigarettes in 29 countries and of benzo(a)pyrene levels and cigarettes in 48 contiguous states in the United States were carried out using multiple regression techniques to assess the relation between these pollutants and the incidence of pulmonary cancer in these populations. An increase of 1 µg of benzo(a)pyrene per 1,000 cu m of air as a pollution index was related to a 5% increase in the pulmonary cancer death rate. A reduction of 60% in urban air pollution might be expected to reduce the deaths from pulmonary cancer by 20% in all smoking categories.

--Authors' abst.

- 1241/73 Air Pollution Effects on Ventilatory Function of U.S. Schoolchildren. C.M. Shy. Arch. Env. Health 27: 124-128, Sept. 1973. 7 refs.

The ventilatory performance of elementary schoolchildren living in neighborhoods of high and low air pollution in Cincinnati, Chattanooga, and New York was evaluated by in-school measurements of three-quarter second forced expiratory volume (FEV_{0.75}). A consistent relationship between impaired ventilatory function in children 5 to 13 years of age and exposure to particulates plus sulfur oxide was demonstrated. In the Cincinnati study, performance of children in polluted neighborhoods improved during seasons of low pollution but not to the level of their counterparts in low exposure neighborhoods. In New York, results in children age 8 to 13 years indicate that early exposure for five to ten years to elevated air pollution levels was accompanied by a prolonged decrement in ventilatory function. Inconsistent and barely significant effects on lung function were found in Chattanooga where high exposures to nitrogen dioxide had occurred for only two to three years prior to the study.

--Authors' abst.

- 1242/73 Chronic Respiratory Disease - In Military Inductees and Parents of Schoolchildren. R.S. Chapman, et al. Arch. Env. Health 27: 138-142, Sept. 1973. 11 refs.

Several surveys, relating air pollution exposure to the prevalence of chronic respiratory disease, have recently been conducted by the Community Health and Environmental Surveillance program of the Environmental Protection Agency. The effects of sulfur oxides were studied in the Salt Lake Basin, Rocky Mountain smelter communities, New York City, and Chicago. In all four areas, chronic bronchitis prevalence was higher in polluted neighborhoods than in clean ones. In large urban areas, the effect of air pollution was

- 1248/73 Nitrogen Trioxide: Key Intermediate in the Chemistry of Polluted Air? R. Louw, J. van Ham, and H. Nieboer. *J. Air Poll. Control Assn.* 23: 718, Aug. 1973. 7 refs.

It is proposed that peroxyacetyl nitrate and its homologues are formed in polluted air via hydrogen abstraction from the corresponding aldehyde by nitrogen trioxide, followed by (a relatively fast) combination of the resulting acyl radical with oxygen and NO_2 . This mechanism provides a simple explanation for the formation of nitric acid, HNO_3 , as well. Nitrogen trioxide should be able to abstract hydrogen atoms from hydrocarbons, since the H-ONO_2 bond strength is about 100 kcal/mole. --Authors' abst.

- 1249/73 Environmental Analysis Problems Created by Unexpected Volatile Beryllium Compounds in Various Samples. M.S. Black and R.E. Sievers. *Anal. Chem.* 45: 1773-1775, Aug. 1973. 7 refs.

The results of this study indicate the existence of naturally occurring volatile beryllium compounds. The various digestion and leaching procedures of orchard leaves have shown the beryllium is lost in the vapor phase at relatively low temperatures (less than 200°C). This suggests that a considerable amount (at least 90%) of the beryllium in the orchard leaves may be organically bound and that it is lost upon destruction of the organic matrix unless precautions are taken. It is therefore necessary for one to consider Be loss in the vapor phase when pretreating samples for beryllium analysis. The EPA impinger sample analyses are quite important from an industrial hygiene standpoint since beryllium was found in all the samples past the Millipore filters and appeared to be concentrated in the cold traps. This supports the contention that volatile beryllium compounds do exist and that they are present in the vapor state in facilities where beryllium is machined. These findings are environmentally significant since such volatile beryllium compounds may conceivably pose a previously unrecognized threat. --Authors' conclusion

- 1250/73 Safety Evaluation of Substitutes for Phosphates in Detergents. G.K. Ashforth and G. Calvin. *Water Research* 7: 309-32, Jan./Feb. 1973.

The safety of products of interest and concern to the whole community, but the manufacturer has the primary responsibility. The information given in this paper demonstrates an intent, on the part of a manufacturer, to have safe products. The procedures used to establish product safety have been illustrated, and comments have been made about the time, money, and effort that are entailed. But time and money are not enough; experience, expertise, and interest are also essential. The authors believe that the need for these elements can best be met by the interchange of knowledge between industrial, governmental, academic, and professional circles. --Authors' abst.

- 1251/73 Lead Contamination of Snow. N. LaBarre, J.B. Milne, and B.G. Oliver. *Water Research* 7: 1215-1218, Aug. 1973. 21 refs.

Snow from disposal sites and along roads contained considerable lead due to the combustion of leaded gasoline by automobiles. In spite of lead concentrations up to 4330 ppm in the sample sediment, the highest concentration in the filtrates was 0.21 ppm with the average, 0.04 ppm. Thus, the dumping of snow away from water-courses instead of directly into them significantly reduces lead contamination of the waters from this source. --Authors' abst.

- 1252/73 Gas Chromatographic Procedure to Analyze Amino Acids in Lake Waters. W.S. Gardner and G.F. Lee. *Env. Sci. & Tech.* 7: 719-724, Aug. 1973. 10 refs.

A gas chromatographic procedure for the determination of free amino acids in lake water samples or hydrolyzates has been developed. A combination of ligand exchange and ion exchange chromatography was used to isolate and concentrate the amino acids from water samples. A semimicro derivative preparation technique was developed where the *N*-trifluoroacetyl methyl ester derivatives were formed. Recovery of the standard amino acids ranged from 53-93%. Poor recoveries were obtained for phenylalanine and lysine. --Authors' abst.

PREVENTIVE ENGINEERING

- 1253/73 Ergonomics: Designing for Man. P. Bretten. *Occ. Health* 25: 280-282, July 1973. 2 refs.

Equipment must be designed to encourage good posture in the user, but because every man is unique there is no single way of doing this. There is no best posture common to all individuals: for each person the best posture is that in which the body segments are balanced, in the position of least strain and maximum support. Moreover a movement, once initiated and carried out, can never be precisely re-enacted. There

comparable to the effect of moderate cigarette smoking. In all four areas, the effects of air pollution and of cigarette smoking were roughly additive. In Chattanooga, Tenn., no significant correlation was found between chronic bronchitis prevalence and exposure to moderate urban levels of nitrogen oxides.

--Authors' abst.

- 1243/73 Occurrence of Trace Metals in the Environment - An Overview. P.F. Woolrich. Am. Ind. Hyg. Assn. J. 34: 217-226, May 1973. 14 refs.

On the basis of information in the technical literature, the environment are discussed. Particular attention is given to antimony, bismuth, tin, nickel, cadmium, lead and mercury in the industrial environment. Other than such occupationally threatening the health of the public.

uses and dangers deriving from trace metals in the environment as airborne contaminants. Beryllium, lead, and cadmium are cited as occupational medical problems. Exposures, trace metals in the air are not currently threatening the health of the public.

--Author's abst.

- 1244/73 Atmospheric Sulfur Dioxide and Sulfate. Distribution in United States. A.P. Altshuler. Env. Sci. & Tech. 7: 712, Aug. 1973. 7 refs.

The interpretation of results from the U.S. National Air Survey indicates that large differences in sulfate concentration levels exist between eastern and western urban sites. Sulfates contribute a larger portion of the sulfate concentration at urban sites. The relationship of sulfur dioxide to sulfate is nonlinear over the range of concentrations at urban sites. Statistical relationships have been found relating urban sulfate to urban sulfur dioxide. At the eastern urban sites, a residue sulfate level of at least $5 \mu\text{g}/\text{m}^3$ exists. This large residue is attributed to conversion of urban sulfur dioxide to sulfate during transport throughout large regions of the eastern and midwestern U.S.

concentration at Urban and Nonurban Sites. Sulfate concentration at western urban sites is nonlinear over the range of concentrations at urban sites. Statistical relationships have been found relating urban sulfate to urban sulfur dioxide. At the western urban sites, a residue sulfate level of at least $5 \mu\text{g}/\text{m}^3$ exists. This large residue is attributed to conversion of urban sulfur dioxide to sulfate during transport throughout large regions of the western and midwestern U.S.

--Author's abst.

- 1245/73 Sulfur Oxides and Suspended Particulates - Possible Effects on Chronic Exposure. S.G. Ferris, et al. Arch. Env. Health 27: 179-182, Sept. 1973. 3 refs.

The levels of air pollution for sulfur compounds and particulates five to six years apart in Berlin, NE. Population of respiratory symptoms in 1967 than in 1961. These differences when comparisons were made within a smoking category tip cigarettes did not seem to be likely explanations for the differences. The function were less clear-cut but did indicate that a slight increase in prevalence. Tests of pulmonary function in pulmonary function had possibly decreased somewhat between two sampling periods. The authors showed that there was a lower prevalence of respiratory symptoms after age standardization and after adjustment for smoking habits or the use of filter cigarettes in prevalence. Tests of pulmonary function in pulmonary function had possibly decreased somewhat between two sampling periods.

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--Authors' abst.

- 1246/73 SO₂ Levels and Perturbations in Mortality. R.W. Buechler, et al. Arch. Env. Health 27: 134-137, Sept. 1973. 8 refs.

Analysis of daily mortality for 422 places in the United States from 1962 to 1968 provided a consistent set of mortality predictors of three classes: annual cycle, day of week, and Christmas holidays; influenza epidemics; and days or spells of extreme cold or heat. Analysis of deaths for New York metropolitan region, with daily SO₂ measurements in Manhattan at the David P. Langer Laboratory, showed the pollution measurement contributes significantly to prediction of deaths. Mortality was 1.5% less than expected on 232 days with SO₂ levels below $30 \mu\text{g}/\text{cu m}$ and 2% greater than expected on 260 days with SO₂ levels above $500 \mu\text{g}/\text{cu m}$, after correcting for the other factors. Coefficient of haze (COES) does as well as SO₂ in predicting death. A parallel analysis in the Philadelphia area showed similar, but weaker, SO₂ and COES effect.

--Authors' abst.

- 1247/73 The Effect of Sulfur Dioxide and Suspended Sulfates on Acute Respiratory Disease. J.G. French, et al. Arch. Env. Health 27: 129-133, Sept. 1973. 8 refs.

Studies carried out in four distinct geographic areas of the United States involving 20,472 children and adults clearly linked excessive, acute respiratory disease with communities heavily polluted with sulfur dioxide and suspended sulfates. Pollution exposure of three years or longer was an important component in increased risk for acute respiratory disease. Laryngotracheobronchitis was the major condition productive of excess, acute, lower-respiratory disease in children in heavily polluted communities in the Salt Lake Basin and Rocky Mountain communities. The effect of pollution on excess, acute respiratory disease was found to be independent of socio-economic status and cigarette smoking.

--Authors' abst.

are, however, basic facts which any designer must consider. User information: sex; age range; disabilities or marked postural habits; available anthropometric or other data about the user population. Activity information: the designer requires as exact a brief as possible about the working situation, including direction and frequency of the task or tasks, and degrees of body movement or motions compatible with efficiency. Effects of possible future changes, such as whether the equipment is likely to be used by people of different sizes or to be used in a different way in the future. Whether the tolerable discomfort of future users is likely to be significantly different from that of the present ones. It is extremely important to design not only for the average user but for a range of people; equipment should accommodate, through adjustment if necessary, 90% or preferably more of the expected user population. New designs should be subjected to simulation exercises. Experimental equipment also allows a systematic analysis of space requirements and of visual and psychological implications of the proposed design. --Cond. from text

- 1254/73 Designing Process Plants to Meet OSHA Standards. E. Ludwig. Chem. Engineering 80: 88-100, Sept. 3, 1973. 8 refs.

The engineering implications of the regulations and standards of the Occupational Safety and Health Act of 1970 (OSHA) make it mandatory that management requirements in considerable detail. The Act, with its emphasis on directors and supervisors the responsibility for compliance remain important, the responsibility for interpreting design managers and engineers. Two important facets of engineering that is unconnected in most respects with existing operations: dating existing facilities (including making changes to modernize).

of the Williams-Steiger Occupational Safety and Health Act, no longer leaves entirely to safety plant safety matters. Although their roles still must be that of others--in particular, design are involved: the new plant (one facilities) and the project for modifying or updating existing facilities (including making changes to modernize). --Cond. from text

- 1255/73 Hazard Control Through Designer Education. L.W. Ball. 3 refs.

Systems safety technology has reached a stage of development where teaching of system safety engineering in the universities is necessary, particularly industrial engineering schools, have in engineering into their undergraduate and graduate curriculum. Designers should be systematic analysis methods for hazard identification and control evaluation is taught to all designers, including designers of consumer products. Special emphasis should be placed on reaching the product.

atl. Safety News 108: 81-85, Aug. 1973.

where there is ample substance to merit the use of the United States, several universities' faculties have developed substantial amounts of systems safety courses. The major content of a safety course for identification and control. Simple logic for hazard identification and control. This logic should be used in this article. Relative to consumer product safety, the aspects of human engineering analyses. --Cond. from text

OCCUPATIONAL HEALTH AND SAFETY

MET

- 1256/73 Standards and OSHA. H. Pyle. Natl. Safety News 108: 41, Aug. 1973.

April 28, 1973, was posted as the deadline for the promulgation of standards under the Occupational Safety and Health Act without going through the usual rule-making process. The date has now come and gone, and virtually there was no flurry of last-minute activity to expedite the process. Today the need for constructive occupational safety and health action is just as urgent as it ever was, if not more so. The need for such assistance is being emphasized more and more. OSHA administration has made a conscientious effort to provide productive alternatives to private standards-producing activities, but so far the results have failed to meet expectations. The National Institute for Occupational Safety and Health (NIOSH), through its development of criteria packages, is another alternative that is available. By using this approach to the marshaling of facts concerning particular on-the-job hazards, OSHA administration is provided another basis for recommendations in support of appropriate standards. So far, NIOSH has issued only eight criteria packages, and some of these, NIOSH acknowledges, are based on incomplete information, and therefore are subject to controversy. Emphasizing the positive from the standpoint of private sector activity, the American Society for Testing and Materials has responded to the need for developing safe methods and handling procedures by establishing its E 34 Committee (Occupational Health and Safety Aspects of Materials, Physical, and Biological Agents). The output of this committee will be published as ASTM standard procedures and

submitted to both ANSI and OSHA Administration. The first meeting of this committee was held early this year. After two years, it is abundantly clear that government alone cannot do what must be done in standards development. Major portions of the tasks involved must rest, as has always been the case, on the shoulders of the voluntary consensus standards movement.

--Cond. from text

- 1257/73 Problems Associated with Drafting of Criteria Documents. R.G. Keenan. J. Occ. Med. 15: 710-711, Sept. 1973.

The author discussed certain problems associated with the preparation of criteria documents. These included: lack of current research data from full scale medical and epidemiologic studies; scarcity of environmental data for correlation with medical findings; and a failure by investigators to recognize mixed exposure situations in their studies.

--M.A.B.

- 1258/73 NIOSH Criteria Documents. C.D. Yaffe. J. Occ. Med. 15: 708-709, Sept. 1973.

Criteria documents, as presently constituted, are unavoidably enmeshed in technical, scientific, legal, and administrative problems. Those with legal responsibilities to produce and use them are caught in the dilemma of being attacked both for what they do and don't do. There is not an enviable position.

--Author's conclusion

- 1259/73 Proposals of the Japan Association of Industrial Health in 1972 to the Government Concerning the Revision of the Regulations for Occupational Safety and Health. T. Miura. J. Sci. of Labour 49: 373-398, July 1973. (Japanese). 10 refs.

The Labour Standards Law has provisions to secure the equal right of employees and employers, and it also provides that it is an employer's responsibility to esteem the worker's right according to the law and to protect the worker's health in Japan. The provisions as such brought forth a new era of labour relations in this country. In 1972 the Japan Association of Industrial Health organized a committee of discussions on the Labour Standards Law, because the Government had an intention of establishing "the Occupational Safety and Health Law" revising and expanding the articles for occupational safety and health in the Labour Standards Law. After repetitive deliberate discussions, the Association made proposals to the Ministry of Labour emphasizing the obligation of enterprises for occupational safety and health, and giving some suggestions on the organization of health supervisors and the industrial physician in enterprises, physical examinations of employees and so on.

--Cond. from English abst.

- 1260/73 Job Status and Expectations of Exemptions from Work Due to Illness. L.W. Gerson and J.K. Skipper. J. Occ. Med. 15: 633-634, Aug. 1973. 8 refs.

In general, the data support the hypothesis that low status workers expect more exemptions from work when ill than high status workers. If supported by further and more extensive research these findings will have important implications. They indicate that for whatever reason (lack of job satisfaction, or any one of a host of other possible reasons) low status workers are not only more likely to do less work due to illness than high status workers, but in advance of illness they expect to do less work. In other words, given the same rate and degree of illness in a population of high status workers and low status workers one would predict that low status workers would miss more work. This almost could be termed a case of anticipatory incapacity, or a case of anticipatory coping with an unfavorable job situation. This conclusion is bolstered by the fact that the pattern holds even when controlled for sex and race. The pattern appears to be more pronounced during the acute stage of illness. This may have something to do with differences in the nature of work tasks between the low status and high status workers in the sample. The jobs of the low status workers require more physical mobility and manual dexterity than those of high status workers. Thus the low status workers may perceive that they would be less able to perform their work tasks in the acute stage of illness. While the magnitude of the relationship is not as strong in the convalescent stage of illness, it is interesting to note that the greatest differences between the two groups is with heart condition. Here again the explanation may be due to the different nature of the job situation. The jobs of low status workers may be perceived as demanding a greater strain on the heart. The work of college professors, on the other hand, may be perceived as requiring little physical exertion and less demand on the heart. Therefore, they would expect less exemption from work for this illness.

--Authors' summary cond.

- 1261/73 Return to Work. Anon. Brit. Med. J. 2: 188-187, July 28, 1973. 1 ref.

The Department of Employment is conducting a welcome review of its services for disabled people in consultation with the National Advisory Council on the Employment of the Disabled. It is publishing a series of four consultative documents, hoping to provoke general debate before the Secretary of State reaches conclusions on future policy. The latest document considers the "quota system". A paper last week discussed

the Department's specialised resettlement services, and the next two will be devoted to sheltered employment, industrial rehabilitation, and vocational training. The statistics now provided show that there has been a steady decline in the register of disabled people from 908,008 in 1951 to 610,107 in 1972. Only half of the disabled people in work are registered, and only three-quarters of the unemployed who are known to be disabled are registered. A limited follow-up by the Department in 1970 showed no evidence that those disabled people who registered were more likely to obtain employment than those who did not. And the proportion of firms with an obligation to comply with the 3% quota system who did not do so rose from 38.6% in 1961 to 57.8% in 1972. All the evidence suggests that for several years there has been widespread disenchantment with both quota and register. The document does not say that the Government is considering abolishing both jobs in open industry except as an extension of the role of paying subsidies would be expensive and administratively workers, they do deserve further consideration. There are people in industry but whose disability is just sufficient to make them people should be offered carefully selected jobs which they can do. They do not seek charity, but they do need help. They do not need classifying them as in need of sheltered employment should apply to all who have a disability due to illness, even include people whose problems are more social than medical. The Department of Employment have said that their services are totally separate from the rest of the Government. Consideration of work should begin early after an illness, and it is deeply worried about his future capacity to work and the fact that it is unwise to wait until medical care is complete and the best possible chance of re-employment has passed.

--Cond. from text

1282/73 Trends for the Future of Occupational Health Nursing. M.
Aug. 1973. 3 refs.

The forces that are influencing the total health care system in-
creasingly influence the occupational health professionals through
new types of, health workers and, most important of all, the
in health care. The most important of these citizens' demands
ventive services and on being involved in any scheme for eye
Safety and Health Act is supported by the unions, and the ex-
ample of the non-health professional participation in the field
that of the increased involvement of the Federal government in
national Safety and Health Act just mentioned and the forecast
insurance within the next several years. This will bring about
livery of health care. A third factor is the urgent need to up-
grade of the nurses working in occupational health. We already see
American Board for Occupational Health Nurses, Inc. established
Nursing by the American Nurses' Association in February 1972
of California, New York and Pennsylvania relating to licensing
10,000 occupational health nurses conducted by the U.S. Public
Health Service. This study showed that 93 percent of the nurses
from their hospital school of nursing and less than 17 percent in
occupational program after 1960. Over 55 percent of the nurses in
for ten or more years. Forty percent of the nurses were their
unabridged in a new era. Because of it, the occupational health
nurses involved in the "3 E's" of occupational health: Environmental
Control. It is important that occupational health nurses know and
be knowledgeable of both the environmental as well as the bio-
chemical injuries and diseases. If she is to be a truly effective
occupational health nurse, she must know as much about the occupation as she does about the health
She must know how to delegate and to supervise technical and
what needs to be done by the nurse.

row. Dec. Health Nursing 21: 7-11.

United States, of necessity, will increase--increased use of lesser prepared, and consumers' demands for quality and quantity from their increased insistence on getting the care provided. The Occupational involvement in its implementation is an occupational health. A second factor is with care as evidenced by the 1970 Occu--we will have some form of national health as a revision in the strategy for the de--the professional practice of the majority of this trend in the creation of the in May 1971 and the National Academy of and in the legislation enacted by the States concerning education. The study of health service in the Spring of 1964 still pre-occupational health nurses had only a diploma graduated from their basic nursing edu--study had been in occupational health company's only nurses. Public Law 91-596 as practitioner must be more than ever in-- Epidemiology, and Employee Educa--understand the in-plant environment, and other factors involved in producing occupa--occupational health nurses practitioner, she must of the workers for whom she is responsible. Other personnel in order to be able to do

--Cont. from text

1263/73 What the Consultant Nurse Can Do For Industry and the Industrial Nurse. M.E. Copeland. Occ. Health Nursing 21: 18, Aug. 1973. 1 ref.

In states that are sufficiently industrialized, the employment of qualified occupational health nurse consultants has resulted in a higher quality of occupational health nursing and in an increase in employee health services. Basic to all occupational health nurse consultant programs are activities concerned with initiating, developing, and evaluating employee health services. Of increasing importance is the role the occupational

health nurse consultant plays in orienting the nurse new to occupational health. While basic nursing education prepares the new graduate to function in all first-level positions, it does not prepare her for any specific position. An occupational health nurse works in initiating, developing, and evaluating employee health services; assisting in the orientation of nurses new to occupational health; and in planning inservice education related to the practice of occupational health nursing. Continuing progress can occur only through constructive change so along with evaluation and education we find research, studies, and surveys. All of these are important if health services are to attempt to keep abreast of the scientific and technological changes that are taking place in the work setting today. The nurse consultant does not do this alone, but as a member of the occupational health team. She can assist industry and the industrial nurse in meeting the standards set up by the OSHA under the Department of Labor and the Department of Health, Education, and Welfare.

--Cond. from text

- 1264/73 Certification of Occupational Health Nurses. A.M. Harris. *Occ. Health Nursing* 21: 20-22, Aug. 1973.

Legally, there is only one demand made on the nurse's professional life. The nurse must have a license to practice as a registered nurse in the state where she works. No other evidence of special knowledge in nursing is demanded of her at the present time. With the founding of the American Board for Occupational Health Nurses, Inc., the occupational health nurse now has a way to prove her expertise in her special field of nursing. The American Board for Occupational Health Nurses, Inc., founded May 21, 1971, with a grant from the American Association of Industrial Nurses, as an autonomous Board, conducts the program of certification for qualified occupational health nurses. The purpose for which it is formed is to constitute a professional organization for occupational health nurses and in connection therewith: 1. To establish standards and examinations for professional nurse certification in occupational health nursing, to certify licensed professional nurses who meet such standards and to maintain a roster of holders of certificates granted by the corporation to be known as the Directory of Certified Occupational Health Nurses. 2. To elevate and maintain the quality of occupational health nursing services. 3. To stimulate the development of improved educational standards and programs in the field of occupational health nursing. 4. To encourage occupational health nurses to continue their professional educations.

--Cond. from text

- 1265/73 Smoking, Drinking and Non-Narcotic Analgesic Habits in an Occupational Group. D. Ferguson. *Med. J. Austral.* 1: 1271-1274, June 30, 1973. 20 refs.

Smoking, drinking and non-narcotic analgesic habits were examined in the course of a wider study of occupational stress and health. Methods included sickness absence analysis, medical interview and examination, and environmental investigations. The habits were interassociated, and variously linked with certain types of mental and physical ill health, with indications of personal and social maladjustment, and with job dissatisfaction. They were more common in Sydney than in Melbourne or Brisbane. The habits represent a considerable cost to the individual, to industry and to the community. It is in industry's interests, as well as those of its employees, to set up drug programmes, which to be effective need the direction of an occupational health service.

--Author's abst.

- 1266/73 A Study on Examination Standards of Visual Acuity & Senses Chromaticus for Captain and Mate (Hei. 2). H. Kanda, et al. *J. Sci. of Labour* 48: 399-405, July 1973. (Japanese) 2 refs.

Experimental equipment was designed in which any colored lights likely to cause chromatic confusion, could be passed through a 1 mm diameter hole in a flat plate. The colored glass used in the experiment was a standard one generally used in the ship lights. Deuteranopic observers of middle degree and protanopic and deuteranopic observers of slight or very slight degree attempted to recognize these colored lights. As a result, a medium degree of abnormality was found unsuitable for the posts of captain and mate, but it mattered little in the case of a slight or very slight degree of abnormality. An experiment was made on a ship under navigation as to the percentage of errors of recognitions by three deuteranopic observers of slight degree. The examination revealed that the percentage of error was 20.8 for yellow (white), 18.0% for red and 25.7% for green. Accordingly they seemed to be not perfectly suited for the posts of captain or mate. From the above-mentioned fact the Lantern Test combining colored lights likely to cause confusion, mainly composed of light observed on the sea, seems to be more preferable as the census chromaticus Test.

--Cond. from English abst.

- 1267/73 Pulmonary Function Testing in Industry. H. Wall. *J. Occ. Med.* 15: 693-699, Sept. 1973. 13 refs.

As a result of the increasing number of demonstrated or potential occupational inhalant exposures which may adversely affect lung function, tests to detect impaired pulmonary function should become a part of the health surveillance program in many industries. In order to further this objective, the author has tried to provide some answers to the questions: What must the pulmonary function test do and what will it tell us?

How can we extend the information obtained from simple spirometry? What additional tests should be considered? Who should perform the tests and with what equipment? What are the problems in analysis and interpretation of results? And, finally, under what circumstances might inhalation provocative testing and development of a mobile function unit be considered?

--Author's summary

- 1268/73 Congenital Malformations and Environmental Influence: The Occupational Environment of Laboratory Workers. J.W. Yager. J. Occ. Med. 15: 724-728, Sept. 1973. 59 refs.

Evidence has shown that teratogenic agents are present in the chances of exposure to these agents by pregnant laboratory workers. The effect of certain occupational exposures in nurses has caused a rise in the incidence of birth defects and miscarriages. On the numbers of women employed in laboratories, and the effect of chronic toxic exposures on the fetus that this is an area which should be thoroughly investigated.

laboratory and hospital environment and that laboratory workers are great. Two studies examining congenital malformations have shown a significant increase in the incidence of birth defects. It can be seen from the dearth of information on the lack of knowledge of the nature and effects of occupational health which should be more thoroughly investigated.

--Author's summary

- 1269/73 Quality of Working Life. Anon. Occ. Health 25: 348-349, July 1973.

A new steering group made up of members of the Government and British Industry is to examine how jobs can be made more satisfying. The group will carry out a series of experiments in industry to gain a greater understanding of what can and should be done to improve working life. This is a report by an occupational psychologist, Dr. N.A.B. Wilson. Papers No. 7. HMSO. This report concludes that job satisfaction can neither be achieved without the other for any length of time as stressful. It picks out these factors as especially if the pace is high; repetitiveness and very short periods of meaningfulness in work; large impersonal structures of objectives which seem distant and unreal to the worker. Job motivation is that people will 'work all out' when, in a report says, a mass return to craftsmanship and individualism of experiments to provide more job satisfaction with other countries. It quotes examples from the USA, Scandinavia that it is usually possible to increase job satisfaction for a number of years for development and autonomy. Absenteeism and productivity is maintained or even increased.

Trades Union Congress and Confederation of Labour are working for workers. It will plan a programme of job satisfaction and to spread information on job satisfaction. The announcement coincided with the publication of "On the quality of working life." Manpower and efficiency are related in such a way that time, and cites some features of modern methods of working as stressful: forced, uniform pacing, short cycles leading to monotony, triviality and repetition, working arrangements and relations; report says that the largest single factor in job satisfaction, they are working for themselves. The surprise is impossible. It brings together summing up profits which have been tried in the USA, and the Netherlands. The report concludes that members of a workforce by providing opportunities for development and autonomy. Absenteeism and productivity can also be greatly reduced while job satisfaction is maintained or even increased.

--Cond. from text

- 1270/73 The "Don't Give A Damn" Syndrome. L. Cady. Occ. Health 25: 348-349, July 1973.

If we are to help the non-productive worker to change, we must first change our own attitude toward them. Many of these workers come in late and go to their work late. Throughout the day they make lengthy visits to the rest room. By this time other workers who have had their noses to the grindstone have soldiered on the job. Everyone may have a day of the day. This practice is costly to industry in terms of productivity and frustration stirred up in those who put in a fair day's work. We must first change our own attitude toward them that can be developed. Stop stereotyping the poor worker and guide them to set some direction to their lives. Help build self-esteem by providing for small successes. Stop rewarding the poor worker by providing help when he falls behind in his work. Separate workers identifiable as not carrying their share of the load. Clarify responsibilities and set reasonable limits. Limits must not threaten or lower an already low self-esteem, not belittle or derogate but add to ego strengths. With limits, the worker knows what is expected of him, helps him to know that he can depend on the reliability of his supervisors.

- During 21: 12-13, Aug. 1973.

Understand the dynamics of his behavior. By way of a cup of coffee in the cafeteria. And after lunch or supper, if the evening of the working day they get very busy. But make one all day have to double up and help work overtime to meet the work requirements. Time pay but more costly is the dissatisfaction and are late in getting off duty because of the do to help these "don't care" workers to accept them as people with certain strengths and weaknesses. We can inquire about their goals and self-esteem by providing for small successes. Stop rewarding the poor worker by providing help when he falls behind in his work. Separate workers identifiable as not carrying their share of the load. Clarify responsibilities and set reasonable limits. Limits must not threaten or lower an already low self-esteem, not belittle or derogate but add to ego strengths. With limits, the worker knows what is expected of him, helps him to know that he can depend on the reliability of his supervisors.

--Cond. from text

- 1271/73 Early Detection of Mental Disorders. M. Lipsedge. Occ. Health 25: 354-359, July 1973.

Minor changes in behaviour or personality which could arouse suspicion of a serious mental disorder should be detected early. The occupational health team is particularly well placed to make such observations, since deterioration in work performance is often symptomatic of an underlying psychiatric disorder.

--Author's abstr.

- 1272/73 A Psychoanalytic View of Occupational Stress. H. Levinson. *Occ. Mental Health* 3: 2-13, Summer 1973.

Although much has been written about occupational stress and the meaning of work, there is as yet no comprehensive overview which could serve as a basis for organizing the multiplicity of studies and conceptions as well as a framework for continued research. In this paper the author proposes to advance such a framework. --Cont. from text

- 1273/73 The Interstate Compact: A New Instrument for Workmen's Compensation Reform. M. Wendell. *J. Am. Insurance* 48: 13-15, Summer 1973.

A major advantage of the interstate compact approach is that it can provide for creating a common agency, accountable to the states, to monitor progress in the workmen's compensation field, to do research, and to develop new approaches to improving the state systems. Some possible functions of such an agency might be: to collect and analyze data needed by workmen's compensation administrators in order to improve the operation of their state systems; to develop means of improving the delivery of medical and rehabilitative services to injured workmen; to conduct training schools and courses for workmen's compensation administrators; to provide special facilities and personnel for dealing with industrial disabilities--e.g., burn centers, spinal cord units, rehabilitation nurses, etc.; and to establish and maintain a central system for recording exposure to radiation or other substances having cumulative adverse effects on the health of employed persons. --Cont. from text

Dates to Remember

1973

November 14-15 -- Training Course - Industrial Nurses

December 12-13 -- Symposium - Carbon Monoxide

1974

January 16-17 -- Engineering Discussional

SAFETY, ACCIDENT PREVENTION

- 1274/73 Social Behavioral Implications of Environment with Respect to Safety and Health. H. Singh and R.H. Kirk. *Am. Soc. Safety Eng. J.* 18: 41-44, Aug. 1973. 4 refs.

Information presented by the authors deals with the importance of environment in preserving the safety of human health. There is much evidence that people behave in a manner such that they expose themselves unnecessarily to environmental hazards, and this behavior may occur despite people's knowledge of the potential adverse effects that environment may have upon their health. There are important combinations of physiologic, psychologic, and social factors acting upon and within the individual involved in the production of this health-damaging behavior. For example, the design and characteristics of major features of the environment such as cities, neighborhoods, and transportation units may acquire meaning as hazards to health by virtue of social attitudes, values, and behavior. --Authors' abst.

- 1275/73 Defining the Problem. L. Greenberg. *Am. Soc. Safety Eng. J.* 18: 18-21, Aug. 1973. 4 refs.

The field of occupational safety and health has been characterized in recent years by the passage of important safety acts. These have helped provide greatly improved and safer working conditions. The author indicates that the main problem involved concerns "accidental injuries rather than occupational diseases." He presents some interesting questions pertaining to statistics concerning the qualifications of safety professionals and the specialists in industrial hygiene. --Author's abst.

- 1276/73 The Effectiveness of Safety Programs as Perceived by Employees. D.C. Petersen. *Am. Soc. Safety Eng. J.* 18: 23-26, Aug. 1973. 7 refs.

The author suggests we give some thought to the possibility that we may be wasting a great deal of time and money by blindly doing what we have always done in developing safety programs out of elements based on old and borrowed theories. From his extensive experience, he concludes that our structuring of a program should be situational. This indicates a need to better measure employee opinion, credibility of management, and safety norms. --Author's abst.

- Are some people more likely to have accidents than others? And if so, can the potentially accident prone be identified by his physiological or psychological traits? Dr. Leon Brody, director of research at the Center for Safety, New York University, has long grappled with these questions. In many of his projects, Dr. Brody concentrates on the accident repeater, a familiar figure to every safety director who has kept accident records. Dr. Brody cautions safety directors against labeling repeaters include individuals who are accident prone because involved in a number of accidents for which they have been held responsible. "Dr. Brody cautions safety directors against labeling repeaters include individuals who are accident prone because involved in a number of accidents for which they have been held responsible for them," Brody said. Taking a closer look at the group which is accident prone, Brody identifies first a relatively small percentage with aspects toward being involved in accidents because of the situations." Second, he identifies a much larger group of individuals who are temporarily accident prone people are subject to physical and emotional stressors, mental preoccupation and distractions that may temporarily affect their ability to perform a given task. When that happens, an individual joins the ranks of temporarily accident prone. It seems almost normal for this state of affairs to recur. Most often than as consequence is a near-accident, which should also be significant to safety professionals.
- Cont. from text

- The author has been involved across the board in studies of injury, and post-injury phases, and generally he agrees with issues in the pre-injury phase, however, which have been ripe for epidemiologic investigation. Furthermore, the by other professions but which are not going to be resolutions. But no such breakthroughs can be expected until commitment to this field increases to more than can be counted. A brief review of the pre-injury phase will help focus on this. Basically, the process of dealing with energy sources in performance level of the person and the task demands involves: since level exceeds task demands, no harmful energy exchange have now documented the involvement, and in many cases presentation, in injury events of persons with some form of performance. These include factors of extreme youth, inexperience, alcohol, the premenstrual and menstrual periods, episodic conditions as epilepsy, diabetes, cardiovascular diseases, aging and problems of mobility. In other words, the person less likely to be injured than is someone who lacks one or more successful performance.

- programs concerned with the pre-injury, is opinion leaders. There are important areas inadequately or not at all, and which ones involve questions which can be raised without application of epidemiologic technique of epidemiologists with long-term commitment of both hands, as is now the case. The nature of the problem and the opportunity. The effort depends on two factors, the person and the energy. As long as the performance will occur. Numerous epidemiologic studies further documented the substantial overexposure to or temporary impairment to task performance and learning curves, drugs such as alcohol, emotional stress and such chronic conditions, senility and other disorders of aging. A healthy, trained, and experienced is one of these prerequisites for continuously successful performance. --Cond. from text

- Nearly a quarter of a million disabling foot injuries occur each year annually. Adequate foot protection must guard against a host of hazards, from simple dermatitis to crushing injuries caused by impact from heavy objects. Within this broad range, attention must be given to possible attack from caustics, chemicals, extreme cold, and excessive heat; slippery surfaces; puncture from nails and other sharp objects; electricity--both live and static, causing shock or explosion; and contamination from bacteria or radiation. Safety shoes fall into five general categories, determined by intended use: steel toe (general use); conductive; non-sparking (explosives-resistant); shock-resisting (electrical hazards); and foundry. In addition, there are foot guards--plastic, aluminum alloy, or galvanized steel foot coverings--which are attached to the shoes temporarily to protect not only the toe but also the instep (metatarsal area), and shin guards. Other items covered by the broad term "foot protection" include rubber and rubber-like boots and foot coverings, wood-soled shoes, slip-resistant soles, steel-reinforced soles, shoe liners, disposable shoe covers, etc. Even barrier creams, fungicide ointments, sprays, and powders. --Cond. from text

- A new eye hazard has been added to the motor industry. This is a sparking plug with a glass body which is inserted into the cylinder in order to adjust the colour of the explosion flame for engine tuning. The mechanic watches directly over the plug while carrying out the necessary adjustments. A patent was doing this when the glass came away from the screw base and, naturally, hit him directly in the eye. Fortunately the eye was not lost.
- Author's text modified

- 1281/73 Flash Fire Warning. *Anon. Occ. Health* 25: 245, July 1973.

A warning has been issued by the Manufacturing Chemists Association to users of the handbooks MCA Laboratory Waste Disposal Manual and Guide or Safety in the Chemical Laboratory. Addition of dry calcium hypochlorite to mercaptans and organic sulphides can cause a violent reaction, with the possibility of a flash fire and consequent injury to the operator. The correct procedure when disposing of these materials is to cover them with a weak aqueous solution (up to 15%) of calcium hypochlorite or a 5% solution of sodium hypochlorite, available as household bleach.

--Entire text

- 1282/73 Respirator Cartridge Filter Efficiency under Cyclic and Steady-Flow Conditions. R.G. Stafford, H.J. Etminger, and T.J. Rowland. *Am. Ind. Hyg. Assn. J.* 34: 182-182, May 1973. 18 refs.

Respirator filter cartridges are routinely tested under steady-flow conditions to provide a basis for predicting their future performance under cyclic-flow breathing conditions. Tests were performed to define aerosol penetration through respirator filter cartridges under both cyclic and steady flow. A breathing pump was used to simulate different human breathing patterns. Steady-flow conditions were identical to those recommended by the U.S. Bureau of Mines for permeability tests of respiratory protective devices. Solid monodisperse polystyrene latex aerosols ranging from 0.178 to 2.02 μ m in size and liquid monodisperse 0.3- μ m dioctyl palmitate were used as the test aerosols. Sampling during cyclic flow was performed without altering the flow pattern through the respirator cartridge. Steady- and cyclic-flow experimental data are compared as a function of aerosol size, breathing pattern, and aerosol type. Theoretical steady-flow aerosol penetration is compared to experimental cyclic-flow data.

--Authors' abst.

MISCELLANEOUS

- 1283/73 The Polarographic Determination of Trace Amounts of Cyanide. L.S. Bark and B.S. Lim. *Water Research* 7: 1208-1213, Aug. 1973. 13 refs.

A method is proposed for the indirect determination of trace amounts of cyanide. After release and distillation of the cyanide, which is collected in 1.0 M sodium hydroxide, the cyanide is reacted with a known and excess amount of copper (II) ions. The excess of the Cu (II) ions is determined by polarography, and from the amount of Cu (II) which has reacted, the amount of cyanide originally present is calculated.

--Authors' abst.

- 1284/73 Spectrophotometric Method for Determination of Ozone in Aqueous Solutions. H. Shechter. *Water Research* 7: 728-730, May 1973. 24 refs.

A sensitive spectrophotometric method for determination of ozone in small volumes of water is presented. It was performed in order to meet the requirements of a kinetic study of virus and bacteria inactivation by ozone. The proposed method involves oxidation of a buffered iodine solution and spectrophotometric measurement of the triiodide ion liberated by ozone. Two procedures are used: one for low ozone concentration (0.01-0.30 ppm) and another for higher concentrations (0.30-2.0 ppm). The reproducibility of results is very high when the procedure used corresponds with the ozone level for which it is intended. This spectrophotometric method is compared with the standard volumetric method and the differences are presented and discussed. Some applications of the method for a kinetic study of virus inactivation by ozone are presented.

--Author's abst.

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Control Assn.
4400 Fifth Avenue
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30 Driveway
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