



FOUNDATION FACTS

This news-letter is issued monthly to member companies and trade associations affiliated with Air Hygiene Foundation. Its purpose is to report Foundation news and activities. Air Hygiene Foundation is a partnership of industry and science organized to protect the health of the 16 million workmen in heavy industry.

Vol. 2.

October, 1940

No. 15

W468-0010119

Fifth Annual Meeting Nov. 12-13.

The fifth annual meeting of Air Hygiene Foundation, scheduled at Mellon Institute, Pittsburgh, Nov. 12-13, will insist that the health of workers is as vital as health of soldiers in girding America. Defense production demands defense of employee health.

Prof. Philip Drinker of Harvard will head a symposium highlighting health safeguards in the mining, mechanical and chemical industries which bear the brunt of preparedness production. In World War I, eight to nine men were busy in the mills keeping one soldier supplied at the front. Participants in the symposium include:

Capt. Ernest W. Brown, Senior Medical Officer, Brooklyn Navy Yard -- Industrial Hygiene and the Navy in National Defense; Dr. P.A. Neal, National Institute of Health -- The U.S. Public Health Service in the Defense Program; Dr. Howard W. Haggard, Yale University -- Noxious Gases; Dr. Carey P. McCord, Detroit -- Health Protection in Electric Welding; William P. Yant, Research Director, Mine Safety Appliances Company -- Protection of Civilians in War Time.

Dr. E.R. Weidlein, Director, Mellon Institute, who is serving the National Advisory Defense Commission, will speak on "Industry in the National Emergency." L. Motcalfe Walling, Administrator, Division of Public Contracts, U.S. Labor Department, will discuss health requirements on government contracts under the Walsh-Healey Act.

Findings from Foundation researches on industrial health will be reported by Dr. L.U. Gardner, The Saranac (N.Y.) Laboratory, Dr. Eliot R. Clark, University of Pennsylvania, and Prof. Drinker of Harvard.

Dr. A.J. Lanza, Chairman of the Foundation's Medical Committee, will report on "what's new" in industrial hygiene. Dr. W.M. Gafafer, U.S. Public Health Service, will report on the study of "Sick Absenteeism in Industry" which the Foundation has started in collaboration with the Public Health Service and the Association of Industrial Physicians and Surgeons. T.C. Waters of the Foundation's Legal Committee will discuss latest legislation affecting workmen's compensation for occupational disease.

Two New Members

Powers X-Ray Products, Inc., and the Industrial Tape Corporation, an affiliate of Johnson & Johnson, recently joined Air Hygiene Foundation.

Chlorine Safety Chart Available

The Mathieson Alkali Works, Inc., 60 E. 42nd St., New York City, issued a revision of its Chlorine Safety Chart. C.S. Glenn, Vice President, replying to our inquiry, states: "We will be glad to send one of these charts to anyone desiring it, and we would be glad to have you so state in your FOUNDATION FACTS."

High health standards are now demanded in British industries under governmental order. Voluntary action by industry for health improvement, as in Air Hygiene Foundation, forestalls such governmental demands.

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Air Hygiene Foundation,
4400 Fifth Ave., Pittsburgh, Pa.

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DIGEST OF INDUSTRIAL HYGIENE
Literature--News--Developments

News Items

692 Rules On Hernia Revised.

Under date of July 12, 1940, the Industrial Commission of Ohio revised its rules on hernia as set out below: All Hernia claims shall be considered on their merits, special stress being laid on the following general principles:

The Commission considers hernia as a disease or a physical weakness which ordinarily develops gradually and is rarely the result of an accident. A pulsation in the internal ring without definite protrusion is not considered a hernia. A large hernia extending to the external ring or farther discovered within a short time following the injury without severe pain and prostration is considered unrelated to the injury. A hernia appearing two years or more after the operation at the site of the operation should not be considered as the result of the original injury or operation.

(a) The claimant must establish by competent proof:

- (1) That the injury resulting in hernia was sustained in the course of and arising out of his employment.
- (2) That the hernia appeared immediately or within a short period following the injury.
- (3) That the hernia did not exist prior to the injury.

Ohio Ind. Comm. Monitor, 13, 142 (September, 1940).

693 Occupations Hazardous for Minors.

Beginning September, 1940, minors between 16 and 18 cannot be employed in coal mining operations other than those specified in this order. The exceptions include slate or refuse picking at a table or chute in a tipple or breaker, and work on the surface such as in offices. Child Labor Regulations, order No. 3. U.S. Dept. Labor, Children's Bureau, Washington (August 1, 1940).

694 Microfilm Copying.

Microfilm copying of many of the original articles referred to in this Digest and published in the periodicals received by the Army Medical Library of Washington is being done by "Medicofilm Service," a non-profit organization operating in the Army Medical Library. The charge is 30 cents for each complete article not exceeding 30 pages in length, and 10 cents for each additional 10 pages or fraction thereof. A circular of information and containing a list of the more than 4000 periodicals received by the Library will be sent upon request. Address requests, orders and remittances to -- Medicofilm Service, Army Medical Library, 7th Street and Independence Avenue, S.W., Washington, D. C.

695 New Treatment for Silicosis.

Reports of the first clinical trials of a new treatment for silicosis was brought to the American Public Health Association at its meeting in Detroit. For a number of weeks, seven or eight men are having their lungs dusted daily with aluminum powder in the hope of checking any further changes in their lungs caused by silica dust which they breathed at work. It will be at least a year before the results of the treatment can be determined, but the signs now are "far from discouraging." The treatment begins with a two-minute daily inhalation and works up to a thirty-minute dose. The men continue their work while they are being treated. Tests of lung function were made before the start of treatment and will be made at intervals thereafter. Before the treatments were begun, a large number of men who had been long exposed to aluminum dust were carefully studied. They showed no evidence of harm due to the dust. It is not felt that the treatment will ever supplant proper dust control methods and in fact, the treatment through its patent will be held from plants not up to standard on ventilation and other dust control methods. Science Supplement 92, 10 (October 18, 1940).

Legal Developments

696 Flour Dust.

A bakery employee who worked for years at a dough molding machine, applied for compensation, claiming he had been compelled to quit work on account of a bronchitis and asthma which he attributed to constant inhalation of flour dust. Claimant's job required him to take the loaves from the machine and place them in the baking pans and he alleges that an automatic duster on the machine kept him constantly in an atmosphere impregnated with dust from the flour. He first noticed ill effects in 1937 and in February, 1940, his condition became so bad that he was compelled to quit work. The case was referred to a medical investigator who gave it as his opinion that the claimant was simply allergic to flour dust and that his condition was identical with that of persons suffering from asthma, hay fever and bronchitis from such pollen as ragweed, goldenrod, house dust, etc. The Commission agreed with his conclusions and ordered that the claim be denied. Ohio Industrial Commission Monitor, 13, 138 (September, 1940).

697 Pneumonia Caused by Inhalation of Fumes from Truck. "Injury by Accident?"

Plaintiff, a truck driver employed by defendant company, a road building contractor, became ill after driving for one day one of the company's heavy trucks. The trial court found that truck 54, operated by plaintiff, was old and worn and discharged an excessive amount of smoke and gases which plaintiff inhaled, the effect of which was to precipitate the activity of pneumo-cocci germs which resulted in pneumonia; that truck 54 for a period of 30 days prior to this time had been discharging a larger amount of fumes and smoke than other trucks on the same job; that there was no accident and no unusual or unexpected occurrence on the date in question. Compensation was denied. Plaintiff has appealed. From the trial court's findings it might properly be said that the pneumonia was proximately caused by injury sustained from the inhalation of smoke and gas, but the trial court refused to find that the pneumonia or the injury resulting therein was proximately caused by accident. Does the New Mexico Workmen's Compensation statute provide compensation for injuries which are accidental only in the sense that the injury itself is unforeseen and unexpected, even though there is nothing unforeseen and unexpected in the surroundings and circumstances in which the occupation or the work is carried on and no unexpected event has caused the injury? Or, must the injury be the result of an accident in the sense that some unforeseen or unexpected occurrence caused the injury? Plaintiff himself disclaims

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that there is any accident in the case, unless the injury alone may be regarded as an accident. Sec. 7 of the 1937 Workmen's Compensation Act of New Mexico provides that a workman claiming compensation "on account of injury suffered by accident...shall give notice in writing of such accident and of such injury to such employer within thirty days after the occurrence thereof,..." The legislature differentiated between "accident" and "injury", and required notice to be given of each "occurrence." This is a strong argument that the legislature meant by "accident" some incident or occurrence external to the claimant's physical condition. Plaintiff knew that the truck burned "lots" of oil and that the fumes and dust filled his lungs and it was hard to breathe, but he continued to work under these conditions which were not unusual to driving a truck on a road building job. This is no accident. Neither does the court say the pneumonia plaintiff suffered was an occupational disease. The hazard was probably not naturally and unavoidably incident to the work. The case is rather in a twilight zone. It is held, under the facts of this case, that pneumonia, unaccompanied by and unrelated to any injury by accident, as such term is construed herein, is not embraced within the terms of the New Mexico Workmen's Compensation Law. Judgment, denying compensation, affirmed. Stevenson v. Lee Moor Contracting Co. et al. N.M. Supreme Ct. Decided September 21, 1940. (CCH)

- 698 Silicosis. Whether Employed for Sixty Days After Effective Date of Act. Evidence. Salahub is a brass moulder and was employed in the foundry of plaintiff in error about seven years. He filed a claim for compensation under the Workmen's Occupational Diseases act on account of disablement from advanced silicosis. The award of the arbitrator for permanent total disability was sustained by the Commission and confirmed by the circuit court of Cook county. The cause is here on writ of error for further review. It is not contended Salahub's ailment did not arise out of and in the course of his employment or that he is not permanently and totally disabled. The claim for compensation alleges the approximate date of the last exposure as November 30, 1936. The effective date of the act was October 1, 1936. The employer claims Salahub was discharged on Friday, November 27, 1936, and, therefore, was not employed for a period of sixty days after the effective date of the act. Salahub contracted silicosis before the act went into effect. Section 23 provides that any employee, who had contracted silicosis or asbestosis prior to the effective date of the act, but not disabled therefrom, might, within sixty days after the act took effect, file with the Industrial Commission a waiver of full compensation, and, upon approval of the waiver, would thereafter be entitled to fifty per cent of such compensation. The record shows that at quitting time on Friday, November 27, the superintendent gave Salahub such a waiver and directed him to go to the Industrial Commission on the next day and sign it, which Salahub did, but performed no work on that day. He came to work on the following Monday, November 30, changed his clothes, took out his tools, went to his bench and asked the foreman if he should continue the same job he was on Friday. The foreman, and later the superintendent, told him he could not go to work. Salahub's time card was still in the machine for recording entrance and departure of employees when he came to work on Monday morning and he punched the time of his entrance. Sending Salahub to the Industrial Commission with the waiver and leaving his time card in the machine until November 30 tend to show he was not discharged on November 27. The award of the arbitrator and the Commission shows they found Salahub was not discharged until November 30 and this court can not say the findings is against the manifest weight of the evidence. Salahub was in the employ of plaintiff in error on October 1, 1936. He was exposed to the hazard of his employment during the period of sixty days after the effective date of the act. This brought him within the terms of Section 25, and it was not necessary to show he was exposed every day during the sixty-day period. It is not material whether he was discharged before or after 7:30 A.M., the time for

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starting to work. The day began at midnight. Excluding October 1, he was in the employ of plaintiff in error sixty days when he was discharged. The claim that the act is elective and that no showing was made that the employer elected to come within its terms is made for the first time in this court. The hearings before the arbitrator and Commission and in the circuit court were conducted as if the employer had elected to come within the terms of the act. Parties may not shift their ground on review. The objection comes too late in this court. The cause will be considered as if formal proof of election had been made.

Since the petition for a writ of error herein was allowed, the claim that Section 25 is unconstitutional has been settled by this Court in *Liberty Foundries Co. v. Industrial Com.*, 373 Ill. 146, 25 N.E. (2) 790, adversely to that contention. Plaintiff in error, referring to that holding, nevertheless insists that there is no liability in this cause because disability from silicosis could not possibly develop between October 1 and November 30, and points out that the evidence does not show the disease was contracted between those dates. The argument loses sight of the fact that section 25 does not contemplate the disease must be contracted during the period of sixty days or more after the effective date of the act. It is not true that disability could not develop in that period from the disease previously contracted. There is a difference between having a disease and being disabled thereby. The contention of no liability cannot be upheld. There is no virtue in the claim that the provisions of Section 25 are not in harmony with the title of the act, nor is that claim properly presented. It is made here for the first time. All other grounds urged as to the unconstitutionality of Section 25 are disposed of in the *Liberty Foundries Co.* case, supra. Judgment affirmed. *Central Pattern & Foundry Co. v. Industrial Commission et al.* Ill. Supreme Ct. Decided October 11, 1940. (SCH).

Papers on Dust, Gases and General Industrial Hygiene

- 699 Industrial Health and National Defense. L.D. Bristol. J.A.M.A. 115, 1235-1237, (October 12, 1940.)

Many problems arising out of the preparedness program will require new industrial health procedures and rules, more intensive study and research in the field of occupational diseases and industrial poisons. In the author's words the aim should be "to speed the work but spare the worker." During the last war very little was done in this important field -- private industrial medicine was just making a beginning, the Division of Industrial Hygiene of the U.S. Public Health Service had only been established a few years and there were only one or two very young state industrial hygiene units. One hope of the author is for integrated cooperation between the various organizations in this field during the present emergency -- especially for the inauguration of a national plan for the standardized recording and reporting of industrial morbidity and mortality. Studies to determine unfavorable or hazardous working conditions must be broadened; in fact, a strengthening of the entire industrial health program will be required from every branch, both public and private. The health of the industrial worker, one of our precious resources, must be conserved.

- 700 Noise and Efficiency. Anonymous. Safety Eng., 80, 41 (August, 1940).

Numerous studies and investigations have indicated that industrial noise impairs efficiency of worker output. In one investigation it was found that the performance of weavers who were given ear protectors, apparently increased efficiency about 7.5%. In another study, it was found that cutting off a noisy ventilating fan, despite resultant decreased ventilation, increased efficiency about 12%. Other investigations bear out those results. Noise is a direct cause of fatigue. Loud noise will bring on fatigue very quickly. The influence on worker health and rate of productivity are readily apparent.

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- 701 Sight Saving in Industry. C. Kuh. Health. New Haven Dept. of Health. 67, 5-6, (September, 1940).

Today there are 8,000 individuals in America blinded from industrial causes and in ordinary times about 75 cases per year are added to the total. The average cost of an eye injury is usually twice that of any other injury, a single case of blindness frequently costing employer or insurance underwriter \$30,000. The total cost for blindness, partial sight loss and all other ocular injuries in this country reaches the staggering total of \$100,000,000. While flying particles from grinding and chipping processes are responsible for 80% of accidents, various other factors such as tools or parts of machinery, splashing liquids (especially acids and alkalies), explosions, falls and infections constitute most of the remaining causes. Poisonous dusts, gases and vapors may directly injure the eye or indirectly impair it through systemic disease, for example lead fumes may give rise to general intoxication of which optic neuritis is one manifestation. Welding arcs and radiant energy in the form of x-ray or radium may also produce damage. Poor illumination may cause eyestrain and fatigue. Poor vision, undetected and uncorrected, may be the cause of injury.

- 702 Report Upon the Work of the Miners' Phthisis Medical Bureau for the Three Years Ended July 31, 1938. Union of S. Africa Government Printer, Pretoria, 1939.

This report presents the results of the Bureau's examinations and reconsiders the problems of the etiology, pathology and clinical course of silicosis and silico-tuberculosis on the Rand. There were 15,219 physical examinations for employment with rejections from 28 to 40% yearly and another equal group deferred for reexamination. Periodic examinations were made every six months on a group which in 1937-38 numbered 28,414 miners. The prevalence rate of silicosis is falling: from 28.99 per 1000 in 1927-28 to 18.12 in 1935-36 and 15.31 in 1937-38. The average exposure for the whole group is now 18-1/2 years; in 1922-23 it was only 9-5/12 years. It is believed that with an exposure of 18 years about 20% of the underground miners will have developed silicosis under present conditions. For now Rand miners with primary silicosis after exposure of 18 years, the expectation of life is 15 to 16 years. Supervened tuberculosis shortens this considerably. Half the primary cases progress to a secondary stage in 8 years and 66% had similarly advanced in 18 years. During the period 1935-38 only 9 new cases of tuberculosis were found and last year there were only 5 among 24,414 working miners. Of the 9 cases, 6 were in men with previously diagnosed silicosis. In the "new" miners (for whom special precautions are taken) no new case of tuberculosis was discovered between 1935 and 1938. Postmortem examination of 2,031 pairs of lungs revealed 510 with silicosis with 25% tubercular in 1123 Europeans and with 50 to 60% tubercular with or without silicosis among the natives. It is further concluded that "silicosis does not appear to aggravate the risk of the occurrence of lung cancer."

- 703 Health and Industry. Anonymous. Nature 146, 375-376 (September 21, 1940). (Great Britain).

This is a discussion of a report issued by the British Association for Labour Legislation on the subject of Welfare and Health in Relation to Hours of Work and Output in Wartime. The matter of overwork and fatigue, the employment of children and young persons, the promotion of health and welfare, ventilation and lighting during the black-out are all considered in the new aspect wartime brings. The Minister of Labour and National Service has issued an order requiring factory owners to retain part-time or whole time medical men, nurses and officers to supervise the welfare of employees. The necessity will be determined by the number of employees or by the presence of dangerous processes in the plant. It is emphasized that industrial hygiene must be extended and coordinated with health services outside the working place.

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- 704 International Congress on Labor Pathology and Labor Organization. French Schedule Of Invalidity. G. Girino. *Med. del lavoro* 31, 33-39, 59-66 (1940). (Italian). Among the subjects considered were: soldering, skin diseases, special steels, and methods of compensation of industrial diseases. The French schedule is unusual in that it gives an arbitrary percentage invalidity for each disease. For instance, lead paralysis 10-75%, lead anemia 5-20%, etc. These are problems which should be evaluated by medical and legal experts in each case rather than determined flatly by law.
- 705 Problems Which Arise in the Handling of Illness Among Wage Earners. A.R. Riddell. *Canad. Pub. Health Jour.* 31, 223-227 (May, 1940). Since 80% of Ontario wage earners are employed in plants having 50 workers or less and since few of these plants have any medical service, the private practitioner, on whom the workers must depend, should at least familiarize himself with the occupational hazards in his region. Only then can he advise a man when to continue his work; when he should shift to another job; or when he must temporarily discontinue work. These three problems are discussed.
- 706 The Compensation of Occupational Diseases. L. Teleky. *Gesundheit u. Wohlfahrt (Zurich)* pp. 349-357 (1940). (German). This is a short history of the development and organization of compensation for occupational diseases in Switzerland, England, France and Germany, and a brief survey of the laws of the United States, quoting the definition of "occupational disease" according to the Illinois law. Based upon European experience, it is shown that in order to make compensation laws effective there must be: compulsory notification by the physician in every case of occupational disease, examination of every notified case by an expert physician authorized by the State, and final diagnosis made by an expert and impartial physician. The institution of preventive measures is the chief value of compensation laws.
- 707 Disabling Morbidity among Male and Female Employees in Mail Order Stores. H.P. Brinton and E.S. Frasier. *Pub. Health Rept.* 55, 1163-1178 (June 28, 1940). Four mail order stores are the source of sick benefit organization records of 8,006 members. Rates for males were markedly lower than for females, especially in diseases of the nervous system, diseases of the pharynx and tonsils, genitourinary diseases, appendicitis, and influenza and grippe. The data show incidence according to occupational group, age, sex and marital status. For females, the average number of cases for 1000 was 90.0; for males, 63.4.
- 708 Mortality and Morbidity in the First Two Years of Life as Related to the Parents' Occupation. A. Capellini. *Med. del lavoro* 30, 313-329, 347-354 (1939). (Italian). This investigation covers 10,598 couples with 37,710 pregnancies. There are 14 occupational groups (usually that of the father) and 10 groups of death causes. All circumstances in the parents' lives (including social conditions) which may influence the child's life and health are described. The general mortality of children in the first two years is 22.27% of the pregnancies. Pregnancies range from 263 in percentage of couples in the electrical industry to 538.46 in the food industry. Abortions range from 9.61% of pregnancies in transportation to 20.03 in the clothing industry. Of the children of parents in the food industry, 7.2% die in the first two years, and 27.21% in textile workers, among whom there are four times as many women as men.
- 709 Electrocardiogram in Carbon Monoxide Poisoning. S. Caccuri. *Arch. mal. prof.* 2, 540-564 (1939-40). (French). A study was made of the electrocardiograms of rabbits acutely or subacutely poisoned with carbon monoxide. It was shown that adrenalin and methylene blue had no effect but that bilateral vagotomy diminished the effect of carbon monoxide on the heart. It was established that this gas can injure the myocardium.

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IN THE ABTAMS

- 710 Sick Absenteeism in the Non-Ferrous Mining Industry. A.F. Fletcher. American Mining Congress, September 16, 1940.
 The author recommends a definite program of recording sickness absenteeism so that companies may have facts upon which to base conclusions as to why so much more time is lost because of sickness than due to accidents, in fact 12 times as many shifts. He points out that in health conservation programs savings may be much more than actual figures indicate since the hidden indirect costs are also saved.
 (NOTE: Attention of member companies is called to the Sickness Absenteeism program now being carried on by the Foundation.)
- 711 Poisoning by Oxygen under High Pressure. C. Hoderer and L. Andre. Bull. Acad. de Med., 123, 294-308 (1940). (French).
 This is the report of an investigation into the effect of inhalation of oxygen under high pressure, especially in divers who have accessory oxygen supply. The condition is characterized by injuries and changes in the lung tissue (emphysema, atelectasis) which develops under additional pressures of 0.7 to 0.8 atmospheres. Under 4-5 atmospheres, epileptiform attacks may be seen; there is also pulmonary injury present. Old animals are more sensitive than young ones. Both the amount of pressure and the duration of exposure are important, and all symptoms are intensified by the presence of carbon dioxide.
- 712 Respiratory Adjustments of Oxygen-Lack in the Presence of Carbon Dioxide. D.B. Dill and N. Zamcheck. Am.J. Physiol., 129, 47-52 (April, 1940).
 The regulation of respiration and the properties of the blood have been studied in two healthy young men exposed to atmospheres deficient in O₂ and containing various concentrations of CO₂. There were significant differences between the two subjects, shown by the graphical description of their respiratory responses.
 The addition to inspired air of CO₂ renders a given low pO₂ (partial pressure of O₂) more tolerable, not only on account of an increased arterial saturation but because the disturbance of acid-base balance is reduced. However, the gain in oxygen saturation is less than results from an equal increase in pO₂, the pCO₂ remaining constant. The bearing of these and related investigations on current theories of respiratory regulation is discussed. -- Authors' summary.
- 713 On the Chronic Action of Sulfur Dioxide Gases. Examination of Workers in an Electron Foundry. K. Humperdinck. Arch.f.Gewerbepath., 10, 4-18 (1940). (German).
 This is a report on examinations and investigations of workers in an electron foundry who were exposed to the inhalation of sulfur dioxide (28+ to 1502+ p.p.m.) Chronic catarrh of the upper respiratory tract and bronchi was the most common finding and emphysema was seen often. No special effect of the gas on the blood-forming organs could be determined, but there was a high count of leucocytes in the blood of workers on the night shift. The author recommends good ventilation.
- 714 Studies on the Intrapulmonary Mixture of Gases. I. Nitrogen Elimination from Blood and Body Tissues During High Oxygen Breathing. R.C. Darling and others. J. Clin. Invest. 19, 591-597 (July, 1940).
 This is a careful analysis of the many factors involved in the excretion of nitrogen during the breathing of pure oxygen. It was discovered that nitrogen is excreted more rapidly under non-basal than under basal conditions, and that emphysematous subjects apparently excrete more nitrogen than normal subjects when examined by this method. The apparatus and technic are described.

- 715 Electrocardiogram in Carbon Monoxide Poisoning. G. Rastelli. Gior. di clin. med. 21, 533-536 (May 20, 1940). (Italian).
The electrocardiograms of two groups of rabbits were studied before and in the course of acute and chronic experimental carbon monoxide poisoning, together with those of 42 victims. Typical transient modifications of the ventricular complex were present in the 'grams of rabbits with acute poisoning. The alterations of the electrocardiogram of acutely poisoned man, shortly after the occurrence of poisoning, consisted in a low potential action of the myocardium, auricular fibrillation, premature ventricular contraction and predominance of the left ventricle. The 'grams of the victims of acute poisoning became normal in about two months, although in some cases there were permanent alterations. They were present in 5 out of 20 victims with chronic carbon monoxide poisoning. The alterations were of the type which indicate damage to the coronary arteries. Transient lesions of the heart are caused by anoxemia due to poisoning; permanent lesions are the result of damage to the endothelial lining of the coronary arteries, as carbon monoxide has a specific injurious effect on the epithelium of the arteries.
- 716 Testing Respiratory Protective Equipment for Approval. H.H. Schrenk. U.S. Bur. of Mines, I.C. No. 7130. (August, 1940).
This is a review of the types of respiratory protective equipment made for protection against various kinds and combinations of atmospheric contaminants. The author states the general requirements, basic consideration, essentials of test methods and past approval rules.
- 717 Lupoid-Sarcoid Reaction Induced by Foreign Body (Silica). W.M. German. Am. J. Clin. Path., 10, 245-250 (March, 1940).
A wound incurred while mountain climbing 15 years before had caused no trouble until a year ago when swelling developed at the scar site. Examination of the tissue showed a tuberculous reaction although tuberculosis was almost certainly not present. There were crystals in the giant cell cytoplasm, presumably silica.
- 718 Effects of Precipitated Silica and of Iron Oxide on the Incidence of Primary Lung Tumors in Mice. J.A. Campbell. Brit. Med. Jour. 2, 275-280 (August 31, 1940). (Great Britain).
Dusting with precipitated silica or with brown oxide of iron trebles the incidence of primary lung tumors in mice living 10 months or longer. There is a definite increase in malignancy with the iron oxide. The amount of silica used did not cause formation of fibrotic nodules in the lung tissue of the mice, and it is suggested that the fully formed fibrotic nodule of silicosis inhibits malignancy. The tracheo-bronchial lymph nodes of the mice exhibited some degree of fibrotic nodule formation due to silica. The dusting also caused an increase in the number of mice showing hypertrophy of the lymph tissue in the lungs and in the tracheo-bronchial lymph nodes. The connective tissue surrounding these nodes was also increased, as was the incidence of bronchopneumonia. The above results with silica and iron give experimental support to the statistical evidence that there is a relatively high incidence of carcinoma of the lung in metal-grinders, engineers, and foundry-workers. Preliminary experiments with a "nickel" dust have also been concluded. It is pointed out that previous negative results in animal experiments with silica and other dusts are probably due to the fact that the animals were not permitted to live to the age for production of lung tumors or the animals employed were not sensitive to the development of lung tumors. Animal experiments have not yet established the cause of lung cancer in the Schneeberg and Joachimsthal miners. -- Author's summary.

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IN RE AIRLINES

- 719 A Peculiar Disease of the Lymph Nodes (Eggshells) in Silicosis. E. Schairer. Arch. f. Gewerbepath., 10, 37-42 (1940). (German).
Other workers have described the formation of "eggshells" in the hilar lymph nodes. These are described in detail by the author. He shows roentgenograms of old slate workers showing distinct formation of calcification around a large part of one or more lymph nodes.
- 720 Respiratory Insufficiency in Silicosis. G. Castrovilli and U. Iberti. Med. del Lavoro. 30, 267-280, 289-306 (1939). (Italian).
This is a report on the character of respiration in different stages of silicosis. There is a decrease in vital capacity (the amount of air which can be forcibly expired after a full inspiration) only in the more advanced stage (2nd). Oxygen content of arterial blood is lowered in the 3rd stage, especially in cases with emphysema. With advancing silicosis, the venous pressure is increased. Dyspnea is caused principally by fibrotic processes.
- 721 Action of Talc Dust on the Lungs. A. Policard. Arch. mal. prof. 2, 530-539 (1939-40). (French).
White rats inhaled extremely high concentrations of talc dust (over 5 microns) for 12 days, 3 hours daily. Some of the animals died of congestion of the lungs. Pathological and histological findings of the animals dying or killed during the period of exposure or after 12 to 20 days are given. The dust, which reached the alveoli, is caught by the monocytes. Twelve days after the exposure ceased there was no lung irritation, and twenty days later there was no dust present in the lungs.
- 722 Anatomy, Pathology and Pathogenesis of Pulmonary Asbestosis. G. Mottura and E. Fagiano. Rass. med. indust. 11, 233-284 (1940). (Italian).
These are the histopathological findings in two cases of asbestosis, both in women. There is also a discussion of the subject of asbestosis bodies.
- 723 Degeneration of the Cervical Spinal Cord with Secondary Spinal Muscle Atrophy Caused by Work with Compressed Air Tools. R. Massen and H.E. Buttner. Arch. f. Gewerbepath. 10, 19-23 (1940). (German).
The authors believe that there is a possibility of a "vibration-traumatic injury" in a 64 year old coppersmith after 36 years hard work with a jackhammer. He had paralysis of both arms and legs, analgesia and loss of sense of temperature. Autopsy showed a small focus of dislocation in the marginal portion of the lateral column. There were "degenerative processes in the cervical and upper dorsal portion of the spinal cord."
- 724 Caisson Disease with Special Reference to the Bones and Joints. B.L. Coley and M. Moore, Jr., Ann. Surg. 111, 1065-1075 (February, 1940).
Bone lesions are described in two patients, one of whom had had 8 definite attacks of the "bends" during 16 years as a caisson worker; the other had had one attack during a period of 4 months as a worker under pressure. The bone lesions consist, roentgenographically, of medullary areas of increased density surrounded by a thin band of calcification, interpreted as areas of infarction. There is no involvement of the bone cortex and the lesions usually present in the diaphysis of the femur, tibia and humerus may or may not involve the epiphysis and secondarily the joint. The roentgenographic findings of joint injury resemble those characteristic of arthritis deformans. Pain and deformity may be associated with the joint lesions, while the medullary areas of involvement appear to be "silent".

NW88-0010129

November 1982

NINTH APRILS

- 725 Treatment of Dupuytren's Contracture. H.W. Meyerding. Am.J.Surg. 49, 94-103 (July, 1940).
Conservative treatment has little effect in the prevention or cure of Dupuytren's contracture (contraction of fingers and palms due to inflammation). The author advises surgical excision of the involved palmar fascia. Subcutaneous section of the constricting bands of palmar fascia is satisfactory in some cases. A combination of excision, splinting and physical therapy results in a useful functioning extremity.
- 726 Comments on Manual Artificial Respiration and a Proposed New Method. P. Praest. Acta med. Scand. 103, 539-546 (1940). (Scandinavian).
The patient is placed upon his right side and expiration is effected by pressure of both of the operator's hands on the lateral surface of the left thorax. Inspiration is obtained by seizing the left upper arm of the patient as near the head of the humerus and the acromion as possible and drawing the arm upwards and backwards, with the operator's knee used as a kind of lever.
- 727 Freon Refrigerants (Safe Properties and Characteristics). R.J. Thompson. Safe Practice Bull. No. 48. Penna. Dept. of Labor & Ind. 11 pp. (September 30, 1939).
This is a discussion of this newer type gas which is less toxic than substances formerly used as refrigerants. Its characteristics and safe properties such as lack of toxic or irritant nature, non-inflammability and non-explosiveness, inertness, insolubility in water, and non-corrosiveness are discussed at some length.
- 728 Protection in Radium Teletherapy at Westminster Hospital. C.W. Wilson. Brit. J. Radiol., 13, 105-107 (March, 1940). (Great Britain).
Over a period of 3-1/2 years, operators working continuously with radium have worn condenser ionization chambers. Two gram units were first employed, later 4 gram, then 4 gram plus 2 gram units. The average daily dose under the first exposure was from 0.205 to 0.253 roentgens (the recommended maximum is 0.25 for continuous exposure). In the later exposures, the average doses received were much lower, presumably because the staff took greater care. During the period of observation, no staff member had an illness traceable to this exposure.
- 729 A Glimpse of the Unknown. Anonymous. Safety Eng. 80, 65-68 (October, 1940).
The x-ray is an important part of the physical examination which has proven its economic value to employer and employee alike. One obstacle to more widespread use of the x-ray in the past has been the relative high cost. With the advent and perfecting of the rapid paper film method, much of the trouble and expense of examining large groups has been eliminated. The real need and demand for such a development is attested by the rapid increase in its use.
(NOTE: See Foundation's Medical Series, Bulletins II and III.)
- 730 Microtitration of Selenium. G. Wernimont and F.J. Hopkinson. Ind. & Eng. Chem. Anal. Ed., 12, 308-310 (May 15, 1940).
A new method for titrating very small amounts of selenium has been shown to give good results when applied to solutions containing known amounts of selenium, and when used to determine small amounts of selenium in urine.
- 731 A Polarizing Comparison Microscope for Use in Petrographic Measurements. G.J. Faust. U.S. Bureau of Mines, R.I. No. 3503 (April, 1940).
This is a description of a polarizing comparison microscope consisting of a single stand with two tubes. There is a brief discussion of its application to mineral dressing, ceramics, pharmaceuticals, chemicals, dusts, engineering, mining, and petrography in general. A technic for using the instrument in photomicrography is given.

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THE AIRS

- 732 Practical Application of Stoke's Law to Various Dust Equipment. H. Landsberg. Penna. Dept. of Labor & Ind. Safe Practice Bull. No.41 pp.5 (September 20, 1939). Four practical methods of the sedimentation separation of particles are described in the order of increasing complication. Three of these methods use liquids, one uses air. These methods make use of Stoke's law of sedimentation of particles under the influence of gravity. This law was developed originally for particles of spherical shape, viz. water droplets, but has since been proven to hold also for irregular shaped particles equal in weight to spherical particles. A range of particles sizes from 0.5 microns to 30 microns may be determined conveniently, by using a water medium for settling of dust particles.
- 733 A Method of Producing Air-Vapor Mixtures in Gas or Fume Chambers. L. Silverman. Rev. Sci. Instruments. 11, 346 (October, 1940). A method for producing known concentrations of air-vapor mixtures is described. A brass tube fitted with a stopper is arranged to contain syringes of varying capacity in such a way that the plunger may be depressed by a screw from outside the gas chamber. The syringes are calibrated with mercury, weighing bottle and balance, so that they give a certain volume of solvent per turn. The device is also fitted with a heater unit to insure volatilization. Good results have been obtained with benzol, carbon tetrachloride, and methyl alcohol.
- 734 Quantitative Analysis by X-Ray Diffraction. I. Determination of Quartz. J.W. Ballard, E.I. Oshry, and H.H. Schrenk. U.S. Bur. of Mines, R.I. 3520 (June, 1940). A brief description is given of the x-ray diffraction method of mineral analysis using internal standards and microphotometer measurements for quantitative determinations. Results of several analyses for quartz mixed with various other minerals are given. The method, according to this preliminary report, should be particularly applicable to industrial hygiene studies. Future reports are planned on cost of equipment, training and skill necessary, time required to make analyses, effects of complex samples containing several silicate minerals in addition to quartz, and the applicability of this method to other forms of free silica such as tripoli, tridymite, diatomaceous earth, opal, etc.
- 735 Rapid Methods for the Determination of Gases in Air. F.A. Patty. Am. J. Pub. Health. 30, 1191-1198 (October, 1940). A description of various methods for the determination of gases in air. The most important qualifications are convenience, speed, accuracy and portability. All methods should be tried in synthetic atmospheres before use in the field. An ability to recognize odors and their intensity is useful. Many of the rapid methods do not possess a high degree of accuracy but may be used in routine industrial hygiene surveys where concentrations may change as much as 100% in very short intervals.
- 736 Rapid Methods for the Estimation of Air Dustiness. H.H. Schrenk. Am.J.Pub. Health. 30, 1183-1190 (October, 1940). This is a description of various methods for the estimation of dustiness in air. There is a brief discussion of principles, technic of collection and quantitative determination. The interpretation of dust estimates should be based upon an understanding of atmospheric conditions, work schedule, plant operation, physiological effects of dusts, and the limitations of the method used.
- 737 Cyanide Shop Revamped. Anonymous. Iron Age, 146, 4 (October 17, 1940). Complete modernization of the cyanide department of a steel treating plant provides efficient and more healthful working conditions. The cyanide pots are concealed by a front panel eight feet in height with openings of sufficient size to permit loading and unloading. The ventilating system consists of fitted hoods over each pot furnace all feeding into one main exhaust which connects to the main building stack. The hoods are individually controlled as to volume of air and position.

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IN RE: AIRAMS November 1992

Papers on Industrial Poisons, Cancer, Dermatitis, etc.

- 738 Porphyria and Lead Poisoning. O. Spuhler. Schweiz. med. Wchnschr. 70, 369-372 (1940). (German).
An account of lead poisoning in a locksmith who had had colic repeatedly and once had encephalopathy. The author discusses at some length the origin of lead porphyrin and connects it with the injury to the bone marrow.
- 739 Vitamin C in Chronic Lead Poisoning. L. Pillemer and others. Am. Jour. Med. Sciences 200, 322-327 (September, 1940).
In two series of 44 guinea pigs on a subclinical scurvy intake of vitamin C, the degree of lead poisoning developed in one month by oral ingestion of basic lead carbonate was more severe when compared to the plumbism in two groups of 24 pigs on a saturation level of the vitamin. The vitamin was not significantly protective against weight loss, anemia and stippling but did prevent the onset of neuro-plumbism. No evidence has been found to show that lead has any effect on vitamin C utilization or its metabolism. Therapeutically, vitamin C is inefficient compared to removal of the lead exposure. The complementary activity of the serum of lead-poisoned animals was parallel to the concentration of ascorbic acid of the serum, and was not influenced by the lead intake.
- 740 Experimental Investigation of the Rate of Intestinal Absorption of Lead. C. Pozzato and E. Antionioi. Med. del lavoro, pp. 14-18 (1940). (Italian).
One-half gram of lead acetate per kilogram of body weight was injected into a blood vessel of a dog's small intestine. Blood samples were withdrawn from the portal vein at intervals and finally from the heart. Normal blood from the portal vein contained 8-26 gamma per 100 cc.; 20 minutes after the injection of lead, 100-148 gamma; the highest lead content was found after 1-1/2-2 hours when the concentration was between 188-260 gamma. Then the concentration declined.
- 741 Lead in the Blood, Urine and Feces of Normal and Lead Poisoned Persons. R. Massicene and G. Beltrami. Med. del lavoro 31, 1-18 (1940). (Italian).
One hundred normal persons, 28 workers in lead foundries, and 17 lead poisoned patients in the clinic were examined by the authors. The highest amount of lead found in normal blood was 80-90 gamma per 100 cc. (average 30-50 gamma); the highest amount in 100 cc. of urine was 30-40 gamma (average 20-30); in 24 hour urine samples the highest and average amounts were 220-230 and 70-90 gamma. In the feces the amounts were 60-90 gamma per gm. and 0-40 gamma average. In persons with lead poisoning the corresponding figures for blood lead were 220-230 and 90-100 gamma per 100 cc., for 24 hour urine samples, 410-420 and 110-220 gamma, and for 100 gm. feces, 340-350 and 0-70 gamma. The highest value for lead in the blood was among the foundry workers: 130-140 gamma, the average being 70-100 gamma.
- 742 Influence of Acidosis and Alkalinity in Experimental Lead Poisoning. S. Maugeri and A. Capellini. Med. del lavoro 30, 257-266 (1939). (Italian).
Two groups of rabbits were used: one was given an acid diet and a solution of ammonium chloride and magnesium chloride; the other received an alkaline diet with soda bicarbonate and trisodic citrate. Later both groups were given small doses of lead acetate. Excretion of lead in the urine took place more quickly in the first group.
- 743 The Porphyrins in Health and Disease. K. Dobriner and C.P. Rhoads. Physiol Rev. 20, 416-468 (July, 1940).
This is a long article on the chemistry of porphyrins and their existence in healthy and diseased persons. There is a short section on lead poisoning and mention of other industrial poisonings such as mercury. There is an extensive bibliography.

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- 744 Influence of Histamine Shock upon Basophilia of Erythrocytes in Experimental Lead Poisoning. M. Eck and others. Arch. mal. prof. 2, 574-577 (1939-40). (French). Large differences in the number of stippled cells were found immediately before and after the death of lead-poisoned guinea pigs. Stippled cells decreased remarkably -- almost entirely, after the injection of 5-10 mg. of histamine into the heart. In non-fixed blood smears, granular forms were fewer but reticulocytes were more frequent.
- 745 Note on Accidental Lead Poisoning. G. Batta and others. Chimie and Ind. 43, 637-3 (April 20, 1940). (French). Lead poisoning resulted from inhalation of fumes due to oxyacetylene cutting of a metal bridge following its destruction from explosion. Although the work was carried out in the open air, the lead fume content from paint coating on the metal structure was as high as 1 grain per cu. meter. The use of respirators is recommended for such work.
- 746 Metabolism of Hemoglobin in Lead Anemia. S. Maugeri. Med. del lavoro. 31, 97-105 (1940). (Italian). Nine cases of lead colic and 14 cases of chronic lead poisoning were examined. The blood of the two groups showed 3.23-4.7 million and 2.85-4.83 million erythrocytes. The hemoglobin was from 60-80% and 48-98% respectively. Lead in the urine was 21-184 gamma % and 14-51 gamma %; the bilirubin content of the serum was 1.33-2.9 mg. % and 0.49-1.47 mg. % with urobilinogen contents of urine of 2.4-21.73 mg. and 0.56-2.86 mg. (one case 26.26); in the stools, the figures were 156-756 mg. and 54-187 mg. From these figures, the conclusion is made that hemoglobin metabolism is greatly increased in cases of lead colic and frequently in chronic lead poisoning. Lead anemia seems to be of the hemolytic type.
- 747 Detection of Stippled Erythrocytes in Sternal Puncture in Lead Poisoning. Henning and Keilhack. Dtsch. med. Wchnschr. 66, 323-324 (1940). (German). In ten men with lead poisoning, the number of stippled cells was larger in the bone marrow (sternal puncture) of 8 than in the blood. In two cases the stippled cells were fewer in the marrow and in two, there were no such cells in the blood and but a very few in the marrow.
- 748 Lead in Blood, Urine and Feces After Injections of Calcium and Magnesium Sulfate. R. Massicne and F. Zanotti. Med. del lavoro. 31, 23-32 (1940). (Italian). Injections of calcium chloride and later of magnesium sulfate were made in 16 men with lead poisoning. There was a marked fall in blood lead after the calcium injections in all cases except a man with chronic nephritis and in one with "chronic saturnism." After injections of magnesium sulfate, the amount of lead increased in all but these two cases, but not equal to the original concentrations. The results were the same for urine and feces in all but the same two cases.
- 749 Colorimetric Determination of Lead Chromate by Diphenylcarbazide. T.V. Letonoff and J.G. Reinhold. Ind. & Eng. Chem. Anal. Ed., 12, 280-284 (May 15, 1940). After ashing biological material, lead is precipitated as lead potassium chromate by addition of potassium chromate to a solution of the ash containing chloride, citrate, acetate, and ammonium ions at pH 6.6 to 7.4. The precipitation is accomplished in a centrifuge tube and the double chromate is separated and washed by centrifuging. Lead is determined colorimetrically by means of the red color formed by diphenylcarbazide with chromate. Preliminary separation of lead is omitted. Absence of interference by other metals has been demonstrated.

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- 750 Weighing and Mixing of Lead Oxides in Lead Battery Manufacture. J.T. Moore. Safe Practice Bull. No. 18. Penna. Dept. of Labor & Ind. 7 pp. (June 21, 1940). This is a description of a complete change in the method of handling lead oxides in weighing and mixing processes in lead battery manufacture with resultant elimination of a rather dusty routine. Specially constructed delivery funnels are clamped over the top of lead oxide drums. The drum is then hoisted into place over the mixer tub into which a weighed amount of oxide is permitted to flow. The weighing tub is exhausted during the weighing process and then the surface of the oxide is wetted to settle the dust. Mixing tubs are also exhausted and the dust recovered. Plate pasting is done by machine eliminating personal handling.
- 751 On the Special Forms of Disease In Workers with Duraluminum and Other Alloys Containing High Percentages of Magnesium and Aluminum. H. Zangger. Arch. f. Gewerbepath., 10, 1-3 (1940). (German). It is wrong, the author emphasizes, to center one's interest only on the chemical composition of these alloys, especially the high magnesium content, when studying their effect on the health of workers. One must also consider other factors: welding, cleaning, lubricating and greasing. He believes that the tendency of wounds from dural to heal slowly may be caused by residues of the welding salts still present at the site.
- 752 A Case of Occupational Acetone Poisoning. G. Sack. Arch. f. Gewerbepath., 10, 80-86 (1940). (German). After inhaling small amounts of acetone, the patient complained of fatigue, nausea and headache. After using it for cleaning, he became very ill and was taken to the hospital unconscious. His face was red, there was severe nausea and salivation, the blood sugar increased (138 mg.%), and traces of albumen, red and white blood cells were present in the urine. He recovered in a week.
- 753 Toxicity of Stoddard Solvent. J.A.M.A. (Queries and Minor Notes). 115, 403 (August 3, 1940). This solvent is a petroleum distillate with a flash point not below 100°F. It is supposed to be less toxic than petrol naphtha, volatile mineral spirits, etc., and less of a skin irritant and fat solvent. This railway worker complained of neuritic pains in hands and arms, and of eye irritation. The latter might be due to the solvent but not the pain in hands and arms.
- 754 Occupational Benzene Poisoning. E. Martin. Med. du travail. 12, 49-76 (1940). (French). This report discusses benzene poisoning with special reference to the French literature and regulations. There is mention of the hazards of spray painting and straw hat manufacture. The connection between benzene poisoning and vitamin C is considered, especially testing for hypovitaminosis by intradermal reaction with dichlorophenol-indophenol or by measuring ascorbic acid.
- 755 Benzene Poisoning in Artificial Silk Mills. E. Martin. Med. du travail, 12, 77-81 (1940). (French). A description of three cases of benzene poisoning and the operation at which it was acquired; a mixture of equal parts of linseed oil and benzene is used to finish the artificial silk.
- 756 Strong Myeloblastic Reaction of the Blood and Bone Marrow in a Case of Benzene Aplastic Myelosis. P.E. Weil and S. Perles. Sang 14, 54-52 (1940); Soc. franc. hematol. 6, No. 12 (1939). (French). Benzene poisoning was fatal in this man who had worked with it for twelve years. The disease became serious after he had a boil on his neck. Sternal puncture showed total aplastic myelocytosis (presence of marrow cells in blood) with a strong blastic reaction of the reticulo-endothelial system.

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IN THE AIRS

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- 757 Toxic Jaundice from T.N.T. J.C. Bridge. Brit. Med. Jour. 2, 297, (August 31, 1940). (Great Britain).
It is pointed out that between 1916 and 1918, there were 400 cases of toxic jaundice (acute yellow atrophy of the liver) caused by poisoning with T.N.T. (trinitrotoluene). As the manufacture and use of this substance has been greatly extended, the author warns that cases of poisoning will probably again occur. He asks the medical profession to keep in mind possible contact with T.N.T. when called upon to attend a case of jaundice the cause of which is obscure. The degenerative changes in the liver may not manifest themselves in the form of jaundice immediately, and it may be that the patient has been out of contact with T.N.T. for a considerable time before the symptom of jaundice manifests itself.
- 758 Experimental Contribution to the Pathology and Therapy of Sequelae of Pulmonary Edema Caused by Phosgene. E. Rothlin. Schweiz. med. Wchnschr. 70, 641-647 (1940). (German).
Experiments on rats showed by physical, hematological and pathological examination that lung edema caused by inhalation of phosgene produced secondary local and general effects -- compensatory emphysema with the blood picture of chronic infection. The local lung changes and general symptoms may be cured in a short time by treatment with calcium. This treatment must be begun early to be effective. The lung volume was 130% higher in animals not treated from the first day of poisoning.
- 759 Mercury Content of the Human Body. Effect and Distribution of Mercury. A. Stock. Biochem. Ztschr. 304, 73-80 (1940). (German).
The mercury content of different organs was determined in 6 men who had been killed, in others with no known exposure, and in persons with teeth filled with amalgam. In those with no exposure, the content of most organs was 0.1-1.0 gamma per 100 gm. of fresh organ. Storage occurs in the kidney (4.0-10.2 gamma), in the liver (1.2-11.8 gamma), but especially in the hypophysis (4.0-13.3 gamma). The content of the cerebellum was also very high. The symptoms of mercury poisoning that have heretofore been difficult to explain may now become clear because of the storage in the hypophysis. All the figures for mercury content were much higher in men with amalgam fillings, being as high as 158 gamma in the hypophysis. The high "normal" findings are explained not only by absorption of mercury in food but also by intake with dust. The author found 350 gamma in the soot of a kitchen stove and 2800 gamma per gram of dust in a machine factory.
- 760 Possible Mercury Hazard from Mercury Clutch. J.A.M.A. (Queries and Minor Notes). 115, 477 (August 10, 1940).
The mercury in the clutch rotates at very high speed and generates a temperature of 270°F. Such a temperature is not sufficient to build up a pressure that would force out mercury vapor as long as the housing remains tight. Tests should be made frequently to make sure conditions are safe.
- 761 A Method for Acetone Bodies in Blood, Applicable to the Determination of Small Amounts of Mercury. L.A. Crandall, Jr., J. Biochem. 133, 539-550 (April, 1940).
This is essentially a description of a method for detection of acetone bodies in blood which depends upon determination of the mercury content of a precipitate by means of the specific interference of that metal with the color formed when thiocyanate is added to an excess of ferric nitrate. It is believed that the method may be used in the determination of mercury in other materials when interfering ions (especially chloride, sulfate and oxalate) are excluded.

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- 762 Animal Tissue Reaction to Particulate Copper Stearate. P.T. Knies. J. Lab. & Clin. Med. 25, 726-734 (April, 1940).
Suspected pneumoconiosis from copper stearate dust led to these experiments. There was no tissue response subcutaneously, intraperitoneally or by inhalation. There was an acute reaction with ultimate absorption and removal without residual or progressive changes.
- 763 Two Cases of Fluorine Osteosclerosis. J. Wilkie. Brit. J. Radiol. 13, 213-217 (June, 1940).
These two patients worked in the same plant, the first prepared aluminum fluoride (for 3-1/2 years), the second worked for 16 years in the making of hydrofluoric acid. Several x-rays of each are presented, showing greatly increased density of the bones, especially in the second case, in which there was a dense sclerosis of the spine and pelvis and extensive ossification of the ligaments of the forearms and lower legs. There is a discussion of the differential diagnosis. Syphilitic osteitis (Case 1 has an aortic lesion), osteitis deformans, and metastases from a prostatic neoplasm had to be considered. However, other workers in the plant showed changes. These two cases showed abnormal amounts of fluorine in the blood and urine (blood: 2.99 and 0.98 mg. per liter; urine: 1.73 and 15.22 mg. per liter; compared with normal averages of 0.47 and 1.32 respectively.)
- 764 Detection of Hydrogen Sulfide by Lead Acetate Paper. W. Johnsen and E. B. Colegrave. Chem. & Ind. pp. 726-727 (1939).
A method described previously (Chem. Abstr. 31, 7002) for the detection of hydrogen sulfide is not specific in the presence of moist sulfur fumes. This gives a stain similar to that of hydrogen sulfide.
- 765 Occupational Dermatoses. H.R. Forster. Rocky Mt. Med. J. 37, 410-419, (June, 1940)
The author points out the importance of skin disorders as an occupational disease, discusses the variety of methods of compensating industrial dermatoses in this country, and considers predisposing causes, exciting or precipitating causes, and some of the common types. He describes pyogenic and fungus infections and dermatitis venenata. He indicates the prevention and treatment of these conditions.
- 766 Lubricating Oils and Pulmonary Disease. J.A.M.A. (Queries and Minor Notes). 115, 319 (July 27, 1940).
Cutting oil used at grinding machines may be broken up into a fine mist. Cutting oil is a sulfurized mineral oil with no halogens and thus it is possible that sulfur dioxide may be formed by the heat of friction. There is widespread use of these oils and no complaints beyond dermatitis have been noted. There is no great evidence of pulmonary cancer.
- 767 An Outbreak of Dermatitis from New Resin Fabric Finishes. L. Schwartz and others. J.A.M.A. 115, 906-911 (September 14, 1940).
A report of an outbreak of dermatitis among workers handling and among persons wearing fabrics finished with a new substance. It is believed that the irritating ingredient is the abietic acid content of an acid ester gum. The substance is used as a finish on cotton cloth and on artificial silk stockings. It causes a severe pruritis and in some cases persisted for seven weeks after the exposure ceased.

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IN THE AIRMAILS

Digest of Industrial Hygiene - 17.

- 768 Injuries of Workers Handling Lemons. G. Lucroix. *Folia med.* 26, 223-229 (1940) (Italian).
The author describes pathological changes in the hands of lemon handlers -- chronic inflammation of the skin, hyperkeratosis and changes of the nails. The cause is discussed and there are some good photographs.
- 769 Treatment of Occupational Dermatitis with Vitamins A and D. I. Bainow. *Acta. Dermatol.-venereol.* 20, 191 (1939). (Scandinavian).
A description of treatment with intramuscular injections of vitamins A and D (10,000 U.S.P. units in each cc.). There was a disappearance of cutaneous manifestations and a real desensitization was obtained. The author believes that these vitamins exist in the normal skin and that their content varies with the state of bodily deficiency.
- 770 Dermatoses Produced by Predominantly External Causes. W. Lutz. *Dermatologica* 81, 336-343 (1940). (German).
The reports on the occupational cancer of saltpeter workers (Prunes: Rev. argent de Dermatosisifil 23, 313, 1939); and on diseases caused by *Podiculoides ventricosus* (Harvest mite) (Uronkorf: *Annal. de Parasit.* 17, 69, 1930) are of interest.
- 771 Method for Testing the Fat Content of Human Skin. K. Penkert. *Arch f. Gewerbe-path.* 19, 53-70 (1940). (German).
A method has been devised for determining the actual fat content of the skin and for controlling its loss and gain by daily work and by the use of ointments. The author describes some examples of testing different lotions, ointments and bases. The degreasing effect of lotions is in proportion to the cleaning effect and in inverse proportion to the fatty acid content of the lotion.

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