Dr. C. S. Bishop - Hen



Industrial Hygiene Digest

INDUSTRIAL HEALTH NEWS

LITERATURE ABSTRACTS

MEDICAL

ENGINEERING

CHEMICAL

TOXICOLOGICAL

LEGAL

PLAINTIFF'S EXHIBIT 1339.62

JUNE, 1965
(Vol. 29, No 6)

PLAINTIFF'S EXHIBIT IHF38

INDUSTRIAL HYGIENE FOUNDATION
MELLON INSTITUTE
4400 FIFTH AVENUE -:- PITTSBURGH, PA. 15213

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Pre-[illegible] including back x-rays are discussed in Abst. No. 538.

Abst. No. 539 reports on the dilemma of disabil[illegible]

Abst. No. 541 reviews fatigue and physical environment.

The prevalence of chronic bronchitis in an American male urban industrial population is investigated in Abst. No. 549.

The epidemiology of coronary disease in industrial workers is described in Abst. No. 552.

Abst. No. 553 is concerned with Christmas disease and myocardial infarction.

The carcinogenic potency of certain oils is studied in Abst. No. 561.

[illegible] of chronic exposure to phosgene is given in Abst. No. 566.

See Abst. No. 570 for data on asbestosis and pulmonary carcinoma.

Abst. No. 581 discusses the effect of talc dust inhalation on lung function.

The design of a medical laser laboratory is presented in Abst. No. 585.

See Abst. No. 596 for the light fantastic.

Studies on the carcinogenicity of gasoline exhaust are described in Abst. No. 607.

Information on the relation of chronic lung disease to community type air pollution is presented in Abst. No. 608.

Consult Abst. No. 609 for applying measurement concepts to the appraisal of safety performance.

FOUNDATION FACTS

DR. L.G. WALTERS, Coordinator of Research of the Pneumoconiosis Research Unit of the South African Council for Scientific and Industrial Research, visited the Industrial Hygiene Foundation on May 25. Dr. Walters is interested in reorganizing his unit which now concerns itself primarily with dust problems in connection with gold mining in Johannesburg. In connection with this reorganization, which will include other types of mining and ultimately other dusty occupations, Dr. Walters was interested in seeing how research and controlare carried out in the United States in the hope that this might provide him with some guidelines on which to base his recommendations.

DR. ROBERT T.P. deTREVILLE, Managing Director, represented the Industrial Hygiene Foundation at the first Alice Hamilton Lecture at Harvard University on May 27. Dr. Harriet L. Hardy of Harvard and the Massachusetts Institute of Technology, delivered the lecture which was entitled, "Beryllium Disease: Lessons in Control of Man-Made Disease." The industrial hygiene improvements from the early involvement of Dr. Hamilton in the lead trades to the stringent control of beryllium hazard in modern industry attest to the progress which has been made in this field in the United States since the turn of the century.

NEW REPRINT AVAILABLE FROM FOUNDATION UPON REQUEST. "Chronic Pneumonitis Caused by Phosgene: An Experimental Study," by Paul Gross, M.D., William E. Rinehart, Sc.D., and Theodore Hatch. Arch. Environmental Health 10, 768-775 (May, 1965)

30th ANNUAL MEETING OF IHF will be held here at Mellon Institute on October 20-21, 1965. The Preliminary Program was approved by the Executive Committee and Board of Trustees at their May 20-21 Meeting, and will be distributed in the near future.

30th ANNUAL MEETING
October 20-21, 1965

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ALFRED C. HIRTH

Industrial Hygiene Foundation Founding Member
(Owens-Illinois Glass Co.) 1935-1965
1st Chairman, IHF Legal Committee 1936-1941
IHF Trustee 1943-1958

The Industrial Hygiene Foundation regretfully informs its members of the sudden passing of Alfred C. Hirth on May 23, 1965 at his home in Perrysburg, Ohio, following a heart attack. He had taken early retirement from Owens-Illinois because of ill health October 1, 1963, but continued to serve the company on a restricted basis until the end of 1964.

On the occasion of his retirement, we wrote to offer him best wishes from IHF and thanks for his outstanding services to the Foundation. It was largely as a result of many months of full time study, as a member of the legal firm of Williams, Eversman and Morgan, and as counsel to Owens-Illinois Glass Company, that he became aware of the magnitude of the silicosis threat to industry. After visiting Professor Philip Drinker of Harvard, for guidance in silicosis control, Mr. Hirth effected the employment of an industrial hygiene engineer (Bill Hazard, Foundation Trustee) by Owens-Illinois Glass Company 31 years ago. Mr. Hirth and Abbott Sherwood, (President of Owens-Illinois' subsidiary, Tavern Rock Sand Co.), were subsequently prominent among those who, in 1935 were successful in founding the Air Hygiene Foundation, an Ohio Corporation, later to become IHF.

Even though other challenges, beginning about the time of World War II, later required his full attention and caused him to spend almost all of his time in Washington, Mr. Hirth maintained an active interest in the Foundation and provided for continuing advice and guidance through the appointment of T.C.Waters to follow him as Chairman of the Legal Committee and Bill Hazard to represent Owens-Illinois Glass Co. on the Board of Trustees

Besides recognizing our indebtedness for his effective leadership in our affairs, we must also cite the many personal qualities, including a rare wit and charm, that won him so many close friends within the Membership. His most recent letter dated March 8, 1965 will, therefore, be of interest to many of his friends: "Thank you for your kind letter concerning my retirement. I am fortunate to have so many happy memories, foremost of which is my association with the Foundation. My years of service have been most rewarding both from a professional as well as a personal standpoint. Please extend my warmest wishes to all of the fine people it has been my pleasure to be associated with. You may remove my name from your mailing list, but please retain it with those who will always wish the Foundation the greatest success."

Sincerely,

Al Hirth

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ROYD R. SAYERS, M. D.

Industrial Hygiene Foundation
Trustee and Member of Medical
Committee—1936-1953

The Industrial Hygiene Foundation notes with sorrow the passing of Dr. Royd R. Sayers on April 23 in his 80th year. He was buried in Arlington National Cemetery.

Commissioned in 1915 following medical school and internship in Buffalo, Dr. Sayers spent his entire professional career in governmental service. From 1917 to 1932 he was Chairman of Health and Safety Division, Bureau of Mines, U.S. Department of Interior. Subsequently, he became medical director in the U.S. Public Health Service (USPHS) assigned as Chief of the Division of Industrial Hygiene of the National Institutes of Health. It was in this capacity that he was chosen to serve on the Air Hygiene Foundation's original Medical Committee in 1936, and also elected a Foundation Trustee. In 1939 representing the American Association of Industrial Physicians and Surgeons(of which he was President) as well as IHF and the USPHS, Dr. Sayers was responsible for conducting a Symposium on Sick Absence. The Annual Meeting statistical report on Sick Absence to the Foundation membership from 1940 through 1953, resulted from this meeting, and was characteristic of the close working relationship between IHF and the USPHS in such research.

In 1941 he was appointed Director of the U.S. Bureau of Mines, and the same year addressed the 6th IHF Annual Meeting on two important subjects, "Findings from Major Studies of Fatigue and "Some Comments on the New Federal Coal Mine Inspection Act

In 1947, Dr. Sayers returned to the USPHS and was appointed Chairman of the Medical Board established by the Trustees of the United Mine Workers' welfare and retirement fund In 1950 he became senior medical supervisor of occupational diseases of the Baltimore City Health Department.

The life of Dr. Sayers exemplified the highest ideals of professional and public service, and we in the Foundation who have benefited from his leadership and friendship, are grateful for his long association in the affairs of the Foundation.

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Pittsburgh, Pa 15213

INDUSTRIAL HYGIENE DIGEST
Literature and News

NEWS ITEMS

515 President Johnson Affirms Need for Water Fluoridation: Eisenhower and Kennedy Took Same Stand.

There is no doubt that today the President of the United States has at his command the keenest and most critical scientific advice in our nation. Evidence of this is clear in the progress being made not only in health research through federally financed projects, but also in the fields of nuclear energy, aerospace problems, interplanetary exploration, jet propulsion and in survival under the most extreme environmental conditions. Particularly significant is the fact, therefore that President Lyndon B. Johnson has joined the growing number of statesmen who ask that we take advantage of the unquestioned value and safety of adjusting properly in our public water supplies the content of fluoride, which was termed, in Connecticut Medicine 29, 106 (Feb. 1965), a mineral nutrient which we must have to enable us to construct a dental enamel that is maximally resistant to decay. In his statement to the nation on the occasion of Children's Dental Health Week, for the second week of February 1965, the President asked parents to help bring the benefits of water fluoridation to their communities. "I urge all parents to join dentists and health organizations in the support of dental health education in our schools and in the encouragement and adoption of such preventive measures as fluoridation of community water supplies to reduce painful and costly tooth decay among our children." In his plea for fluoridation of water supplies, President Johnson joins the efforts of both his predecessors, Dwight D. Eisenhower and John F. Kennedy, to point up the value of what has been hailed as one of the greatest public health advances of the 20th century.

-- Conn. Health Bull. 79, 71 (March, 1965)

516 Biological Symposium.

On July 12-14, the University of Michigan will present its summer Biological Symposium on Biological Excitability and Membrane Phenomena, one of the newest areas of scientific investigation. The topic is one of learning how the cells—in nerves, muscles and endocrine systems—can "communicate" with each other. Program chairman Dr. Lawrence B Mellett of the department of pharmacology, said this communication phenomenon may ultimately explain many actions of drugs and anesthetics, and give greater understanding of a number of diseases in which living tissue is no longer excitable. The 1963 Nobel Prize in Biology and Medicine was awarded to investigators working in this area. Dr. Mellett said, it has become one of the most vigorous new areas of study and research. The symposium is the 16th annual summer meeting sponsored by the University of Michigan Division of General Biological Sciences

-- University of Michigan News Service

517 Permanent Commission and International Association on Occupational Health.

The Permanent Commission and International Association on Occupational Health will hold its 15th International Congress on Occupational Health September 19-23, 1966, in Vienna, Austria. All professional people interested in the field of occupational and environmental health are invited to attend this conference and contribute to it. The scientific program will include such topics as Organization of Occupational Medicine, Industrial Hygiene, Occupational Disease, Toxicology, Occupational Psychology and Physiology, Traumatic Medicine and Rehabilitation, Chronic Attritional Disease and Rehabilitation, and Occupational Health Nursing. For further information regarding the Congress and procedures for presenting papers write to Dr. Christian Frieberger, Universitat Wien, Sensengasse, 2, Wien IX Austria

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518 Slight Rise in 1964 Job Injuries. Still Above 2 Million.

More than 2 million U.S. workers were disabled and 14,200 died because of on-the-job injuries in 1964, according to preliminary estimates of the U.S. Department of Labor's Bureau of Labor Statistics. Work injuries added up to 2,050,000 last year—about 30,000 more than for 1963. The number of deaths, 14,200 remained the same. For the first time in 11 years, the Bureau pointed out, the volume of disabling work injuries remained above the 2-million mark for two consecutive years. Approximately 85,800 workers suffered some degree of permanent disability. Some 95% of the injuries were cases with no permanent aftereffects. Job injuries produced an estimated total of 42 million days of immediate disability. This total is expected to rise to 172 million as delayed effects of serious injuries occur. Some facts concerning the 1964 work injury and death rate in various industries are: The single area of injury decrease in 1964 was in agriculture. There were fewer fatalities but more injuries among employees in manufacturing in 1964. In transporation and public utilities, work injuries increased at about the same rate as employment. Both the number of workers and the volume of injuries increased for contract construction workers. Injuries among workers in mining, trade, finance, service, and government remained approximately the same as for 1963.

-- Safety Standards 14, 6 (May-June, 1965)

519 Work-Injury Frequency Rate.

The U.S. Department of Labor reported a 5% increase in the manufacturing work-injury frequency rate for 1964 as compared with 1963. The rates for all four quarters of 1964 have been higher than for the comparable periods of 1963. The 1964 rate was 12.7 compared with 12.1 for the previous year. The U.S. Bureau of Mines reported that the frequency rate for rock- and coal-fall fatalities in bituminous coal mines dropped to 0.47 in 1964 as compared with 0.51 in 1963. However, the bureau reported a rate of 1.14 for mines employing 14 or fewer persons underground, compared with 0.60 for the larger mines. The smaller mines which produced only about 25% of the tonnage, sustained 30% of the total number of the bituminous coal industry's underground fatalities. The bureau's conclusion was: "the abnormally high percentage of the total deaths brought about by falls in mines employing fewer than 15 men points to the need for more rigid enforcement of safety regulations in this class of mines."

-- Natl. Safety News 91, 37 (May, 1965)

520 Industrial Solvents Air Pollution Target.

The Los Angeles County Air Pollution Control District (APCD) is assembling information on which to base a major step toward clearing the atmosphere of eye-irritating pollutants—reducing the volume of solvents which evaporate into the air in the Los Angeles area each day. Industrial cleaning solvents would be involved. A spokesman for the local APCD estimates that some 500 tons of solvents of various kinds—from dry cleaning plants, painting operations, industrial cleaning, etc.—evaporate each day. They vary in their ability to produce eye irritation. The APCD is attempting to grade them, using automobile exhaust gas as an index of 100. It is estimated that some 1,340 plants of various kinds would be affected by any regulation which may eventually be issued to cover the situation. One unresolved factor is establishment of a point at which a plant would be considered to be producing enough of a volume of evaporated solvent to be required to control it. The spokesman said it might be 100 pounds of evaporation per day. Method of controlling evaporation, should a rule be issued, would be left up to individual establishments. Sources in the Los Angeles area aerospace industry suggested as an example that vapors from such solvents as trichloroethylene would have to be passed through charcoal. The APCD expects to present its data on solvent evaporation to the Los Angeles County Board of Supervisors at a future date and request issuance of a regulation to cover the problem.

-- Contamination Control 4, 6-7 (May, 1965)

521 Pest Residues in Food.

Pest residues in the U.S. food supply are insignificant from a health standpoint, according to the latest "total diet" studies by the Food and Drug Administration (FDA). Levels found in test samples were generally less than 1% of the safe legal tolerance, FDA says, adding that many of the most commonly used pesticides were not found at all. The studies are made of market-basket samples of groceries collected from stores in three major cities. Groceries

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selected are representative of those that would make up a nutritionally satisfactory diet for an average 16- to 19-year-old boy. Even though FDA changed the testing procedure this year to make it even more sensitive, the latest tests showed pesticide residue levels lower than those of earlier studies. -- Chem. Eng. News 43, 21 (April 19, 1965)

522 American Mining Congress Meeting in Pittsburgh

The findings of a 2 1/2 year U.S. Public Health Service study of coal miners were presented before about 600 mine owners and operators at the American Mining Congress at a meeting in Pittsburgh on May 12. Operating from a field station in Beckley, West Virginia, mobile trailer units visited 55 mine sites in Appalachia and examined 2,550 active and 1,200 inactive miners, carefully selected to represent a cross section of the miners of Appalachia. Each was given a standard chest x-ray and tests to measure his lung function and capacity. Diagnosis of disease was based on x-ray evidence of lung tissue changes. Medical surveys of two West Virginia communities, Mullens and Richwood, support the conclusion that coal workers' pneumoconiosis results from job exposure. In these communities, groups of miners and other manual workers, and the wives of each group, were examined for chest disease. None of the women, and only 1 per cent of the non-mine workers, had any respiratory ailment resembling the coal workers' disease. On the other hand, 15 per cent of the miners in the two communities, although exposed to the same home and community environment, showed some degree of pneumoconiosis. The incidence of the disease is even higher among inactive miners. Of the retired and unemployed, almost one in five showed positive evidence of the disease. The years of underground work appear to be crucial in the development of the disease, the number of cases increasing sharply after 20 years of exposure.

-- U.S. Public Health Service News Release, (May 12, 1965)

COMING EVENTS

523	July 8-23	Conference on Colloid, Surface, and Macromolecular Chemistry, Sponsored by National Science Foundation, Bethlehem, Pa.
	July 11-15	American Veterinary Medical Association, Portland, Ore.
	July 14-15	Society of Plastics Engineers Regional Technical Conference, Seattle, Wash.
	July 16-17	Rocky Mountain Cancer Conference, Denver, Colo.
	July 19-22	Association of Food and Drug Officials of the United States, 69th Annual Conference, New York
	July 19-23	Gordon Research Conference on Scientific Information Problems in Research, New Hampton, New Hampshire
	July 22-24	International Society of Medical Laboratory Technologists, Convention, Tulsa, Okla.
	July 25-29	Pacific Dermatologic Association, Portland, Ore.

LEGAL DEVELOPMENTS

524 Michigan's Radiation Regulations Update Awaits Legislative Action

Michigan's 1958 Radiation Regulations have been up-dated and are now in the hands of a legislative review committee, having already been submitted to the Legislature. There are several changes which include the following: (1) The old so-called limit of 300 mr/week has been changed to the general value of 100 millirems per week with a maximum of 5 rems per year. (2) The industrial radiographic installation section has been rewritten and there is an entire

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new section on portable and mobile radiation sources. (3) There is a requirement that industrial radiographic installations utilizing isotopes be leak-tested. (4) Tables on shielding design have been deleted since this information is available from other sources. (5) There a provision that no person shall lease, lend or sell x-ray equipment unless such equipment will meet the requirements of the regulations.

-- Michigan s Occ. Health 12, No. 2,8, (Winter 1964-1965)

525 Air Pollution Control Bill.

A modified air pollution control bill has been approved by the Senate Special Subcommittee on Air and Water Pollution headed by Senator Edmund S. Muskie (D.-Me.). As Senator Muskie predicted earlier the amended version of S. 306 is more flexible than the original. In the new version the bill merely sets broad guidelines for the quality of emissions from automobile exhausts. It provides that actual quality standards will be set administratively by the Department of Health, Education, and Welfare. Auto makers would have until September 1, 1967, to comply with the new control standards. The parent Committee on Public Works is expected to approve the subcommittee's version of S. 306 in routine fashion.

-- Chem. Eng News 43, 21 (May 17, 1965)

526 More Money for Pesticide Research.

The Senate has passed without debate a bill (S. 1623) which would authorize the Interior Department to spend $3.2 million on pesticide research in fiscal 1966 This sum would go to $5 million annually in fiscal 1967 and 1968 Under present law, Interior can spend no more than $2.6 million a year for this kind of research. The House seems likely to go along with the Senate action. Last year both House and Senate passed slightly different versions of a similar bill to lift the ceiling on pesticide research, but Congress adjourned before the differences could be ironed out. -- Chem. Eng. News 43, 19 (May 10, 1965)

BOOKS, PAMPHLETS AND NOTICES

527 The Legacy of Neglect. C.A. Ferguson, et al. AVAILABLE FROM: Industrial Mental Health Associates, P.O. Box 1364, Fort Worth, Texas [illegible] pp. (1965). PRICE: $13.50

This report is the result of a year's study by a group of ten Second-Year students at the Harvard Graduate School of Business Administration. The method adopted for researching this study is described. It embodied analysis and interpretation of information collected by a combination of literature searches, questionnaires, interviews, and personal correspondence. The first objective is to provide the business man with more insight into mental health problems in industry. Second, to examining the factors which have pampered the development of industrial mental health programs. Third, to predict some of the trends of mental health care and to indicate the impact on business of various forces, including the medical professions, the federal and state governments, the unions and the legal professions, which are acting in this field. Fourth, is to offer possible action alternatives that a company may take, dependent upon its needs and its resources -- Cond from Preface

Though no mathematical puzzle and no problem of the hard sciences stumps us for long, man is an enigma to himself. Few people really understand themselves, let alone understand others. Man still struggles along in sometimes brutal association with other men, often in painful association and rarely in happy, spontaneously productive relationships. Man pays an extremely high human price for his scientific, economic, and technical productivity. Nearly 20,000 people die each year by their own hand. Hundreds of thousands are incapacitated by serious accidents. Millions suffer from alcoholism, heart disease, ulcers, and other ills in which psychological factors play a major role. Even though we know these things about man and his work, we are not yet applying this knowledge systematically at places where men work. Here and there a relatively few men—managers and labor leaders, psychologists and

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psychiatrists, industrial physicians and personnel directors—are trying to bring together what is known about how to cope with emotional stress related to work and to apply that knowledge. In the past 50 years their work has been limited, slow and pitifully inadequate. This book documents that history and its contemporary stage. The authors are not professionals in the field of mental health. They are a group of earnest young businessmen who are curious for both a statement of the problem of mental illness in industry and some answers to it, and they have looked intensively into the field. This is the best summary we have to date of the contemporary scene in industrial mental health and it will probably stand as an up-to-date reference work for a number of years to come. The writers have performed an important service by accurately reflecting the state of the field and the degree of understanding and confusion within it. -- Cond. from Foreword

Perhaps in the very nature of such a survey it is inevitable that the reader is left with a sense of superficiality and non-integration of materials; he has, however, been given a great deal of material for thought and discussion. With vigor and imperturbability (perhaps reflecting the pragmatic and action-oriented world of business which they have now entered) this young group has essayed an extraordinarily difficult task: exploring the complex worlds of psychiatry and industry, and attempting to throw a measure of light on the problems which hinder the melding of these two so different professional sub-cultures. To a very considerable degree they have succeeded.

-- Cond. from Review in Ind., Med. & Surg. 34, 349-350 (April, 1965) by Dr. John MacIver

528 Handbook on Aerosols. AVAILABLE FROM: Office of Technical Services, U.S. Department of Commerce, Washington, D.C. 20230. Publication STR-10-IN—147 pp. PRICE: $2.75

This technical report containing previously classified information on aerosols has been released at the request of the Atomic Energy Commission so that methods developed for the use of military agencies may find a broader use. The document covers such problems as the formation and behavior of smoke clouds, analysis, protection against toxic agents, and the dispersal of insecticides. It contains 11 technical papers on such subjects as filtration, testing of smoke filters, micrometeorological instruments, aerosol stability, and the behavior of particles. Other chapters discuss the adsorption wave, optical properties of aerosols, aerosol formation, general meteorological principles, measurement of particle size and size distribution, travel and persistence of aerosol clouds, plus a chapter on the general properties of aerosols

-- J. Am. Soc. Safety Eng. 10, 28 (May, 1965)

529 Explosibility of Metal Powders. M. Jacobson, A. R. Cooper, and J. Nagy. U.S. Bureau of Mines, Report of Investigations 6516. AVAILABLE FROM: U.S. Bureau of Mines, Washington D.C. 25 pp. (1964). PRICE: Not Given.

This is a study of dust explosions of 31 elemental metals, alloys, catalysts, and ores comprising 54 types of materials. The data include ignition temperature, spark energy for ignition, minimum explosion concentration, explosion pressure, rate of pressure rise, and in some instances, admixed inert dust and oxygen concentration in the atmosphere required to prevent ignition of dust dispersions. The effects of particle diameter on explosibility and pyrophoricity are also discussed.

-- J. Am. Soc. Safety Eng. 10, 29 (May, 1965)

530 Fire Protection in the Chemical Industry. Safety Guide (SG-17). AVAILABLE FROM: Manufacturing Chemists Association, 1825 Connecticut Ave., N.W. Washington, D.C. PRICE: 20 cents.

This guide prepared as an activity of the Safety and Fire Protection Committee of the MCA, discusses basic principles of plant fire protection, fire protection measures, and includes an engineers' check list as a guide for use when assessing fire hazards and reviewing fire protection facilities of a chemical plant -- J. Am. Soc. Safety Eng. 10, 27 (May, 1965)

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531 Methods of Measuring and Monitoring Atmospheric Sulfur Dioxide. S. Hochheiser. PHS Publication No. 999-AP-6. AVAILABLE FROM: U.S. Department of Health, Education, and Welfare. PHS Division Air Pollution, Cincinnati, Ohio. 47 pp. (Aug. 1964). PRICE: Not Given.

A literature review of methodology relating to the measurement of atmospheric sulfur dioxide, a detailed description of recommended methods, and criteria for selection of recommended methods are presented in this report. This publication is intended to serve as a resource document for those involved in measurement of pollution and in research on new or improved methods, and for those who seek to bring about widespread agreement in matters concerning measurement of pollution. -- APCA Absts. 10, 6 (April, 1965)

532 Air Pollution in the Coffee Roasting Industry. F. Partee. PHS Publication No. 999-AP-9 AVAILABLE FROM: U.S. Department of Health, Education, and Welfare. PHS Division Air Pollution, Cincinnati, Ohio. 15 pp. (Sept. 1964). PRICE: Not Given.

This review provides a guide for the inventorying and control of emissions arising from coffee processing. Information was collected from published literature and other sources Emission factors were established for the various processes involved, i.e., roasting, stoning, and cooling. The air pollution aspects of the production of regular grades, instant, and decaffeinated coffee are discussed. Also discussed are the types and operating characteristics of control equipment used. -- APCA Absts. 10, 6 (April, 1965)

533 But It's Only a Scratch. Free sample copy and quantity prices AVAILABLE FROM: Dray Publications, Fire and Accident Division, Deerfield, Mass. 01342.

These words are also the title of a new 8-page well-illustrated medical safety booklet. The publication gives up-to-date medical advice to prevent infection from minor cuts, splinters, punctures, animal bites, blisters, and burns or scalds. It includes latest caution on home use of antiseptics, tetanus boosters (all technical data checked by the major medical organizations and agencies). The booklet is designed for plant safety programs (on- and off-the-job), as well as for medical and health group use in clinics, dispensaries and first aid rooms.
-- J. Am. Soc. Safety Eng. 10,27 (May, 1965)

534 Genetics and the Epidemiology of Chronic Diseases. U.S. Department of Health, Education and Welfare, Public Health Service Publication No. 1163. A Symposium sponsored by the U.S. Public Health Service and the University of Michigan's Schools of Public Health and Medicine. AVAILABLE FROM: Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402. 395 pp. (Feb 1965) PRICE: $1.50.

This Symposium held at Ann Arbor June [illegible], 1963, considered the role and limitations of the genetic approach in studies concerned with the epidemiology of a variety of chronic diseases Papers in the proceedings are organized under five headings: 1. Basic genetics and epidemiological principles. 2. Critical reviews of selected illustrative problems. 3. Problems of experimental design. 4. Current gentico-epidemiologic studies 5 Genetic counseling Coverage is not specifically directed to occupational health specialists, being concerned principally with public health aspects, such as those of concern to state health organizations. Genetic factors are also of importance in the work force, and thus to industry and occupational health specialists.

Roger J. Williams' Biochemical Individuality indicated the importance of observing and recording factual information in medical examination records rather than categorizing individuals as normal or abnormal in relation to a population norm. In the interest of worker health conservation and in view of escalating costs of group health insurance, it is of increasing importance to industry to detect chronic disease and apply preventive medical principles at the earliest stage possible. It will also be increasingly important to evaluate genetic factors prior to employee placement in work involving exposure to potential carcinogens, as the unusually high incidence of cancer in certain individuals may otherwise be attributed to environmental factors, perhaps wrongly.
John Wiley & Sons, publishers 605 Third Ave., New York, N.Y. 214 pp (1956) Price: $5.75 Hardbound Edition, $1.95 Paperback Edition
(Editor's Note: Progress which is occurring in this area, with special relation to occupational health, will be reported at the 30th Annual Meeting of the Foundation on October 20-21, 1965.

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INDUSTRIAL MEDICAL PRACTICE

535 Health and Economic Development in Tropical Africa. E.H. Hinman. Arch. Environmental Health 10, 481-492 (March, 1965).

The author discusses the subject under the following headings: General health services, malaria, schistosomiasis (bilharziasis), African trypanosomiasis (sleeping sickness), onchocerciasis, yellow fever, typhus, bubonic plague, Hansen's disease, smallpox, water-borne diseases (typhoid, diarrheas, dysenteries), infant mortality, and cerebrospinal meningitis. There are 20 references.

536 Survey on Scope of In-Plant Industrial Medical Practice. Industrial Medical Association A Committee Report. J. Occ. Med. 7, 154-165 (April, 1965).

Based on information furnished by 585 medical directors, each of whom has primary responsibility for an industrial medical program, statistical data are presented which authoritatively outline the scope of in-plant industrial medical practice. -- Authors summary

537 Broadened Objectives of Occupational Health in an Age of Chronic Diseases. T Hatch. J. Occ. Med. 7, 119-131 (April, 1965).

Questions concerning the future direction of occupational health services in the light of changes in the nature of the major health problems in the work population are raised Some challenges are presented to both the general practitioners in community health service and those in occupational health to extend the scope of their efforts, both separately and jointly, to construct more effective programs of preventive action against the chronic ills of the people who work and make up most of our adult population. -- Author's summary

538 Pre-employment Medical Examinations Including Back X-Rays. F.J. Kelly. J. Occ. Med. 7, 132-136 (April, 1965).

Among 1,087 males given pre-employment examinations 17.2% were considered unemployable or employed with limitations. Most of the defects (9.8%) were noted on lumbosacral x-rays. Of the defects considered significant (excluding back x-rays), 77.5% in the series were found as a result of the complete history and physical examination alone. Many deviations from normal are to be found in low-back x-rays that should not in themselves be disqualifying for many jobs. The pre-employment examination is a most important part of the total industrial preventive medicine program, which should be considered a continuous one, designed to fit the individual to the job and to aid in fitting the job to the individual. There are 18 references -- Author's summary

539 The Dilemma of Disability. L. Price. J. Occ. Med. 7, 148-152 (April, 1965)

The health of the population is of primary importance to the successful, growing nation. Recognition of this fact has resulted in increasing demands for medical care, health maintenance safety measures, and rehabilitation, all of which emphasize the importance of the need of further knowledge about disability. The magnitude and variety of public and private forms of disability insurance available to different sections of the population now protected, result in numerous [illegible] millions of people receiving billions of dollars of benefits annually Six references are listed -- Author's summary

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540 Physiological Aspects of Work Measurement. L. Brouha.
Occ. Health Rev. (Ottawa) 16, No. 4, 3-7 (1964).

The pulse rate curves can be used as an index of the stress imposed upon the worker by his activity and the environment in which he performs it. Onset and course of increasing strain leading to fatigue can be detected, and work being performed at too great a physiological cost can be identified. Whether the work itself requires too great an expenditure of energy or whether environmental stress transforms a moderate task into a heavy one can be determined by studying the same operation under varying conditions of environment. It is fully acknowledged that pulse rate records do not evaluate all the factors affecting work performance. Yet they have repeatedly provided a very useful method for quantitative evaluation of the adaptation of workers to the stresses of their work. No trouble, time, or expense should be spared to build up a sound basis for the selection, placement, and training of workers, whether healthy or physically handicapped. "The right man for the right job" should no longer be in the realm of wishful thinking, but should really mean greater productivity through maximum efficiency at minimum human cost. -- Author's abst

541 Fatigue and the Physical Environment. J.R. Brown
Occ. Health Rev. (Ottawa) 16, No. 4, 15-20, 22 (1964)

The various factors of the physical environment have been discussed in relation to their effect on human fatigue and productivity. Although the cause, effect, and remedy is generally well known, adverse physical environments are still commonplace in many of our factories and workplaces. The detection and control of such environments is properly the responsibility of the industrial hygienist and the economic importance of this control emphasizes the need for suitably qualified personnel in all our major industrial undertakings. There are 36 references
-- Author's abst

542 I. Hearing Loss: Diagnosis and Anatomic Considerations. East Range Symposium.
C.J. Holmberg. J. Occ. Med. 7, 138-144 (April, 1965)

The subject is discussed under the following headings: Sound and noise, anatomy, external ear, the middle ear, the inner ear, diagnosis of hearing loss, conduction loss, sensorineural or nerve-type hearing loss, tests and evaluation of hearing loss, and noise-induced loss. Noise-induced hearing loss first affects the hearing of sounds higher in frequency than those necessary for communication by speech, and may pass unnoticed unless detected by suitable hearing tests. Many severe exposures can produce a permanent hearing loss that may affect communication by speech. Serial audiograms of persons exposed to noise shows a characteristic progression of hearing loss. Early losses appear in the region between 3,000 and 6,000 cycles. Usually these losses occur first at 4,000 cycles, and then spread in both directions until the hearing for most of the audible frequencies is affected. The extent of the spread depends on the amount of noise sustained. Impaired hearing is usually not noticeable unless losses at the speech frequencies (500, 1,000, 2,000 cycles) are 20 decibels or more. Substantial losses may occur before a person becomes aware of the effect of noise exposure on his hearing. Loss from noise exposure is slow and gradual and it is not uncommon for several years of exposure to elapse before the individual is aware of any impairment. In the usual sensorineural or nerve-type hearing loss the audiogram shows a tendency toward substantially better hearing at 125, 250, and 500 cycles with a decline in the higher tones above 1,000 cycles. In a hearing conservation program pre-employment air conduction threshold tests are recommended. The test frequencies should be 500, 1,000, 2,000, 3,000, 4,000, and 6,000 cycles. These pre-employment threshold audiograms should be taken of all employees, not only those who are to work in noisy areas. Such a test may detect a very early loss that can be helped by medical treatment.

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543 II. Hearing Conservation Programs. East Range Symposium. M. T. Summar. J. Occ. Med. 7, 145-146 (April, 1965).

Three fields of inquiry are involved in a hearing conservation program. Noise analysis should consist of measurement of (1) overall noise, (2) wave band distribution, (3) exposure time (intermittent or total), and distribution of noise in the workday. Hearing evaluation with controlled validity should include (1) a pre-employment test, (2) prescribed follow-up tests, and (3) evaluation of data and records. Protection of personnel may involve (1) control of source and path (quieter machines, barriers to sound, control of distance between source and man, etc.), and (2) protection of the ear. It should be strongly emphasized that once a program is started, it must be carried through all phases. Noise analyses and hearing tests without the educational phase produces a far greater liability than when all phases are completed. A "part-way" program is unsound from an economic, liability and medical standpoint.

544 Oculomotor Dysfunction as the Origin of Some Disorders of Equilibrium: Therapy by Means of Prismatic Correction. J. B. Baron. Occ. Health Rev. (Ottawa) 16, No. 4, 8-14 (1964).

The author stresses particularly oculomotor dystonias in traumatic injuries of the skull, where patients present vague and abortive disorders of equilibrium, and complain of clumsiness and fatigue. He has developed a special apparatus (statokinesimeter) and technique which provide objective evidence for such symptoms. Therapy is suggested by optical correction (prismatic lenses). After wearing these lenses from two to six months, improvement is noted in 80% of cases. In fine or precision work, prismatic lenses eliminate clumsiness and the impression of fatigue in patients suffering from temporary oculomotor dystonia, and give a sense of visual comfort. There are 47 references. -- Author's abst

545 Pulmonary "Hamartoma." B. T. LeRoux. Thorax 19, 236-243 (May, 1964).

During a 10-year period there were 27 cases of chondromatous hamartomata. During this time, 3,000 cases of carcinoma of the lung and 40 cases of bronchial adenoma were seen. Of the 27 cases, the tumor was endobronchial in two, being situated more peripherally in the lung parenchyma in the remainder. The ages of the patients ranged from 30 to 64 years, and 19 of them were men. In two patients, previous roentgenograms were available for comparison, and in both there was evidence of increase in size. In only four patients was there roentgenographic evidence of scattered calcium throughout the tumor. All of the patients with peripheral lesions were asymptomatic, but both patients with an endobronchial tumor had symptoms of obstruction. In both of these the tumor was excised without removal of lung tissue. Of the 25 tumors in the lung parenchyma, 13 were enucleated, four were removed by segmental resection, and eight were removed by lobectomy. The size of the tumors ranged from one to 6 cm. in diameter. These tumors grow slowly and are not often a danger to the patient, but because they are usually indistinguishable from malignant tumors, surgical resection is necessary. -- Am. Rev. Resp. Dis. Abstr.

546 Chronic Obstructive Lung Disease. I. Clinical and Physiologic Findings in 175 Patients and Their Relationship to Age and Sex. B. Burrows, et al. Am. Rev. Resp. Dis. 91, 521-540 (April, 1965).

Clinical and physiologic findings in 175 patients with chronic airways obstruction of uncertain etiology (patients often designated as having "emphysema" or "chronic bronchitis") have been reviewed. These patients presented a wide range of clinical, physiologic, and roentgenographic characteristics, supporting the contention that there may be more than one pathogenic mechanism in their disease. Severe blood gas abnormalities and polycythemia were relatively infrequent in these ambulant patients, who were studied during a stable phase of their disease. Evidence of peptic ulceration was noted in 23% of the gastrointestinal roentgenograms made on 69 of the patients. Dupuytren's changes in the palmar tendons were encountered in a third of the patients and frank contractures were present in 10%. The male to female ratio was 9 to 1. Women

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revealed a high frequency of a family history of chronic bronchopulmonary disease and, in general, tended to have less of a "bronchitic" or "inflammatory" component to their disease than did the men. Younger patients in the study revealed a higher frequency of frank purulent bronchitis than did the older subjects, and the younger group more often showed severe blood gas abnormalities and cor pulmonale. It appears that older subjects more frequently have an emphysematous type of syndrome (type A) whereas younger subjects are likely to reveal a more bronchitic type of chronic obstructive lung disease (type B). There were only a few patients in the study in whom the entire clinical picture suggested that allergic bronchial asthma might be important in the pathogenesis of their disease. There are 27 references.
-- Authors summary

547 Unilateral Hyperlucent Lung. A Physiologic Syndrome. J.G. Weg, R.A. Krumholz, and L.E. Hackleroad. Ann. Internal Med. 62, 675-684 (April, 1965).

A classification of the unilateral hyperlucent lung syndrome is suggested. Expiratory obstruction and a decrease in vital capacity, total lung capacity, minute ventilation, oxygen uptake, diffusing capacity, and blood flow on the hyperlucent side was found. The size of the pulmonary artery at angiography corresponded to the physiologic status of the affected lung. The mild static nature of the disease suggests that medical therapy is satisfactory. There are 36 references.
-- Authors summary

548 The Environment in Relation to Otologic Disease. J. Sataloff and J.A. Zapp, Jr. Arch. Environmental Health 10, 403-415 (March, 1965).

The subject is discussed in detail under the following topics: The external ear, the tympanum, the middle ear, the inner ear, and the environment and conservation of hearing. There are 15 references.

549 Prevalence of Chronic Bronchitis in an American Male Urban Industrial Population. J.T. Sharp, et al. Am. Rev. Resp. Dis. 91, 510-523 (April, 1965).

Respiratory questionnaire and spirometry data were obtained, as part of an industrial health survey, from 1,887 white males between 43 and 59 years of age. Comparison of data gathered in successive years demonstrated consistency and repeatability in both questionnaire response and spirometry. Of the men surveyed, 19.8% had persistent cough, 16.7% had persistent expectoration, and 10.7% had persistent cough and expectoration. Persistent cough and expectoration were aggravated by cigarette smoking and advancing age. Cigarette smoking and the presence of persistent cough were associated with spirometric alterations suggesting early airway obstruction. Even in men who denied significant respiratory symptoms, spirometric measurements were significantly decreased in smokers compared with nonsmokers. This suggests that airway obstruction may antedate the appearance of persistent cough in the type of chronic bronchitis that is associated with cigarette smoking. Alternatively, cigarette smoking may be causally related to an airway obstructive disease other than chronic bronchitis. Men producing more than 5 ml. of sputum during the [illegible] arising in the morning had spirometric evidence of airway obstruction. Comparisons among 14 American and British population surveys show wide variation in the prevalence of persistent respiratory symptoms within, as well as between, countries. Such data support the concept of a multifactorial etiology for chronic bronchitis. Among the important etiologic factors are public (industrial) and private (smoking) air pollution, factors favoring respiratory infections, differences in methods of home heating, and climate. Chronic bronchitis appears definitely to be more prevalent in Britain than in the United States. There are 31 references.
-- Authors summary

550 Inhalant Allergy to the Screwworm Fly. Preliminary Report. H.S. Gibbons, et al. Arch. Environmental Health 10, 424-430 (March, 1965).

Radiation-sterilized screwworm flies are being released in the Southwestern United States to combat multimillion dollar losses to the cattle industry. Seventy per cent of persons involved in aerial dissemination of irradiated flies have experienced significant allergic manifestations with near disastrous results in some cases. Symptoms consist of eye irritation, nasal congestion, coughing, sneezing, and shortness of breath. The results of a survey of symptoms, dust and skin testing, and case histories are presented.
-- Authors abst

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551 Aerosolized Steroids and Induced Cushing's Syndrome. H.S. Novey and G. Beall. Arch. Internal Med. 115, 602-605 (May, 1965).

This study was designed to determine whether patients with asthma who met relatively strict criteria of need for continuous steroid therapy, could indeed be maintained free both of asthma and Cushing's syndrome on aerosolized dexamethasone. A group of 20 patients who required oral steroid therapy for relief of their severe asthma were studied to determine whether a steroid applied in an aerosol form (dexamethasone phosphate) could continue to control symptoms while lessening the effects of Cushing's syndrome. It was found that symptoms of asthma could indeed be suppressed by this modality. Signs of Cushing's syndrome, however, persisted. These results, together with others discussed, mediate against the theory of an exclusively local action by this aerosol compound upon the bronchial mucosa.

552 Epidemiology of Coronary Disease in Industrial Workers. I. Relationships Between Parental Histories of Coronary Disease, Longevity of Parents, and Serum Triglycerides of Sons. J.W. Meigs, T.B. Caldwell, and Margaret J. Albrink. Arch. Environmental Health 10, 467-474 (March, 1965).

A clinical epidemiological study was made of 258 normal male employees of a wire mill. Subjects were defined as normal if they were able to perform their regular work and had no clinically manifest atherosclerotic diseases (including coronary) or diabetes, and if their resting diastolic blood pressures were less than 90 mm. Hg. From this investigation it was found that the data were consistent with the possibility that subjects with parental histories of heart disease believed to be coronary had specific genetic characteristics with respect to triglyceride metabolism. It is suggested that some of the coronary disease in middle aged men in affluent societies may be an unwanted by-product of ancient genetic adaptations for physical vigor and health.

553 Christmas Disease and Myocardial Infarction. J.I. Brody and L.H. Beizer. Arch. Internal Med. 115, 552-554 (May, 1965).

The purpose of this report is to describe the unusual circumstance of a patient (a 67-year-old white man) with congenital factor IX or plasma thromboplastin component (PTC) deficiency (Christmas disease) who had clinical evidence of continued hypocoagulability throughout his lifetime but, nevertheless, spontaneously developed a myocardial infarction when he reached the sixth decade. In addition, a second and fatal coronary occlusion occurred 11 years later while being treated in the hospital for uncontrolled bleeding and at the point where plasma replacement had completely ameliorated the hemorrhage. These observations are of interest because they have bearing on the general concept of blood coagulability as it affects the genesis of occlusive coronary artery disease.

554 Leukemia in Husbands and Wives. S. Milham. Jr. Science 148, 98-100 (April 2, 1965)

Study of the death certificates of the spouses of widows and widowers who died of leukemia revealed that seven of the spouses also died of leukemia. However, five cases of leukemia were identified among matched controls of the spouses. The incidence of leukemia in husbands and wives of individuals who die of leukemia is not significantly greater than that of a control group. This is consistent with the hypothesis that adult leukemia is not contagious in the usual sense. -- Author's abst

555 Asymptomatic Mild Intermittent Proteinuria. A Percutaneous Renal Biopsy Study. R.G. Muth. Arch. Internal Med. 115, 569-574 (May, 1965)

Since the time of Richard Bright, the appearance of protein in the urine has been associated with the presence of renal disease. Even now, this dictum remains almost universally accepted when protein is consistently present in the urine. The presence of intermittent proteinuria, however, is met with considerable disagreement regarding its clinical significance

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Until recently, orthostatic proteinuria was considerd a benign condition, most frequently seen in the adolescent years and not associated with the presence of renal disease. The more general use of percutaneous renal biopsy has now shed doubt on the innocent nature of orthostatic proteinuria and indeed, suggests that an anatomical lesion of the glomerulus is present in most cases. Similar attention has not been given to that group of patients with asymptomatic intermittent proteinuria of mild degree, which is independent of body position We do find mention of this type of proteinuria in the medical literature where it also has been considered a benign condition, based on the assumption that proteinuria associated with renal disease is characterized by its constant presence. Fifty-one asymptomatic patients with mild, intermittent proteinuria and normal renal function were studied by percutaneous renal biopsy Of these patients, 61% had specific anatomical lesions of the glomeruli. Another 8% had nonspecific glomerular abnormalities. Only 31% of the patients had normal renal biopsies The problems associated with establishing a correct clinical diagnosis in patients with primary renal disease are discussed. In the appraisal of the asymptomatic individual with proteinuria, percutaneous renal biopsy is usually the only procedure with diagnostic value.

556 Allopurinol in the Treatment of Gout. J. B. Wyngaarden, R. W. Rundles, and E. N. Metz. Ann. Internal Med. 62, 842-847 (April, 1965).

Today hyperuricemia once more occupies center stage in the concepts of the nature of gout, both acute and chronic, primary and secondary. The acute attack is thought to be initiated by formation of crystals of sodium urate monohydrate from supersaturated body fluids Acute gouty arthritis is viewed as a potential event in the life of any hyperuricemic subject, and as increasing in likelihood with the height and duration of hyperuricemia. In the population study in Framingham, Mass., Hall has found a cumulative incidence of gout of 1.8% in 790 males with serum uric acid levels between 6.0 and 6.9 mg/100 ml, as contrasted with an incidence of 36% in 50 males with serum levels of 8 mg/100 ml or more. About 3% of 5,000 males had levels above 7.0 mg/100 ml The cumulative incidence of gouty arthritis in this group was 2% at mean age 34 years and 23% at mean age 58 years. Chronic gouty arthritis is characterized by the accumulation of sodium urate in and around the affected joint, which results in destructive and osteoarthritic changes. Tophaceous deposits are detectable by physical or X-ray examination in about half of gouty patients and are related in incidence and bulk to the height of the serum urate levels, the duration of the disease, and the presence of renal complications of gout. Renal damage of some degree is almost invariable in gout. It tends to be only slowly progressive. The incidence of renal calculi in gout is a thousand times that of the general population; the higher the urinary excretion of uric acid the higher the incidence of stones.

By the selection of the appropriate dose of allopurinol, together with use of uricosuric agents in certain patients, it is now possible to reduce the serum urate level to normal or if desired to hold it as low as 2 to 3 mg/100 ml indefinitely. The early fear that uric acid gout might be supplanted by "xanthine gout" appears unfounded, although the renal aspects of the problem persist and require continued vigilance

557 Restrictive Measures Relative to Epilepsy. Comments on the Medical Aspects S. Livingston. Arch. Environmental Health 10, 516-518 (March, 1965).

The author concludes that most of the current restrictive measures referrable to the epileptic, particularly those pertaining to marriage, sterilization, and immigration, do not reflect the opinion of those physicians who are experienced with the disorder of epilepsy, and that there is no medical basis for their continuance He estimates that there are at least two million epileptics in the United States and in this day of stressed equal opportunity, these individuals should not still be classified as second rate citizens They should be assessed in the same manner as any other individual, that is according to their physical and mental ability to function in society. The attitude that "once an epileptic, always an epileptic" should be relegated to a well-deserved oblivion. It is the author's great hope that as more factual and statistical material regarding the disorder of epilepsy is disseminated, the public's attitude toward the epileptic will change—and once again the light cast by knowledge and understanding will banish the shadows of one of the few remaining "dark corners" in our social and economic structure

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558 Lung Cancer. Detection by Use of Electrical Skin Resistance Method. J. F. Fries and C. P. Richter. Arch. Internal Med. 113, 624-634 (May, 1964).

In a high proportion of patients with lung tumors, abnormal patterns of high and low electrical skin resistance are reported. Many of these patterns are due to lesions of the sympathetic ganglia in the cervical and upper thoracic regions, either from pressure or from invasion. A concept of a broader and often subclinical Horner's syndrome, detectable only by measurements of skin resistance is set forth. Other abnormal patterns of skin resistance associated with lung tumors are thought to be due to sympathetic hyperactivity referred to the dermatomes representing the lungs and bronchi. Others are due to peripheral nerve lesions, such as involvement of the intercostal nerves by tumor. Still other bizarre patterns are at present unexplainable and nonspecific. Further experience with the method, however, may delineate them into specific syndromes. Possible practical applications of the method in diagnosis are discussed. Advantages cited include speed, cost, paucity of false positives, superiority with certain tumor types, and lack of discomfort to the patient.

-- Am. Rev. Resp. Dis. Absts.

559 Treatment of Pulmonary Aspergilloma with Amphotericin B. H. Ikemoto. Arch. Internal Med. 115, 598-601 (May, 1965).

Isolated therapeutic successes in the treatment of bronchopulmonary aspergillosis have been reported following the administration of nystatin by aerosol as well as oral intake of large doses of potassium iodide. Parenteral injection of stilbamidine and, more recently, amphotericin B have also been considered to be successful in isolated cases. However, clinical effectiveness against deep-seated fungous diseases has been accompanied by a variety of disturbing side effects and evidence of toxicity during intravenous infusion of the drug. Fatal reactions due to renal or hepatic failure and drug hypersensitivity have also been recorded in the human. Furthermore, systemic drug therapy appears to have particularly limited value in the treatment of free-lying Aspergillus fungus ball. There is only one preliminary report of endobronchial use of amphotericin B in the English literature. In this report, amphotericin B was instilled intrabronchially by tracheal puncture in one patient with pulmonary aspergilloma. The instillation of the drug was associated with expectoration of many fragments of fungus ball. Subsequently, the fungus ball disappeared almost completely on the chest roentgenograms. There were no signs of side-effects or evidence of renal or hepatic toxicity during the treatment period.

560 Pulmonary Aspergillosis: Diagnostic and Immunological Significance of Antigens and C-Substance in Aspergillus Fumigatus. J. L. Longbottom and J. Pepys J. Pathol. Bacteriol. 88, 141-151 (July, 1964)

Extracts were prepared from supernatant fluids of broth cultures of A. fumigatus and other fungi. The number and types of antigens formed varied considerably with the kind of culture medium employed and the time of harvesting. Maximum antigen production by A. fumigatus occurred after three to five weeks of incubation in Sabouraud's medium. Of 307 patients with asthma, the sera of 9% had precipitating antifungal antibodies; 63% of patients with asthma, transitory pulmonary infiltrations and eosinophilia gave positive reactions; and 98% of 57 patients with pulmonary mycetomata gave strongly positive precipitation reactions. Moreover, the sera of patients in the latter group produced many more precipitin arcs in gel diffusion than the other sera. Normal sera did not contain precipitating antibodies. The incidence of positive skin tests paralleled the occurrence of precipitins. Following surgical removal of the mycetomata, the precipitins tended to disappear. It was also found that after prolonged culture of A. fumigatus an antigen is produced which is serologically related to pneumococcal C-substance.

-- Cond. from Am. Rev. Resp. Dis. Absts.

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SKIN DISEASES AND BURNS

561 The Carcinogenic Potency of Certain Oils. E. Bingham, A.W. Horton, and R. Tye. Arch. Environmental Health 10, 449-451 (March, 1965).

Cutting oils or cutting fluids generally consist of a petroleum oil which may be sulfurized by the addition of commercial flowers of sulfur. They may also contain a number of other additives as chlorinated compounds, animal fats, and disinfectants. The objectives of this investigation were: (1) To determine certain carcinogenic potentialities, if any, of a number of base stocks used in the preparation of cutting oils, by applying them repeatedly upon the skin of mice; (2) to establish the effect of refining on the (experimental) carcinogenic potential of these base stocks; (3) to determine whether sulfurization of these base stocks increases their (experimental) carcinogenic potency; and (4) to determine the extent of correlation between the content of the 4 and 5-ring aromatic hydrocarbons in the oils and their (experimental) carcinogenic potency. Paraffinic and naphthenic solvent refined or conventionally refined oils were used in these experiments. The results are presented in two tables

CHEMICAL HAZARDS

562 Methylene Blue in the Treatment of Decaborane Toxicity. J.A. Merritt. Arch. Environmental Health 10, 452-454 (March, 1965).

Adult rabbits continuously infused intravenously with 5% dextrose were given 30 mg per kg. of decaborane dissolved in 4 ml. of corn oil intraperitoneally. After 20 minutes methylene blue (7 mg. per kg.) was given in 5% dextrose over a 60-minute period followed by an infusion of dilute methylene blue for 47 hours All of the animals treated with methylene blue as described above lived longer than 24 hours and half lived longer than 48 hours. All of the untreated rabbits died in less than 24 hours. Since the high energy fuel decaborane is a potent reducing agent, it seems likely that the oxidizing capacity of methylene blue accounts for its effect. It is suggested that this form of therapy would be more useful than previous empirical treatment of boron hydride toxicity -- Author's summary

563 Experimental Study of Threshold Limit of NO_2 W.D. Wagner, et al. Arch. Environmental Health 10, 455-466 (March, 1965)

Six species of laboratory animals (dog, rabbit, guinea pig, rat, hamster, mouse) were exposed daily for periods up to 18 months to pure nitrogen dioxide (NO_2) at closely controlled concentrations of 5 ppm, the present threshold limit, and levels one fifth as high, 1 ppm, and five times greater, 25 ppm. Control groups were used throughout the studies. At no exposure level did changes in body weight, hematologic values, or biochemical indices deviate significantly from the control data. Studies with a spontaneous pulmonary tumor-susceptible strain of mice suggested, under these conditions of exposure, a possible tumorigenic accelerating capacity for NO_2. Respiratory function test results on exposed rabbits were equivalent to the controls, with the exception of the 25 ppm group, which indicated a slight and transitory elevation in mean oxygen consumption. Tolerance in aging rats and mice to acute lethal effects of NO_2 following extended periods of development from exposure at 5 ppm and 25 ppm, was achieved to a significant degree. Detailed histologic evaluation of tissues of serially sacrificed exposed animals and their controls presented no evidence, with any of the animal species used, that NO_2, in the concentrations employed and in the duration of exposures, had any demonstrable morphologic effect on either production of pulmonary lesions or the susceptibility of the animals to a pulmonary inflammatory process These data present reliable evidence for the present 5 ppm threshold limit value for NO_2, with the added caution that 5 ppm should represent a level on the basis of suggestive lung tumorigenesis There are 34 references. -- Authors summary

564 Ozone Poisoning. Serious Human Intoxication. F. J. Kelly and W. E. Gill. Arch. Environmental Health 10, 517-519 (March, 1965).

A case of serious human ozone poisoning is presented. The inadequacy of relying on detection by odor on the part of even an experienced worker is well illustrated. After the onset of clinical manifestations progression to loss of consciousness can be alarmingly rapid The response to inhalation oxygen may be of considerable diagnostic help as well as an effective therapeutic measure. Ten references are given. -- Authors' summary

565 Determination of Subtoxic Concentrations of Phosgene in Air by Electon Capture Gas Chromatography. L. J. Priestley, Jr., et al. Anal. Chem. 37, 70-71 (Jan. 1965).

The increasing use of phosgene as an industrial chemical demands instrumentation to monitor air continuously for this contaminant. A gas chromatographic method for measuring subtoxic concentrations of phosgene in air is described. The method utilizes an electron capture detector that is extremely sensitive to phosgene. The combination of a gas chromatographic column and the electron capture detector provides a high degree of specificity for phosgene. Hydrogen chloride concentrations as high as 1% in air do not interfere. This method could possibly be used as the basis for developing a continuous monitoring system for detecting and measuring phosgene in the atmosphere. -- Public Health Eng. Absts

566 Physiologic Effects of Chronic Exposure to Phosgene in Dogs. R. G. Rossing. Am. J. Physiol. 207, 265-272 (July, 1964).

Recurrent exposure of dogs to phosgene gas (carbonyl chloride, $COCl_2$) produced a chronic obliterative bronchiolitis with a characteristic physiologic picture. Peak concentrations of the gas in the exposure chamber, at the flow rates used was calculated to be from 0.097 to 0.162 mg./liter (24-40 ppm). It was found that after an acute phase, in which changes in elastic behavior predominated, a definite increase in lower airway resistance was seen which persisted throughout the period of exposure. Accompanying this change the uniformity of distribution of inspired air was progressively disturbed as evidenced by nitrogen wash-out curves. In addition, microscopic changes suggestive of early peribronchiolar emphysema were seen. -- APCA Absts

567 Chelation by Calcium Trisodium Pentetate (DTPA) in Workers Exposed to Lead. H. G. Brugsch, N. J. Colombo, and L. D. Pagnotto. New Engl. J. Med. 272, 993-996 (May 13, 1965)

The goal of the industrial physician—to protect workers against lead poisoning through such measures as approved respirators, adequate plant ventilation and good personal hygiene—is not always obtainable. Even effective measures may be inadequate in the presence of unusually heavy exposures. In Massachusetts lead poisoning still occurs among workers employed in storage-battery plants, smelting plants, demolition work and painting, not to mention the high incidence of lead poisoning among children. Use of a chelating agent to remove lead from those suffering from or threatened by lead poisoning, therefore, still has a place in the therapeutic armamentarium. Data obtained on 12 workers exposed to lead given DTPA intramuscularly on an ambulatory basis over a short period indicated that this chelating agent adequately mobilizes lead and can be given without technical difficulty at the place of work. The second injection consistently produced a higher mobilization of lead. When injections were continued at short intervals a general drop-off in lead excretion was noted. Further investigation of the usefulness of such an ambulatory program in the management of workers exposed to lead or cases of mild lead intoxication seems warranted.

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568 Nine Years' Toxicity Control in Insecticide Plants. I. Hoogendam, J.P.J. Versteeg, and M. de Vlieger. Arch. Environmental Health 10, 441-448 (March, 1965).

More than 300 workers have been employed in the Royal Dutch/Shell plants in Pernis manufacturing aldrin, dieldrin, and endrin over periods up to nine years. These workers have been under thorough medical supervision, including periodic electroencephalographic examinations and liver function tests. Seventeen of them had convulsive intoxications. Five of these 17 had more than one convulsion each. Clinical, neurological, and electroencephalographic recovery has been rapid and complete in all cases after removal from exposure, though at times this was only temporary. No impairment of liver function could be detected. The pattern and rate of absenteeism is not different from that of other industrial workers. The maintenance and supervision of hygienic discipline and selection in personnel placement are important factors in controlling toxicity hazards. -- Authors' summary

569 Bird Mortality after Spraying for Dutch Elm Disease with DDT. C.F. Wurster, Jr., Doris H. Wurster, and W.N. Strickland. Science 148, 90-91 (April 2, 1965).

In Hanover, New Hampshire, where elms were sprayed with DDT, 151 dead birds were found; 10 dead birds were found in Norwich, Vermont, where no DDT was used. Chemical analyses of dead birds, observation of symptoms of DDT poisoning, and a population decline after spraying all indicate severe mortality among certain species in Hanover. -- Authors' abst.

INDUSTRIAL DUSTS

570 Asbestosis and Pulmonary Carcinoma. F.R. Dutra and J.D. Carney. Arch. Environmental Health 10, 416-421; editorial comment 422-423 (March, 1965).

Asbestosis is a chronic progressive pulmonary disease which results from irritation of the lungs by crystalline asbestos fibers. The disease is often unsuspected clinically because the occupational exposure to dust containing asbestos fibers has not been elicted, and because the chest films may not be diagnostic even in the presence of disabling abnormality. In asbestosis, pulmonary and subpleural fibrosis distort the lungs and lead to respiratory insufficiency. Squamous metaplasia of the bronchial epithelium is induced by the irritating fibers, and in some cases there is progression to squamous cell carcinoma of the lung. Pleural mesothelioma is also reported, particularly in cases of asbestosis in South Africa. -- Authors' summary

571 Pulmonary Function of Uranium Miners. V.E. Archer, H.P. Brinton, and J.K. Wagoner. Health Physics 10, 1183-1194 (Dec. 1964).

Analysis has been made of several ventilatory function field measurements made on uranium miners in 1957 and in 1960. Results show that cumulative exposure to the atmosphere in uranium mines adds to the loss in ventilatory function that results from aging and from cigarette smoking. The data indicate that high radon daughter levels are associated with transient improvement in ventilatory function. Two possible explanations of this transient improvement are discussed. Long exposures within uranium mines are definitely detrimental to ventilatory function. There are 34 references. -- Public Health Eng. Abstr.

572 Error in the Determination of Average Concentration of Dust as a Function of the Number of Individual Measurements. J. Juda and K. Buczinski. Staub 24, 283-287 (Aug. 1964). German

The strong dependence of dust concentration on time leads to difficulties in the determination of the average value. A formula which reproduces the sum frequency of the dust concentration distribution with sufficient accuracy is given. The relationships for the tolerance in determination of the average value are derived and the results are shown in a diagram. -- APCA Abstr.

573 Recording Dust Measurement by the Small Ion Accumulation Method. W. Coenen. Staub 24, 350-353 (Sept. 1964). German

The factors to be observed in dust measurement by the small ion accumulation method, with the aid of theoretical and experimental data are discussed. The influence of the condensation nucleus density, air temperature, and the air pressure on the measurement of low concentration of dusts in industrial hygiene are investigated. -- APCA Absts.

574 The Tyndallograph, an Optical Dust Measuring Apparatus with Electrical Indicator. J. Stuke and J. Rzeznik. Staub 24, 366-368 (Sept. 1964). German.

In the West German coal mining industry the tyndalloscope has been employed for more than 10 years as a routine dust measuring apparatus. To make possible automatic and recording measurement, a continuous recording, optical, electric dust measuring apparatus has been developed. The construction and mode of operation of the tyndallograph and the problems which had to be solved in the development are reported. -- APCA Absts

575 Farmer's Lung—A Mass Outbreak. M. Kubasek, V. Hrich, and E. Stankova. Casopis lekaru ceskych 103, 701-704 (June 19, 1964).

After several hours of work with hot and moist oats, a group of 14 adolescent classmates developed an acute form of farmer's lung. In addition to the clinical picture and an analysis of the influence of the exposure, the author submits his pathogenetic interpretation. In the acute stage a response to the inhaled alien protein is involved. This protein is formed in the oats by the action of fungi during the process of moist heat exposure. The subsequent course is interpreted as an immunoaltering disease. -- APCA Absts.

576 A Thesaurosis Survey. S. Tanaka and E. Pendergrass. Arch. Environmental Health 10, 438-440 (March, 1965).

A roentgenographic and historic survey for thesaurosis was conducted among 126 Pennsylvania beauty operators. No chest roentgenogram showing shadows suggestive of thesaurosis was found. Three of four hair sprays randomly selected from the 10 most frequently used were found to contain polyvinylpyrrolidone as their resin component. There are 11 references. -- Authors' summary

577 The Size Distribution of Dust Retained in the Lungs of Rats and Dust Collected by Size-Selecting Samplers. J. Cartwright and J.W. Skidmore. Ann. Occ. Hyg. (London) 7, 151-167 (June, 1964)

Measurements were made of the weight and size distribution of dust recovered from the lungs of rats that had been exposed to experimental clouds of coal dusts and of glass spheres. With any one dust cloud, the dusts in the lungs of animals with a high dust retention were found to have the same size distribution as dusts from animals with low dust retention. Comparisons of the recoveries of glass spheres from animals killed six months after dust exposure with those from animals killed five days after exposure showed that approximately half the dust by weight had been eliminated during the six months, but that there was no change of size distribution. A variety of size-selecting dust samplers were used to monitor the experimental dust clouds. The weight and size distribution of the dust samples were measured, and from these measurements retention curves for the rats' lungs, and acceptance curves for the sampling instruments were derived. Calculation showed that the theoretical characteristics of the samplers (50% acceptance) at 5 microns unit density spheres should, in theory, correspond reasonably well with the rat-lung retention characteristics, but all the size selectors were found to depart from their theoretical performance, and in some cases to accept particles several times larger than the theoretical limiting size. -- APCA Absts

01 132 267?

578 Deposition and Retention of Dust in the Human Lung. C.N. Davies.
Staub 24, 316-323 (Aug. 1964). German.

The relationships between particle size and the retention of dust in human lungs, obtained by a new method, is compared with alveolar deposition calculated by the British criterion for selective sampling based on the square of the diameter and 50% penetration for spheres of unit density with a diameter of 5 microns. The calculated curve predicts the retention of too few particles above 5 microns and too many below. It also fails to explain why some large particles are exhaled. The discrepancies are due to variations in bronchial path length, to the anatomical dead space and to departure of the particles from a spherical shape. The design of the hexhlet dust sampler is discussed. -- APCA Absts

579 The Effect of Polyvinyl-Pyridine-N-Oxide Treatment on the Development of Experimental Silicosis. J. Ottowicz and G. Leballeur.
Ann. Occ. Hyg. (London) 7, 137-143 (June, 1964).

The effect of polyvinyl-pyridine-N-oxide on the development of experimental silicosis was investigated histologically and biochemically. It was found that PVP-N-oxide treatment by subcutaneous weekly injections of 1 ml. prevented—or at least greatly retarded—the development of fibrosis and suppressed the migration of macrophages into the parenchymal connective tissue of the lungs. After six months the lungs of untreated animals contained, on the average, nearly four times more collagen than the treated animals. -- APCA Absts.

580 The Pathology of Mesotheliomata and an Analysis of Their Association with Asbestos Exposure
D. O'B. Hourihane. Thorax 19, 268-278 (May, 1964).

Thirty-four cases were available for study. The tumors had occurred in seven men and 27 women whose ages ranged from 42 to 70. The symptoms prior to death had been of short duration: the maximal time was 12 months and in many patients the period was less than three months. In 17 patients the tumor had arisen in the pleura, in 13 patients in the peritoneum, and probably in the peritoneum in four others. The tumor was epithelial in origin in 19, fibrous tissue in five, and of mixed origin in 14. There was involvement of regional lymph nodes in nine patients, metastasis to bone in three, and metastasis to viscera in seven. In nine cases there were areas of focal necrosis. Asbestos bodies were found in 14 cases: in six cases of pleural tumor and in eight cases of peritoneal tumor. A search for asbestos bodies was made from routine necropsy material from 50 cases of carcinoma of the lung. They were found in lung or hilar lymph nodes in 6% of these but never in the pleura, within the tumor, or in any other viscus. The strict criteria for the diagnosis of mesothelioma are discussed in detail, and the need for necrospy to exclude the presence of a primary tumor elsewhere is emphasized. -- Am. Rev. Resp. Dis. Absts.

581 Effect of Talc Dust Inhalation on Lung Function [illegible] et al.
Arch. Environmental Health 10, 431-437 (Mar[illegible]

Pulmonary function tests were performed on [illegible] workers engaged in the milling of talc. The mean duration and weighted average of exposures were [illegible] years and 62.3 mppcf, respectively. The predominant symptoms were dyspnea (29 and [illegible]). Basilar crepitations and clubbing were noted in 12 and 8, respectively. The mean predicted values for the various pulmonary function parameters measured were within the 95% confidence limits of the control group. However, an appreciable number of talc workers had values which fell outside these limits. This was particularly evident in the vital capacity, total lung capacity, and pulmonary diffusion capacity for carbon monoxide ($D_{L_{CO}}$). There were 39 who showed pulmonary infiltration on their chest roentgenograms as compared to 27 without such evidence. Those with positive radiological findings had a proportionately greater number of respiratory symptoms and signs and abnormal pulmonary function values as compared to those without. In general, the correlation between the degree of pulmonary function impairment and the clinical and roentgenographic findings was poor. In those with pulmonary infiltration, $D_{L_{CO}}$ showed a fair correlation with the degree of pulmonary infiltration and clubbing, while the total lung capacity showed a weak correlation with clubbing only. The lack of a good correlation between the degree of pulmonary function impairment and the clinical, roentgenographic, and environmental findings observed in the present study has also been reported in other pneumoconioses. There are 13 references.
-- Authors' summary

PHYSICAL ASPECTS OF THE ENVIRONMENT

582 Survey of Welding Processes. J. A. Lucey. Ann. Occ. Hyg. (London) 7, 203 (Sept. 1964).

Welding processes are categorized into two groups. In the first welding is accomplished using heat and pressure, whereas only heat is required in the second. The first group includes forge, friction, pressure gas, resistance, stud, and induction welding. Group 2 includes oxy-fuel gas, arcs of many different types, Electroslag, Thermit, and electron beam. Also included are cutting and gouging processes, which are likewise categorized as those using (1) oxy-fuel gas and powder; and (2) air/ carbon arc, plasma, oxy-arc, metal arc with flux-coated electrode, and gas-shielded metal arcs. The hazards associated with welding are indicated in general terms -- J. Occ. Med. Absts

583 Electron Beam Welding. A. F. Taylor. Ann. Occ. Hyg. (London) 7, 241 (Sept. 1964).

Electron beam welding utilizes fast-moving electrons as a source of heat. This process is possible only with pressure below 10^{-3} mm. Hg. The apparatus includes: (1) The electron beam gun and power supply, (2) a vacuum vessel and pumping equipment, and (3) a welding manipulator inside the vessel. With energies in excess of 10^5 watts/sq. cm. the beam will fuse metals in a few microseconds. The hazards associated with this type of welding include those common to other welding processes plus x-rays, against which protection is needed. There is probably little hazard attendant to the use of the low-voltage systems, but high-voltage systems—that is, those utilizing potentials over 100 KV—should be carefully monitored for hazards. -- J. Occ. Med. Absts

584 Health Hazards in the Welding and Cutting of Paint-Primed Steel. J. Steel. Ann. Occ. Hyg. (London) 7, 247 (Sept. 1964).

The thermal decomposition products of the following two groups of compounds are considered: (1) Pigments including aluminum, cadmium, chromium, iron, lead, magnesium, titanium, and zinc; and (2) primer media including acrylic, cresol-formaldehyde, epoxy, phenol-formaldehyde, polystyrene, polyurethane, polyvinyl-butyral, and polyvinyl chloride. The decomposition products of the latter include carbon monoxide, ammonia, nitrogen dioxide, and organic aldehydes. Typical concentrations of these contaminants in work areas are given and the need for adequate ventilation is stressed. -- J. Occ. Med. Absts.

585 The Design of a Medical Laser Laboratory. A Planned Structure to Reduce the Occupational Hazards of Laser Research. L. Goldman and P Hornby. Arch. Environmental Health 10, 493-497 (March, 1965).

In the rapid development of laser technology, protection of personnel must not be forgotten. Much more data are needed, on the hazards of the immediate effects of high energ. lasers as well as the later effects of exposure to all forms of laser radiation. However, with our present knowledge, particular emphasis should be placed on adequate shielding of eyes and the skin from laser radiation. This emphasis should not be to the exclusion of protection from the ancillary units of laser systems. -- Authors' summary

01 132 267

RADIOACTIVITY AND X-RADIATION

586 Survey of X-Ray Protection Practices Among Michigan Veterinarians.
G.A. Jacobson and D.E. Van Farowe.
J. Am Vet. Med. Assn. 145, 793-797 (Oct. 15, 1964).

Each time a radiographic or fluoroscopic unit is turned on, there is some risk of genetic damage or carcinogenic effects. Therefore, every effort should be made to reduce exposure of the operator wherever possible. According to a survey of veterinary radiologic equipment in use in Michigan, a high percentage of units did not have adequate aluminum filtration or cones that would confine the beam to the area of diagnostic interest. As a result, the scatter radiation dose to the operator was much higher than necessary for each radiograph taken. Twenty-five illegal hand-held fluoroscopes were found in use, and protective gloves and aprons were lacking in several animal hospitals. Few establishments used film badges or other devices to monitor radiation exposure. In addition to faulty equipment, a number of potentially dangerous procedures existed. Although veterinarians were aware of the dangers in using radiographic equipment carelessly and understood control techniques, many did not apply this knowledge to everyday practice. A visit was made to each veterinarian's office or hospital where a registered x-ray or fluoroscopic machine was located, and each unit was physically inspected and the radiation measured. Then the owner was sent a letter listing the necessary changes that would reduce over-all radiation exposure.

-- Public Health Eng Absts

587 On the Retention of Cesium-137 in People. M.A. Van Dilla
Health Phys. 11, 21-22 (Jan. 1965).

Cesium-137 retention following four cases of accidental contamination was measured as a function of time in the Los Alamos human spectrometer and counter. Inhalation was the primary route in at least three of these exposures. A simple exponential function fits the data well, the biological half-time averaging 128 days. There are 7 references.

-- Public Health Eng. Absts

588 The Cesium-137 Content of Beef from Dairy and Feed-Lot Cattle G.M. Ward and J.E. Johnson
Health Phys. 11, 95-100 (Feb. 1965).

Samples of meat were collected from producing dairy cows, dry cows, young calves, and feed-lot fattened cattle and analyzed for Cs-137, potassium, fat and moisture. The diets which were contaminated with varying levels of fallout were analyzed to estimate daily intake of the nuclide. The Cs-137 levels/kg of edible meat leveled off at less than 1% of the daily intake in mature dairy cattle, at 3% in feed-lot cattle, and at 15% in calves. It is not clear whether differences are due to age or the diet of the animals. The ratio of activity meat.milk/kg. ranged from 1.2 to 4.9. It is estimated that the average consumer will obtain more Cs-137 from milk than beef, although under certain conditions the reverse could easily occur.

-- APCA Absts

589 Rehabilitation of a Radioactive Building. H C Hans
Public Health Repts 79, 829-835 (Sept. 1964).

The restoration of a contaminated building is described. This was a cancer clinic that had become contaminated through decades of radium therapy. Activity from radon needles and contaminated waste had spread over the entire building in the form of surface contamination and imbedded needles. The radiation hazard was removed by a prescribed procedure consisting of a thorough survey to mark off contaminated areas, detailed vacuuming, scrubbing, mopping and rinsing operations, floor sealing and retiling, and installation of false walls and ceilings to prevent paint peelings from introducing subsequent contamination. Complete decontamination was assured in a final survey.

-- Public Health Eng Absts

01 132 2675

590 Accidental Acute Radiation Injury. The Need for Recognition. G.A. Andrews and R.J. Cloutier Arch. Environmental Health 10, 498-507 (March, 1965).

The probability of serious exposure to radiation that will produce acute symptoms is exceedingly small as shown by past history. However, the increased use of radiation makes it desirable that physicians be acquainted with the symptoms and management of acute radiation exposure. Usually whether a radiation exposure has been or could have been received will be known. The possibility that an unknown exposure to radiation may occur is real, and in this situation skill and awareness are needed for a correct diagnosis. Early diagnosis will provide a basis for treatment and will permit the discovery of other persons who may also have been exposed; most important, it will permit the elumination of the source of exposure.

-- Authors' summary

ENVIRONMENTAL MEASUREMENTS

591 Photodynamic Bioassay of Polycyclic Atmospheric Pollutants. S.S. Epstein, et al. J. Air Poll. Control Assn. 15, 174-176 (April, 1965).

The mortality from lung cancer in many parts of the world has reached alarming proportions. The existence of close associations between lung cancer, urbanization, and atmospheric pollution is now generally accepted. Although the mode of interaction of the latter factors and smoking is debated, the importance of multiple etiologic factors has become apparent. These considerations emphasize the paramount need for methods which will yield simple and rapid estimates of the potential carcinogenic hazard of polluted atmospheres. Such information could possibly then serve as a basis for action designed to reverse lung cancer mortality trends. The authors describe a photodynamic bioassay which can be conducted on one milligram amounts of organic atmospheric particulates. The results of a pilot study on pollutants from several American cities indicate that the assay may provide a rapid, simple and economical biological index of potential carcinogenic hazard attributable to polycyclic compounds. The utility of the assay for this purpose is under further evaluation

592 The Detection and Estimation of Part Per Billion Concentrations of Hydrocarbons. M. Feldstein and S. Balestrieri. J. Air Poll. Control Assn. 15, 177-178 (April, 1965)

The addition of a freeze-out step in liquid nitrogen prior to analysis by gas chromatography with flame ionization detection permits the accurate determination of C_2 and higher hydrocarbons in the part per billion (ppb) range. Concentrations of C_2 and higher hydrocarbons have been measured in commerical cylinders of nitrogen, helium and hydrogen. Using a 150 ml. sample of gas, recovery of ppb concentrations is 95 to 100%. -- Authors' abst

593 Further Evaluation of Glass Fiber Filters for Sampling Hydrogen Fluoride. M.R. Pack and A.C. Hill. J. Air Poll. Control Assn. 15, [illegible] (April, 1965).

Air sampling studies were conducted to evaluate the effectiveness of glass fiber filters for collecting hydrogen fluoride. Air containing hydrogen fluoride was drawn through glass fiber filters and the amount collected determined. A single filter collected up to 75 micrograms F/sq. in. and 2 filters, one behind the other, collected up to 250 micrograms F/sq. in. of filter area before loss through them reached 5%. Filters with a latex binder were less efficient in collecting hydrogen fluoride than those without the binder. Once adsorbed, little hydrogen fluoride was lost by drawing additional low fluoride air through the filter. Glass fiber filters can be used for sampling hydrogen fluoride over a wide range of concentrations as long as the sampling rate and time are controlled to avoid exceeding the saturation limit of the filter.

-- Authors summary

01 132 2676

594 On the Problem of Air Pollution by Maleic Anhydride. K.V. Grigor'eva. Gigiena i Sanit. 29, 8-12 (March, 1964). Russian.

Investigations were carried out in the vicinity of industrial plants producing phthalic anhydride, where the wastes discharged into the air contained maleic anhydride. This latter compound was detected in the air at a distance of 500 m. from the site of discharge in concentrations of 0.0 to 3.3 mg./cu.m., and within a radius of 1 km. in concentrations of 0.0 to 2.6 mg./cu.m. Work is being continued to obtain hygienic backgrounds for determining the maximum permissible concentration of maleic anhydride in the atmospheric air. Its olfactory threshold value and that for producing an irritating effect on the mucous membranes of the eyes and respiratory tract have already been determined. For most sensitive persons these threshold values have been placed at 1.3 mg./cu.m. and 1.0 mg./cu.m. of maleic anhydride, respectively. -- APCA Absts.

PREVENTIVE ENGINEERING

595 Trade Association Activities Toward Noise Standards. R.H. Bohman. ASHRAE J. 6, 63-66 (June, 1964).

The current and anticipated activity by various manufacturers' trade associations in the field of sound, its measurement, rating and control is discussed. The paper includes a summary of noise investigation using test procedures of the Air-Conditioning Refrigeration Institute model municipal ordinance. -- J. Am. Soc. Safety Eng. Absts.

596 The Light Fantastic: Lasers, Hazards, Controls. R.C. Starr. Safety Standards 14, 7-12, 21 (May-June, 1965).

Effective measures for controlling the hazards of lasers or masers and their associated equipment involve principles and techniques that are well known among safety engineers and industrial hygienists. Specific control suggestions include: All work with lasers should be isolated as far as practicable from other work areas and employee traffic routes, and preferably housed in a fully enclosed space with adequate mechanical ventilation. Room lighting should be maintained at adequate levels (to prevent excessive eye dilation, increasing the chance of accidental retinal exposure to the laser). The area should be free of reflective surfaces which could bounce the beam into a person's eyes(chief suspects include doorknobs; desk, table, and counter tops; metal or glass containers; walls; cabinets, even personal jewelry). The room or area in which a laser is used should be regarded as a controlled area with access limited to those whose work requires it; this should be indicated by appropriate signs at each door to the room. Within the controlled area, an audible or visual signal should be associated with the charging of the laser condenser to indicate that the laser is about to be flashed or is running continuously. Signals should be such that they will not cause a person to look in the direction of the laser, but rather away from it. Equipment operating at upward of 15,000 volts should be monitored for possible x-radiation. Cryogens, such as liquefied nitrogen and helium used for cooling laser equipment, demand personal protection—hands, face, and body—for all who handle them. Standard electrical safety specifications and practices prescribed for high-voltage equipment in general are applicable to laser power sources. Capacitors should be discharged before cleaning or repair work is undertaken; since they can retain a charge even when the power is disconnected, bleeder resistors should be provided and left in the circuit until the laser is used again

01 132 2677

COMMUNITY AIR HYGIENE

597 Observations on Air Pollution Aspects of Irazu Volcano, Costa Rica. R. J. M. Horton and R. O. McCaldin. Public Health Repts. 79, 925-929 (Oct. 1964).

Based on observations, examination of available data, and analyses of limited samples, it appears that the heavy ashfall resulting from the recent volcanic activity of Irazu, in Costa Rica, contains a substantial portion of particles in a respirable size range. The free silica content of these particles is about 1%, which minimizes the silicosis hazard. Although sulfur gases have not been measured, reports of taste and odor indicate that they may be only minor factors in the emissions from Mt. Irazu. During periods of volcanic activity, the ashfall reportedly reduces visibility, gets into clothing, hair, and eyes, and is a general nuisance. Specifically, it causes a redness and burning of the eyes, a dry, raw, and sore throat, and irritation of the airway passages. All these effects apparently subside rapidly when exposure to the ash ceases.
-- Cond. from APCA Absts.

598 Environmental Conditions Affecting the Use of Plants as Indicators of Air Pollution. G. Seidman, I. J. Hindawi, and W. W. Heck. J. Air Poll. Control Assn. 15, 168-170 (April, 1965).

The present study was initiated to determine the effect of stomatal opening, soil, and nutrient level on the sensitivity of plants to photochemical air pollutants. The results of the investigation indicate that: (1) Chemical control of stomatal opening reduces air pollution injury to plants. (2) Reduction of water to plants has been shown to greatly reduce vegetative damage from photochemical air pollutants. (3) Plants grown in soil are less sensitive to irradiated automobile exhaust than are plants grown in vermiculite. (4) Nutrient level appears to be related to the sensitivity of pinto bean to natural smog.

599 Apparent Photosynthesis as a Measure of Air Pollution Damage. O.C. Taylor, E.A. Cardiff, and J.D. Mersereau. J. Air Poll. Control Assn. 15, 171-173 (April, 1965).

The measurement of rate of carbon dioxide exchange by plants is a precise method of determining possible effects of environment, including air pollutants, on growth and development. A procedure was developed by which such measurements can be made on portions of mature trees growing in the field. With this procedure it is possible to study the effects of pollutants as they occur in the ambient atmosphere. The lucite cell through which air flow can be measured accurately and the internal reflector light source provide a uniform and measurable environment for the enclosed tree branches. The effects of specific toxicants can be studied individually with single leaves or small seedlings using a miniaturized carbon dioxide measuring system and fumigation facilities in the laboratory -- Authors' summary

600 Characterization of Carbazole and Polynuclear Carbazoles in Urban Air and in Air Polluted by Coal Tar Pitch Fumes by Thin-Layer Chromatography and Spectrophotofluorometry. D. F. Bender, E. Sawicki and R. M. Wilson, Jr Intern J. Air and Water Poll. 8, 633-643 (Dec 1964

The presence of carbazole in urban air samples and of polynuclear carbazoles in certain source samples is shown for the first time Carbazole is found in the benzene-soluble particulate and in the aromatic fraction of the benzene-soluble particulate from urban air. Certain source samples contain 11 H-benzo (a) carbazole and 7 H-benzo (c) carbazole in addition to carbazole The already known presence of these polynuclear carbazoles and of 5 H-benzo (b) carbazole in coal tar pitch samples can be demonstrated readily with thin-layer chromatography and spectrophotofluorometry in alkaline N, N-dimethylformamide. Samples containing carbazole include the composite benzene-soluble particulate from the air of 150 United States communities, he aromatic fraction of the benzene-soluble particulate from the air of a city, air polluted by coal tar pitch tarring operations, and a coal tar pitch sample. There are 14 references.
-- Cond. from Public Health Eng. Absts.

01 132 2678

601 Air Pollution Study. S. Carne. Proc. Roy. Soc. Med. 56, 620-624 (July, 1964).

The Medical Officers of Health of the London boroughs, in association with the Department of Science and Industrial Research (DSIR), approached the Research Committee of the College of General Practitioners, suggesting a study of the effects of air pollution on respiratory illness in the population of London. Only through the general practitioner could the whole family be studied. The survey was undertaken during the winter of 1962-1963. It was found that there were two peaks of respiratory illnesses coinciding with the fog at the beginning of December and the freeze-up from the end of December until the beginning of March -- APCA Absts.

602 Los Angeles Air Pollution and Respiratory Symptoms. Relationship During a Selected 28-Day Period. D.I. Hammer, et al.
Arch. Environmental Health 10, 475-480 (March, 1965).

Two populations of student nurses, one in Los Angeles and one in Santa Barbara, reported selected respiratory symptoms by means of daily symptom diaries. The prevalence of these symptoms and their relationship to a single air pollutant during a 28-day period is described. These data are part of a 32-month study ending in June, 1964. A time-associated relationship between daily oxidant levels and the mean daily frequency of eye discomfort in the Los Angeles group was observed during the study period. This relationship was not observed for any of the other symptoms. The mean 28-day frequencies of all symptoms reported by the Los Angeles student nurses were equal to, or greater than, those reported by the Santa Barbara student nurses. -- Authors' summary

603 Some Laboratory and Epidemiological Aspects of Air Pollution Carcinogenesis.
E. L. Wynder and D. Hoffmann. J. Air Poll. Control Assn. 15, 155-159 (April, 1965).

Chemical, analytical and biological studies were completed on the organic matter of large air pollution samples from Detroit. The high tumor response observed on mouse skin when the organic matter was applied in 12.5% concentration can be partially explained by the presence of polynuclear aromatic hydrocarbons (PAH) as tumor initiators and certain acidic components as tumor promotors. Certain polaric neutral components of still unknown nature are indicated also to act as tumor promotors. The concentrations of PAH in various locations in Detroit and New York during different seasonal, meteorologic and traffic conditions are compared. The relative importance of carcinogenic air pollutants in man's environment is discussed in line with epidemiological evidence. -- Authors' abst

604 Meteorology of Air Pollution. D. H. Pack. Science 146, 1119-1128 (Nov. 27, 1964).

The current status of the whole field of air pollution meteorology is summarized It is stated that the need to preserve our air resources challenges our understanding of the atmosphere's capacities. The characteristics of point, line, and area pollutant sources are described with emphasis on the city, or the almost continuous strip city (the "megalopolis or megapolitan area") along the Eastern seaboard of the United States, as an area source Also, mention is made of the ways cities modify local meteorological conditions. Vertical turbulent diffusion, horizontal turbulent diffusion, atmospheric transport, applications of air pollution meteorology, urban air pollution, and future problems are discussed. Special attention is given to urban meteorology, in particular to the general absence over cities of surface-based temperature inversions typical of rural areas, to the use of a nearly constant-volume balloon with a lightweight radar beacon system as a meteorological tracer; to the Weather Bureau "Air Pollution Potential Forecast" program for the United States; and to the development of mathematical multiple-source diffusion models for computer solution of pollution concentration problems for urban areas. -- Cond. from Public Health Eng. Absts.

01 132 2679

605 The Bag Filterhouse for Oil-Fired Power Plants. TI-5, Public Utilities Committee. A.E. Gosselin, Jr. J. Air Poll. Control Assn. 15, 179-180 (April, 1965).

The authors believe that analysis of extended pilot scale operation at the El Segundo Steam Station pilot plant has indicated that a baghouse, using solid alkaline additives, is effective in controlling visible stack contaminants. It is not the intent of this paper to present a detailed analysis of pilot bag filterhouse operation as a set of parameters for adoption to commercial application. Rather, the general and brief description of the Southern California Edison Company bag filterhouse investigations is intended to stimulate interest in this type of equipment for thermal electric plant considerations in general. This system has no commercial equal in collection efficiency. It is established that reaction of the additive with sulfur trioxide will reduce the acid dewpoint value of oil-fired flue gases to less than 125°F., and that an overall particulate collection efficiency (including the submicron range) of 99.9% can be consistently expected. The present economic advantage which can normally be gained by substituting residual fuel oils for natural gas makes the use of a baghouse, as a corrosion (sulfur trioxide) and plume opacity control device, particularly attractive. The economy derived from burning residual fuel oils instead of natural gas is reflected in increased boiler efficiency and lower costs per Btu. The possibility exists in baghouse filtration, of perhaps realizing economic gains from the air pollution control burden. -- Author's summary

606 History of Fly Ash Collection at the South Charleston Plant Union Carbide Corporation--Chemicals Division. M.N. Magnus. J. Air Poll. Control Assn. 15, 149-154 (April, 1965).

This report summarizes the installation and operation of fly ash collection and disposal equipment at the South Charleston Plant and includes installation costs, replacement costs based on present-day cost factors, as well as performance data, and maintenance and operating costs. -- Author's abst.

607 Studies on the Carcinogenicity of Gasoline Exhaust. D. Hoffmann, E. Theisz, and E.L. Wynder. J. Air Poll. Control Assn. 15, 162-165 (April, 1965).

Gasoline engine exhaust tar was demonstrated to be carcinogenic to the experimental animal. The acitivity of exhaust tars is to a major extent due to the presence of 4, 5, and 6 ring condensed, aromatic hydrocarbons. This concept was confirmed by large-scale separations and mouse skin tests of 4 main fractions and 5 subfractions of the neutral portions of exhaust tar and by comparison with the activity of the whole tar. The emission of polynuclear aromatic hydrocarbons and phenols in gasoline engine exhaust depends on the fuel used. Other methods for the reduction of these agents in gasoline engine exhaust were discussed. Used crankcase oil and blowby tar were biologically inactive. The primary purpose of these investigations has been to study the carcinogenicity of gasoline engine exhaust in an experimental setting. The authors do not intend to draw conclusions on the basis of experimental data to the human setting. It is hoped, however, that these studies will contribute to the final goal of this Association, to ameliorate the air pollution problem. -- Authors' summary

608 The Relation of Chronic Lung Disease to Community Type Air Pollution. P. Gross. J. Air Poll. Control Assn. 15, 160-161 (April, 1965). Reprints Available From Industrial Hygiene Foundation Upon Request.

Long-term consequences to health of community-type air pollution are at present poorly understood. Uncertainties and conflicting claims have arisen because chronic obstructive bronchopulmonary disease and lung cancer have multiple etiologies and the various population groups studied are characterized by multiple factors, each potentially of etiologic significance. The results of epidemiologic investigations as well as of laboratory studies have been used to support the concept that chronic obstructive bronchopulmonary disease and lung cancer may result from polluted community air. However, epidemiologic studies do not refer specifically to air pollution, but to an "urban factor." The latter has not been defined nor has its relative magnitude been determined. It has multiple components of which air pollution is only one, and not necessarily the most significant one. It is pointed out that there are discrepancies in the results of epidemiological surveys of chronic bronchitis which indicate that, independent of air pollution and for reasons not yet understood, one population group may have a greater potential than another population to develop chronic bronchitis and that this greater potential underlies all of the other contributing factors. A recent laboratory study suggests that aerosols containing products of ozonized gasoline may play a role in the development of lung cancer when associated with disturbance of the lung clearance mechanism. There are 16 references.

25. 01 132 2680 -- Author's summary

ACCIDENTS AND PREVENTION

609 Applying Measurement Concepts to the Appraisal of Safety Performance. W.E. Tarrants. J. Am. Soc. Safety Eng. 10, 15-22 (May, 1965).

Attempts to control accidents and their consequences can, at best, be described as trial-and-error chiefly because adequate measures of the effectiveness of this control do not exist. New measuring instruments such as the Critical Incident Technique and behavior sampling hold much promise as improved methods of measuring safety effectiveness. Because of the role of chance, the consequences of accidents need not be fatal, they need not be injurious, they need not even be property damaging. But the potential for producing loss is always present. As long as there is such potential, the primary concern lies with environmental conditions that are not right, regardless of whether or not they evidence any statistical correlation with injury involvement within any fixed time period. Studying injury accidents, therefore, is less profitable than studying work conditions and worker behavior in a broad sense. Fortunately, most of these conditions, human and environmental, are modifiable or compensable. Correct or adjust these conditions and accident losses will inevitably be reduced. In the evaluation of safety programs as well as in research generally, injury frequency rates, injury severity rates and other presently used measures of loss-type accidents are not sufficiently sensitive, stable, or representative to serve as criteria of safety effectiveness What is needed are measures of safety performance that do not depend upon injury involvement There is good reason to anticipate a steadily increasing emphasis on measurement in the field of safety engineering The lack of understanding and proficiency in the use of these new techniques will serve as a major deterrent to the future progress of professional safety work. Anyone who is earnest in his desire to improve his ability to predict and control accident losses must also be earnest in improving his ability and expanding his knowledge in the field of measurement.

-- Cond. from author's conclusion

610 Human Factors in "Cause Undetermined" Accidents E C Lentz. Aerospace Med. 36, 214-222 (March, 1965).

U.S. Air Force aircraft accidents over a 4-year period that remain categorized as cause undetermined indicate that the man-machine complex tends to fail during the stressful phases of flight. Loss of control and high speed impact are factors common to many of this series. Man's limitations and specifically his ability to maintain orientation—i.e., disorientation—are major problems in the operation of high performance aircraft. Aircraft performance has advanced to the place where exploration of the operational perimeters of the craft is reserved for the test pilot. Experienced combat pilots may still be novices with respect to the vagaries of the aircraft he flies. Safety of flight is enhanced by the division of duties with a qualified co-pilot

-- Modified from Author's abst

MISCELLANEOUS

611 Atlanta's River Water Supply Contaminated by Kerosene P Weir Taste and Odor Control J. 30, 1-7 (Oct. 1964).

The reaction of the Atlanta Water Department to a 60,000-gal. kerosene spill into the river water supply of the city is reported. During the critical 3-week period, the river water contained about 140 mg./liter of kerosene. Treatment by the Water Department included application of bleaching clay and activated carbon at the rate of 33 mg./liter and 7.2 mg./liter, respectively, to the water at the river intake. Camphor gum activity in treated water samples and the odor of heated samples were used to determine the absence or presence of kerosene. Only 50 bona fide complaints on water quality were received.

-- Public Health Eng. Abst.

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Annals of Occupational Hygiene
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Conn. Health Bull.
Connecticut Health Bulletin
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Contamination Control
The Journal of the American Association for Contamination Control
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