Industrial Hygiene Foundation,
4400 Fifth Avenue, Pittsburgh, Pa.

September, 1941.



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DIGEST OF INDUSTRIAL HYGIENE
Literature--News--Developments

News Items

696 American Conference on Industrial Health Meets November 5 and 6.
Under the auspices of the American Association of Industrial Physicians and Surgeons the American Conference on Industrial Health will hold its Second Annual Meeting on November 5 and 6, at Chicago Towers, Chicago. The opening session will be a symposium on the technical problems of industrial health on the basis that health supervision in industry involves two great principles: (1) the adjustment of the working environment to the employee; and (2) the adjustment of the employee to the working environment, including also the human environment. The technical problems are the result of the application of these principles, and run the whole gamut of public health as applied to industry.

The afternoon session will be a symposium on the economics of industrial health, including: (1) organization and cost of a health service, and (2) discussion on the value of industrial health service to the employer, the employee and the public. The morning of the second day will be given over to a symposium on the social implications of industrial health, discussing how far an industrial health service should go; are hospital and medical care plans related to industrial health service in any practical way; does legislation play a part in this problem; and the evaluation of labor turnover, spoilage, and lack of trained men, together with the experiences of management and the interests of insurance carriers in the medical and social problems presented.

697 Special Course in Industrial Hygiene Offered at University of Pennsylvania.
In order to provide trained industrial hygienists to meet the needs of expanding health and safety services in the defense industries, the University of Pennsylvania offers a course of instruction, of twelve weeks duration, in Industrial Hygiene. The course will be given under the auspices of the Engineering, Science and Management Defense Training Program of the U.S. Office of Education and is open to graduates in engineering, chemistry or allied sciences.

Subjects covered in the course include: Principles of industrial hygiene, industrial hygiene laboratory methods, industrial ventilation, safety engineering, administration of industrial health services, industrial psychology and statistical methods. Presentation of the course is contingent upon the enrollment of a satisfactory number of students, (which will run from October 27, 1941 to January 17, 1942). Applications for admission to the course should be addressed to: Theodore Hatch, Associate Professor of Industrial Hygiene, Department of Public Health and Preventive Medicine, University of Pennsylvania, Philadelphia, Pennsylvania.

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Legal Developments

698 Inhalation of Vaporized Lead Paint. Lead Poisoning, Accidental Injury. Respondent worked half a day with petitioner on July 28, 1940, and experienced some discomfort and requested a respirator which the petitioner furnished but which by reason of its age and condition, was only partially effective. Respondent worked the following day and skipped a day on account of lack of paint and then worked three days more with lead paint and two days with aluminum paint which had no lead content. The respondent testified that he began to have stomach cramps and muscular pains on the third day but that he thought that his difficulty was due to the confined space in which he was working and the intense heat. Respondent returned to his home July 31st and his condition became such as to require medical attention. An injury to an employee engaged in a hazardous employment in consequence of exposure to and inhalation of vaporized lead paint discharged by pressure spray gun over a short period of time which results in acute lead poisoning is sufficiently certain and definite in point of time to constitute an accidental injury. Award of compensation for temporary disability sustained. C.K. Howard & Co. et al. v. McKay et al. Okla. Supreme Ct. Decided September 9, 1941. (CCH).

699 Eye Burn Resulting From Exposure to Arc-Light Flashes. "Accident" Within the Meaning of the Act. Time of Occurrence of the Accident. This controversy involves a claim for compensation for an eye burn, "conjunctivitis," resulting from exposure to arc-light flashes while the employee was working near some welders. The Industrial Commission found in favor of the claimant and awarded compensation. No permanent disability is involved, the matters presented being the happening of an accident, and the question as to which of two insurance carriers is liable should it be judicially determined that the employee sustained a compensable accidental injury within the meaning of the Workmen's Compensation Act. It is undisputed that the Great American Indemnity Company, plaintiff in error, was the insurer of the employer for this hazard until noon, May 11, 1940. The company denies liability after this date, and asserts that the State Compensation Insurance Fund became the carrier of the risk. The Industrial Commission found that the accident occurred May 10, 1940.

The points urged as requiring reversal are that there was no accident within the meaning of the Workmen's Compensation Act; if there was an accident the disability did not extend over ten days; the accident occurred some time after noon May 11, 1940, at which time plaintiff in error was not the carrier of the risk.

Counsel for the indemnity company first contend for nonliability, in that claimant suffered from an occupational disease rather than an accident. If claimant had been working as a welder there perhaps would be some basis for the contention advanced. He was engaged in doing general work; nor was this injury, under the circumstances, to be expected in the usual course of events. There is ample testimony to support the finding that the disability was compensable from June 5 to July 5, 1940. There is no dispute that the injury for which the employees sought compensation was present May 10. The commission was warranted, as a reasonable inference therefrom, in finding that claimant's eye condition resulted from an exposure to flashes incident to welding operations on that date, or within a reasonable time prior thereto. The judgment is affirmed. Great American Indemnity Co. v. State Compensation Insurance Fund et al. Colo. Supreme Ct. Decided September 2, 1941. (CCH).

---Annual Meeting --- Nov. 12 and 13---

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700 Death of State Highway Department Employee from Lobar Pneumonia. Question Whether Death was Approximately Caused by the Employment.

McKinnon, while an employee of the North Dakota state highway department as an engineer, died from lobar pneumonia. The plaintiff, his wife, applied to the bureau for compensation. From judgment for the plaintiff, defendant appeals.

The deceased worked in snow prevention work. The deceased had a cold for sometime. He drove in an automobile to his home, a distance of approximately one hundred miles. The following day, the doctor diagnosed his case as pneumonia. The sole question here is whether the plaintiff has shown the lobar pneumonia was "approximately caused by the employment." In the case at bar, there was nothing unusual in the work of the deceased. Just when he was inoculated by the germ no one could tell. The Workmen's Compensation Act does not cover diseases contracted by an employee outside of his employment; and where compensation is sought on the theory that the death of the employee was caused by disease, it must be shown that the disease was approximately caused by the employment. Where the alleged origin of such disease is purely speculative and the disease may equally well have been caused by factors unconnected with the employment, the burden of proof has not been sustained, and no compensation can be allowed. The plaintiff has failed to show that the disease from which the worker died was approximately caused by his employment. Judgment reversed. McKinnon v. N.D. Workmen's Compensation Bureau. N.D. Supreme Ct. Decided August 28, 1941. (CCH).

701 Silicosis. Poor Ventilation in Mine. Insufficient Equipment. Occupational Disease.

These are appeals by Howard, Connell, Johnson, Stevens, Veight and Williamson from orders, respectively, of the Industrial Accident Board denying compensation. All six worked in the defendant company's Mayflower Mine and subsequently sought workmen's compensation for silicosis suffered by reason of their employment prior to June 1939. The six cases were consolidated for trial. The record presents one question, is the disease suffered, silicosis, an occupational disease, that is to say, one which inheres in the particular employment, which can not be prevented by reasonable means? The evidence is undisputed, and the board found that blasting operations in defendant's quartz mine were generally carried on just before the close of each work shift; that blasting operations created much dust and smoke and fumes; that there was always more or less silica laden dust in the air in the vicinity where drilling operations and blasting were carried on; that after the spring of 1938 the underground employees of the company ate their lunch at the various station levels by the shaft. Here it is undisputed the Mayflower Mine was not provided with any mechanical ventilation whatever after May, 1938; that the company did not install exhaust pumps or filters of any type; that in the absence of mechanical ventilation it did not provide masks for its underground workers, notwithstanding the fact that the airway was partially blocked and the natural circulation thereby impaired. The company provided wet drilling equipment, but that, as the record indisputably shows, was, in and of itself wholly insufficient to protect the workers from silicosis. As to the law in effect when the disease was contracted, whether the contraction of silicosis shall, or shall not, be deemed to be accidental depends "on the particular circumstances of the case and accidental features, or the absence thereof." There was accidental injury here. Silicosis is in large part preventable by one device or another. Claimant is clearly and unquestionably entitled to recover compensation. The causes are remanded, with directions to the Board to award compensation in accordance with the grade of disability it found claimants suffered. Howard v. Texas Owyhee Mining & Development Co. Idaho Supreme Ct. Decided July 17, 1941. (CCH).

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702 Silicosis. Recovery of Common-Law Liability for Negligence. Attempt to Recover from Insurance Carrier. No Accident.

It appears that the plaintiff, before the institution of the suit at bar, had secured a judgment against his former employer, the National Iron Company, for damages on account of having contracted silicosis by reason of the negligence of the employer in its failure to obey and comply with certain statutes of the State of Minnesota designed for the safety and well-being of employees in certain types of industry. The plaintiff alleges his inability to collect his said judgment from his former employer, and brings this suit against the insurer. The defendant, on the other hand, contends that said policies only cover liability for injuries sustained by accident, and that plaintiff's condition was caused by disease. There are raised by the pleadings but two questions for the Court to determine on this motion: first, whether the policies cover liability for all injuries or only those sustained by accident, and, second, was plaintiff's injury sustained by accident. In the case of Golden v. Lerch Bros. Inc., the facts are almost identical with those of this case. The Court in the Golden case said: "The recovery of Golden against his employers was not under the compensation law. It was exclusively on their common-law liability for negligence. That tort functioned harmfully, not through or because of accident, but rather and exclusively by insidious and chronic disease, in the causation of which there was no accident." The Minnesota Supreme Court has determined the precise questions raised here, contrary to the contentions of the plaintiff.

The motion of the defendant is granted. Schuman v. Liberty Mutual Ins. Co. U. S. Dist. Ct., Dist. of Minn. Decided August 25, 1941. (CCH).

703 Occupational Diseases. Workmen's Compensation Law Supplement, New York State Department of Labor, p. 14, 1940

Carbon Monoxide Poisoning. A mechanic who tested a large number of automobile motors each day in an ill-ventilated room became blind as a result of optic neuritis. The Industrial Board found that the blindness resulted from exposure to toxic amounts of CO from running motors and that the claimant's condition was an occupational disease covered by this paragraph. The finding was affirmed.

"Any and All Occupational Diseases." The following diseases were held compensable under this paragraph: Arthritis, traumatic, of the wrist, suffered by a presser who used a 12 lb. iron, traumatization being caused by the repeated pressure involved. Award was based on the proportionate loss of the use of the hand. Bronchial asthma, suffered by an automobile spray painter.

Bronchitis complicated with asthma contracted by a tunnel worker. Bell's palsy suffered by the driver of an open truck and attributed to exposure to drafts, cold and wind, necessitated by his employment. Dupuytren's contraction sustained by a marble polisher required to tighten and loosen clamps.

704 Slight Deviation from Duty. Annotations, p. 29, Workmen's Compensation Law, South Dakota, 1941.

Not every slight deviation from an employe's duty will deprive him or his dependents of their right to compensation under the Workmen's Compensation Law. There is a distinction between negligently doing an authorized act and doing an unauthorized act or one beyond the employe's job. The first does not deprive the employe of his right to compensation whereas the latter does. If the injury or risk of injury is incidental to employment, the right to compensation follows. (Stratton v. Interstate Fruit Co., 47 S. D. 452, 199 N.W. 117).

---Remember the Meeting, Nov. 12-13---

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705 Disease: "Injury by Accident." Annotations. p. 26, Workmen's Compensation Law, South Dakota, 1941.
Encephalitis, causing sudden collapse of a district manager after unusual exertion, exposure and exhaustion, was held to constitute "injury by accident." (Hanzlik v. Interstate Power Co. 67 S.D. 289 N.W. 589).

NOTE: It has been called to our attention by one of our member companies that in item #427, June, 1941 issue of the Digest, relating to the recent enactment in the State of Washington of Chapter 235, 1941, the wording is so framed as to be apt to give the erroneous impression that such act did not repeal the schedule of occupational diseases previously contained in the law (Sec. 7679-1 of Remington's Revised Statutes) and consequently that such schedule is still part of the law, whereas such act of 1941 expressly amended said Sec. 7679-1 of Remington's Revised Statutes to read as correctly quoted in the first paragraph of item #427 in the Digest, with the consequence, according to all rules of construction, that the said schedule is no longer law. Compensation is now payable in Washington for any "such disease or infection as arises naturally and proximately out of extra-hazardous employment" this term being elsewhere defined in the statute.

Papers on Dust, Gases and General Industrial Hygiene

706 Prevention of Silicosis. Joetten. Aluminium. 22, 575-578, 579, (November, 1940).
Discussion of the use of metallic aluminum in the prevention of silicosis. Excerpts are given from the report in the Reichsarbeitblatt (vol. 20, No. 26,1940). An extensive bibliography is given.

707 Mineralogical Examination of the Silicosis Question. H.J. Heimers and H.Udluft. Jahrbuch d. Preuss. Geol. Landesanstalt, Berlin, 59, 727-754, (1939). (German).
Sericite, kaolin and feldspar were the most important substances found in the lung of a silicotic miner. There was no quartz. However, the wash liquor contained an important quantity of colloidal silicic acid. The authors think that the pH is most important in dissolving the silica in the tissues and so, correspondingly, it plays an important part in determining the course of the disease. The dissolved substances correspond to the physico-chemical reaction of the dust particles and the fluids of the body, either eliminated without harm or producing callosities by precipitating out from silicic acid.

708 Structural Examination by Roentgen Rays of Pneumoconiotic Lungs of Porcelain Workers. Part 4. H. Gärtner. Arch. f. Gewerbepath., 10, 151-163 (1940). (German).
Roentgen and chemical findings are presented of the dust seen in the lungs of 10 porcelain workers and 1 fluorite worker. Kaolin and quartz lines were seen, and in every case in which dust was found, quartz was also shown by chemical analysis. The author states "....in the diagram, interference rings of kaolin were to be found preponderantly or even alone," and further that "therefore it is obvious to say that the sillimanite and kaolin may give silicosis without essential admixture of quartz."

709 The Question of Serial Examinations of Workers Exposed to Dust, by Means of Miniature Roentgenograms. E. Saupe. Arch. f. Gewerbepath., 10, 93-96 (1940). (German).
It is possible to examine many men in a short time with miniature film -- the size most frequently used is 24 sq.mm. (0.95 sq.in.). Second stage silicosis is easily seen with certainty and first stage can usually be recognized if the technic is perfect. The method must be improved and should be followed by large films in suspicious cases.

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710 Silicium, Silicates, Silicosis. W. Giese. Klin. Wchnschr. 19, 558-560 (1940). (German).
Rabbits were injected intravenously with finely ground silicate dusts: clay, feldspar, sericite. Deposits of the dust were found in the spleen, liver and lymph glands but no increase in fibrous tissue. Opal (amorphous silicic acid) was also injected and the results were large deposits of dust with many giant cells, but no fibrous tissue. Opal is more soluble than quartz; therefore, the conclusion is made that the dissolved silicic acid is not the fibrous-producing substance alone. Quartz is the only substance producing silicosis. Dust taken from markedly silicotic lungs was also injected, and this again produced silicosis. A decrease in the amount of the injected dust could not be found. The author was able to show the formation of a covering, characteristic of asbestosis bodies, by feldspar, sericite and also opal, but in the smallest particles only, in the cellules. He concludes that dissolved silicic acid but not the quartz may produce this covering. Quartz shows no morphologically demonstrable appearance of dissolution; in the tissue the dust deposited in callosities retains its fibrous producing effect.

711 Pulmonary Cancer Produced by Asbestos Dust in Experimental Animals. M. Nordmann and A. Sorge. Zeitschr. f. Krebsforsch., 51, 163-182 (1941). (German).
Experimental work with mice inhaling asbestos dust over a period of from 47 to 90 days for 3-1/2 to 5 hours a day produced asbestosis bodies and prnounced degrees of diffuse fibrosis after the 20th week. Proliferation of the bronchial epithelium was found, such hyperplasia encroaching on neighboring alveoli. This was followed by a metaplasia to pavement epithelium with cornification, which later seemed to be a transition to malignant neoplasm. The first well-developed carcinoma was found after 240 days. By this time only 10 of the mice had survived and 2 carcinomas were found among them. In the first series, 33 of 50 mice lived longer than 6 weeks; 14 showed abnormal growth of the epithelium, 5 metaplasia and cancer. In the second series, 28 (of 50) lived more than 6 weeks; 16 showed abnormal growth, 5 metaplasia and cornifying cancer.

712 A Case of Pulmonary Asbestosis Accompanied by Tuberculosis. H. Hannesson. Tubercle. 22, 40-44 (February, 1941).
During the period 1933-1939 inclusive, there were 90 known deaths from asbestosis in Great Britain, of which 32 were associated with tuberculosis. This reports the case of 44 year old man who had been an asbestos blower, supplying the material to a cleaning machine. Although supplied with a respirator, he had never worn it. He was thin, had a high temperature, emphysema, and bilateral crepitations over wide areas. Clubbing of the fingers was marked and the sputum contained both asbestosis bodies and tubercle bacilli. The roentgenogram showed "widespread progressive nodular tuberculous infiltration with cavitation in all zones of the right lung fields and in the upper and mid-zones of the left lung fields.... The right dome of the diaphragm was elevated. There was no radiographic evidence of pneumoconiosis." A diagnosis of asbestosis and tuberculosis was made. The patient died within a month of spontaneous pneumothorax. Pulmonary findings showed both to have extensive fibro-caseous tuberculosis with cavitation; macroscopically they were like those of pure tuberculosis. Microscopically there was revealed caseous tuberculosis with many tubercle bacilli and typical reticular fibrosis of asbestosis with thickened pleura. There is a discussion of the diagnosis of the pure and complicated disease.

---Foundation's Sixth Annual Meeting: Pittsburgh, Nov. 12-13---

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713 The Lungs of Coal Miners in New South Wales, Chemical Analysis and Pathology. C. Badham and H.B. Taylor. Studies in Ind. Hyg., No. 20. Report for year ended December 31st, 1939. Health Dept., New South Wales.

A report of findings in a study of the lungs of 30 miners and other workers in the mines of New South Wales. A brief case report is given for each individual, including occupational history, gross and microscopic pathology in the lung, cardiovascular and other complications, and chemical analysis of the lung. The findings are tabulated but analysis of the data is postponed for a later monograph. The authors state their views as to the formation of coal dust nodules, which they regard as "taking origin at the same site as the early silicotic nodule, but owing to their more diffuse nature, they early surround and include the terminations of respiratory bronchioles." They raise the question as to how far this reaction is due to the inert dust and how far to the small amount of free silica which accompanies it. They also believe "that very little of the dust breathed finds its way into the interstitial tissue of the lungs, and that very little of the relatively insoluble dust is eliminated by solution or by the lymphatics."

714 "Miners Lung" (Pneumoconiosis, Silicosis, Anthracosis). An Analysis of 227 Cases. C.C.Gill. Military Surgeon, 88, 264-282 (1941).

Cases of pneumoconiosis have been collected from the records and x-rays of a large Veterans' hospital for tuberculosis. Of the total 227 cases, 142 are considered as 1st, 2nd and 3rd stage pneumoconiosis, 54 as 1st, 2nd and 3rd stage pneumoconiosis with tuberculosis and a final group of 31 cases on which autopsy was performed. These seven categories are divided according to age group and to years spent in mining. In all cases of simple pneumoconiosis, sputum samples were consistently negative. X-rays of one patient with 3rd stage pneumoconiosis were taken over a period of 9 years with no progression visible on the plate, although the symptoms increased in severity. A large number of the men had had comparatively short exposures, although one was as long as 48 years. Of the 31 autopsies, 21 showed no tuberculosis and the cause of death in most or all of these was a disease other than pneumoconiosis. Three cases diagnosed as pneumoconiosis showed no silicosis at autopsy. There is a discussion of diagnosis.

715 Study of Dust Conditions in the Tri-State Mining District of Oklahoma, Kansas and Missouri. C.C. Dills. Am. J. Pub. Health, 31, pp. 619-629 (June, 1941).

A study of surface and underground dust conditions in the Picher District has been in progress for 8 months. 1366 surface dust samples were taken at 11 stations. The worst average dust concentration in the area was found to be 3.3 million particles, and the average for all counts was 1 million per cu. ft. Control stations outside the field gave an average count of 0.35 million particles. Medical studies are still being conducted so that safe limits can be set.

Dust conditions in mines that had a routine sampling service were found to be better than in mines without this service. The average dust count for drillers in the latter was 6.6 million particles, compared with 1.6 million for the former mines. The average dust counts for shovelers were 4.3 and 2.7 for mines without and with sampling services. Collaring holes dry was found to be the worst source of dust. Dust control measures include wetting muck piles, working faces and haulage ways, spraying headings and drifts and mechanical loaders, shooting off shift, collaring holes wet, and ventilation. Dust sampling in confined places has indicated that where these dust control devices are applied properly, dust concentrations can be maintained below 5 million particles.

Discussion: Similar results were found in 10 mines in Oklahoma. Lower counts were seen in mines with routine dust sampling than in mines without. Double shift operations increase the dust problem by keeping the dust from settling.

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716 Control of Tuberculosis and the Employment of a Tuberculous Individual in Industry. W. A. Sawyer. Ind. Med., 10, 221-226 (June, 1941).
1. Industrial medicine is primarily directed toward the discovery of incipient disease.
2. An example of this is the detection and control of tuberculosis amongst the employes of the Eastman Kodak Company where the incidence has been reduced since 1921 from 2.3 per 1,000 to 0.2 per 1,000 in 1940.
3. A program of routine serial or annual stereoroentgenograms was made an established procedure in 1928.
4. An accurate and active follow-up technic is a basic requirement for the success of any effort to curb tuberculosis.
5. In a study of the cost of tuberculosis among 100 of these employes, average age 31 years, the average time lost from work per case was 595 working days or 2 years and 15 weeks. The total cost for these 100 cases was $406,162 or an average per case of $4,062. Private agencies bore approximately 80% of the cost, while public agencies (tax-supported) bore approximately 20%.
6. Rehabilitation of the worker after convalescence must be considered if the gains of treatment are to be maintained.
7. A survey of 219 industrial organizations by E. A. Hochhauser revealed the fact that 203 employers re-employed workers with arrested tuberculosis.
8. The following factors must be taken into account in any consideration of the employment of an arrested case of tuberculosis:
   (a) The extent of the lesion;
   (b) The completeness of the cure;
   (c) The character of the job;
   (d) The necessity for adequate medical supervision after return to work.
9. It would seem safe to say that the employing of an arrested case of minimal tuberculosis on the proper job is not too great a risk, provided such individuals are under adequate medical supervision.
10. Discovering and arresting tuberculosis is only successful if we make it possible for the individual to once again become a wage earner.

717 Infection by Tuberculosis in Working Places. Obligation of the Manager to Prevent the Danger of Infection of Workers. Ztschr. f. artz. Fortbild., 37, 707-708 (1940). (German).
The courts recognize the claim for compensation in cases where one worker contracts tuberculosis from another worker in the factory. The supreme court stressed that the plaintiff need not prove the facts very strictly if there is a question of the managers having violated his duty of protecting the workmans' health. It is sufficient to prove that there were irregular and dangerous conditions.

718 Report of a Study of the Granite, Mica, Feldspar and Foundry Industries in New Hampshire. F.J. Vintinner and others. N.H. State Board of Health, Concord, N.H. pp. 72 (February, 1941).
More of a treatise on general subject of dust control than a statement of the findings in a detailed study. Illustrates the difficulty of presenting a representative picture of working conditions in an industry, when conditions vary considerably from plant to plant.

719 Expert Opinion About Pneumoconiosis (Silicosis). E. Gaubatz. Beitr. z. Klin. d. Tuberc., 95, 286-311 (1940). (German).
Only "serious" silicosis is compensated in Germany. New connective tissue formation in the lungs must diminish respiratory capacity and affect the circulation so that there is a considerable decrease in bodily efficiency. The author has examined respiratory and cardiovascular function in 300 silicotics in the past five years. Thirteen cases and their conclusions are referred to in detail.

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720 Silicosis and Silico-Tuberculosis. II. Critical Examination of Roentgenograms. Differential Diagnosis Between Silicosis and Other Pulmonary Diseases. E.Gaubatz. Dtsch. Tuberk.-Bl., 15, 32-40 (1941). (German).
A presentation of good description and reproductions of x-ray films of silicosis at different stages. Discussions of differential diagnosis are given, illustrating the differences in films of silicosis, tuberculosis, miliary tuberculosis, cardiac lung, and carcinoma.

721 Subcutaneous Injections of Oxygen in Therapy of Lesions of Respiratory Organs Caused by Irritating Gases. I.Y. Sosnovik. Sovetsk. Med. No. 19 p. 22. (1940). (Russian).
A report of 51 cases of toxic bronchitis, bronchiolitis and broncho pneumonia caused by irritant gases and treated with subcutaneous injections of oxygen. Among the irritants were nitric acid, phosgene, chlorine and chlorpicrin. Subcutaneous oxygen was introduced in amounts varying from the initial dose of 200 cc. to 1000 cc. every other day; in cases of pneumonia and broncho pneumonia 1000 cc. was injected daily. There was an immediate improvement subjectively, followed by diminution of cough, the sensation of tightness in the chest, dyspnea and the amount of sputum. It is also of value as a supplementary measure in the treatment of acute and subacute bronchitis caused by irritating gases.

722 Disabling Sickness Among 2,000 White Male Glass Workers. W.M. Gafafer. Public Health Reports, 56, 1791-1799 (September 5, 1941.)
This report deals with sickness and non-industrial injuries causing disability lasting 8 calendar days or longer among approximately 2,000 white male workers in the glass industry during the 5 years, 1930-34. The frequency of disability by broad diagnosis groups compares favorably with that experienced by 170,000 male industrial workers. The number of days of disability because of rheumatic diseases was over 50% greater than the number accounted for by influenza and grippe. Grinders, outside workers, and finishers experienced frequency, disability, and severity rates well above the average for the entire groups of workers. It is of interest to observe that the outside workers show all three indexes to be relatively high for either the respiratory or the non-respiratory diseases. Finishers, on the other hand, show indexes below the average for the entire group of workers with respect to respiratory diseases but above the average for the non-respiratory diseases. Grinders yield indexes above the average with respect to non-respiratory diseases, and while this occupational group experienced a low frequency of respiratory diseases the disability and severity rates were above the average for the entire group of workers. Batch mixers, furnace and casting workers, show a relatively low frequency of respiratory diseases but a long average duration of cases.

723 Catching the Dust from a Hammer Mill. O.C. Ralston and J.E. Conley. U.S. Bureau of Mines, Report of Investigations 3536 (1941).
A dust catcher designed for use with a hammer mill is described and illustrated. This type of mill probably exceeds all other types of crushers in the quantity of dust released into the surrounding air. This arises from the fact that the action of a hammer mill is closely analagous to that of a fan or blower. This emission of dust around a hammer mill is checked by means of a bag enclosed within a closed supporting frame that is provided with a flap door to permit the placing of a container to catch the crushed material. A pipe directs the air current from the top of the frame to a large can that contains the bag. This bag, in turn, rests in a wire net. The wire net is enough smaller than the can so that a 2-in. annular ring remains around the net. This detail prevents the suction of the blower from sealing the bag against the wall of the can. About 99 per cent of the dust is caught by this bag, and another bag - on the blower - finishes the job.

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724 Public Opinion Demands Removal of Dust from Cement Plants. Anonymous. Concrete (Cement Mill Ed.) 49, 214-216 (August, 1941).
A discussion of the various modern types of dust control equipment available for cement mill installation. According to the author, a "well-known cement plant superintendent," ...."The public demands the discontinuance of dusty conditions within a cement plant, and in the atmosphere around a cement plant if it happens to be located in or near a city or town, or in a rich farming community." He has seen this public attitude developing and growing all through his 25 years of experience in cement manufacturing operations.

725 Ignorance is no Excuse. L.R. Blocmenthal. Heating, Piping and Air Cond., 13, 364-366 (September, 1941).
With prolonged hours of operation and a constant influx of new workers, due to the demands of the defense program and the general rise in business activity, industrial health hazards are likely to increase, particularly in those plants where gases, dusts and fumes result from manufacturing processes. The author, an attorney, cites a number of specific cases which have come up in various states in this brief review of the subject. His selection of the material brings out a number of the legal principles involved.

726 Resolutions of the German Commission on Protective Devices Against Dust. Arbeitsschutz. p. 407 (1941). (German).
Protective devices were tested by the committee for the dust protection of the insurance associations. The results on 13 devices, together with descriptions and illustrations, are given.

727 Roentgen Findings of the Lungs in Mycosis Fungoides. J. Werth. Arch. f. Derm. u. Syph., 181, 299-314 (1940). (German).
The appearance of the x-rays in these cases seem like silicotic lungs with "more fibrosis than usual" and "coarsely mottled." The disease begins in the lungs with a characteristic enlargement of th hilus, spreading out along the vessels to give a picture of increased fibrosis.

728 Hydrogen Phosphide Poisoning. I. Animal Experiments on Acute and Subacute Poisoning. W. Müller. Arch. exptl. Path. Pharmakol., 195, 184-193 (1940). (German).
In atmospheres containing 1:400,000 or more of hydrogen phosphide rabbits were injured or killed by prolonged exposure. The intoxication is cumulative and the prognosis is unfavorable. All important organs are congested. The worst damage is suffered by the respiratory tract, liver and kidneys.

729 Occupational Dangers from Hydrogen Sulfide. G. Rodenacker. Med. Klin., 37, 215-217 (1941). (German).
A discussion of the different health hazards of hydrogen sulfide -- acute poisoning, conjunctivitis, etc. There are reports of interesting cases, the historical background of this industrial disease, and a discussion of theory.

730 Order of the (German) Minister of Labor Regarding the Protection of Spray Painters, March 6, 1940. Reichsgesundheitsbl., 15, 383-384 (1940).
The terms of reference of the insurance association for fine mechanical and electric technics for producing fresh air apparatus for spray painting are published. Spraying large pieces and standing inside the spray booth, the painter can be protected only by supplied-air apparatus. This must fulfil the following requirements, among others: Compressed air supplied to the workers from the main factory source must be cleaned of oil vapors by activated charcoal filters; the compressed air must be delivered in a single line to the worker's bench and here it must be separated into spraying and breathing tubes. A half-mask or cap may be used but the stream of air must not go directly to the workers' face. Automatic regulation and heating of the air are not always necessary.

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731 Toxicology of Explosion Gases. Baum. Z. ges. Schiess-u. Sprengstoffw., 35, 181-182 (1940). (German).
Explosion gases can be divided into 3 groups with respect to their toxicological action: (1) very poisonous: CO, nitrous gases, cyanogen compounds, H_2S; (2) fairly poisonous: nitriles, CO_2; (3) non-poisonous: Hydrocarbons, N, H_2O. The amounts of CO found in the explosion gases from several explosives are: picric acid 61.05, TNT 57.01, nitrocellulose powder 46.87, carbonite 36.0, explosive gelatin 34.0 and ammonal 23.74%. Toxicological action is described for CO, nitrous gases and HCN. The physiological action of explosion gases cannot be calculated from the toxicity of their components since these are not additive but synergistic.

732 Relation Between Carbon Monoxide Concentration in Air and Carbon Monoxide Hemoglobin Content. J. Ind. Arch. f. Gewerbepath., 10, 97-105 (1940).(German).
Three charts are shown: one depicting the formation of CO-hemoglobin in man over various periods of time if the inhaled CO concentration is between 0.01% and 1%, and if the person is sitting, walking, or working; the second one illustrates the CO-hemoglobin curves in man (sitting, walking, working) for CO concentrations from 0.01-0.07%; the third chart shows the decrease of CO-hemoglobin when the person inhaled pure air (these are based upon the author's self experiments). If the time during which an individual was working in CO air, the time elapsed between his removal and the taking of the blood sample, and the CO-hemoglobin of the sample are all known, the approximate concentration to which he was exposed can be estimated.

733 Photocolorimetric Determination of Fluorine in the Air with Zirconium-Alizarin. M.M. Raines and S.V. Kazachkova. J. Applied Chem., (U.S.S.R.), 13, 153-156 (Russian with French summary.)
Treat samples of air containing fluorine with 0.5 cc. each of Zr-alizarin indicator, 3 N H_2SO_4 and 3 N HCl in a volumetric flask. Add water to the mark, heat to boiling under a reflux condenser and cool rapidly. After 10 min., determine fluorine with the photocolorimeter. To prepare the indicator, mix equal volumes of $Zr(NO_3)_4$ (0.78 gm per 100 cc of water) and Na alizarinsulfonate (0.17 gm per 100 cc of water). If interfering substances are present, fluorine should be distilled as H_2SiF_6 from the solution after addition of the above reagents and the distillate should be treated again as above. For the determination of fluorine a standard curve should be constructed by using various amounts of fluorine solution of known concentration. By this method 0.001-0.002 mg of fluorine can be determined.

734 An Improved Air Sampling Device for Field Work. F.H. Van Atta and C.H. McClure. Tech. Paper No. 2, Illinois Dept. of Labor, April, 1941.
A unit for sampling air for large impingers is described. It consists of a case containing pump, flowmeter, and impinger rack.

735 Preservation of Health in the Rubber Industry. F. Warnecke. Zbl. f. Gewerbehyg., 28, 1-19 (1941). (German).
An interesting description of the health hazards in the rubber industry and their prevention. Benzene and other solvents especially are discussed and some interesting facts about the dangers of "Buna" (artificial rubber) production are brought to light. The escaping vapors, especially of styrol, irritate the skin. Individual processes and methods of decreasing their dangers are reported, and there are a large number of illustrations.

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736 Mine Safety and Accident Prevention. R. Boone. Mines Mag., 31, 61-5 (February, 1941).
This paper is one of a series covering the subject of mine safety. In previous installments (November and December, 1940 and January, 1941), most of the consideration is given to accidents, with statistics, cost figures, safety rules, explosive and electrical hazards and gas and dust explosions. This paper deals with gas and dust hazards. The various gases found in mines, known to miners as blackdamp, firedamp, whitedamp, afterdamp, and stinkdamp, are described, and their effects and preventive measures are discussed. Blackdamp is the gas most usually present, and consists of carbon dioxide, nitrogen and oxygen in various quantities, and its effects are those of oxygen deficiency. Whitedamp is carbon monoxide, and afterdamp consists of carbon monoxide added to the constituents of blackdamp. Firedamp is any inflammable gas, mostly methane, and stinkdamp is hydrogen sulfide. The known facts of the dust hazard are presented rather briefly but adequately including the principal results of animal experimentation. The growth of the silicosis "racket" has been due to a concerted effort to hide the facts and to take as few preventive measures as possible. Health problems in the mining industry should be handled essentially as have safety problems and cooperation between the management, the engineer and the physician is necessary in order to solve them. Pre-employment examinations, individual susceptibility, safe dust concentrations and preventive measures are discussed. In the March issue suggestions for reducing accidents are given, and in the concluding installment (May, 1941) safety organizations, rules and systems of reports are considered.

737 Air Douches as Means of Air Conditioning Warm Workrooms. W. Liese. Glastechnische Ber., 19, 119-125 (April, 1941). (German).
This article presents the results of the author's experiments carried out in a glass plant to determine the effect of heat radiation on the skin of the face at different temperatures, and the effectiveness of air douches for alleviating disagreeable effects of heat radiation. (See Abstract No.209, March, 1940).

738 Fog Formation in Working Chambers of Pneumatic Caissons. O. K. Froehlich. Ingenieur 55, B93-95 (June 14, 1940). (German).
This is an account of an investigation of the cause of fog formation in the working chambers of pneumatic caissons. Preventive measures are discussed at considerable length.

739 Local Cooling of Workers in Hot Industry. F.C. Houghten and others. Heating, Piping & Air Cond., 13, 462-465 (July, 1941).
This paper discusses a study of two methods of local cooling applications, the results being limited to atmospheric conditions of approximately 50% relative humidity and either a 2500 fpm blast of cool air from a 4-in. nozzle located close to the worker, or a cool air supply of approximately 20 cfm through a loose-fitting coverall suit. The study shows conclusively that workers may be kept free from body temperature rise, excessive increase in pulse rate, and from perspiration with either a blast of cool air or by ventilating their clothing with cool air.

740 Spirochetosis Icterohemorrhagica as an Occupational Disease. Etienne-Martin. Med. du travail 12, 97-133 (1940). (French).
In recent years this disease has appeared in only four mines with 31 cases, two of which were fatal. The disease only appeared in mines harboring infected rats. For prevention the author proposes eradication of rats, acidification of mine mud, prohibition of eating in mines, supplying pure drinking water, hygiene of the mines, and compulsory reporting of spirochetosis.

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741 Industrial Health -- A Medical Opportunity. C.M. Peterson. Virginia Med. Monthly 68, 67-70 (1941).
Industrial medicine should occupy a greater part of medical education. Physicians should take a greater interest in workers' health -- it would be of advantage to them, to the worker and to the community. The widespread adoption of workmen's compensation legislation makes it imperative for physicians to recognize and report industrial diseases. Medical societies, both state and local, are organizing committees for the improvement and dissemination of such work in their communities. To achieve the best results, all groups public and private, should collaborate.

742 Importance of Constitution and Race in the Origin of Occupational Diseases. N.V. Jagic and H. Seyfried. Med. Klin., 51, 1411-1413 (1940). (German).
This is a discussion of the differences between occupational diseases that are entirely independent of the personality and disposition to illness, diseases caused by heredity and constitution, and diseases depending on constitution and special disposition, but finally becoming manifest by environmental influences. The authors stress the importance of constitution and race, citing examples, such as that asthenic persons have a higher susceptibility to poisons and to joint injury by pneumatic tools, and that pyknic persons have a higher susceptibility to dust diseases. Consideration of race and constitutional type are of value not only in giving expert opinions on occupational diseases, but also in prevention.

743 Organic Angina Pectoris Electrica. S. Koeppen. Munch. med. Wchnschr., 87, 1289-1292 (November 22, 1940). (German).
The author concludes that an electric injury to the heart can be accepted only if the accident is immediately followed by cardiac disturbances, but that anatomically demonstrable changes cannot be expected because the current acts for only an extremely short time. He states that 15 of his 93 cases presented the aspects of organic angina pectoris electrica. This disorder is due to an impairment of the stimulus conduction system; that is, of the formation of the stimulus as well as of its course. Electrocardiographically, the disorder presents itself (1) as a coronary insufficiency, (2) as an auricular fibrillation, and (3) as disturbances in the conduction of the stimulus. He regards electrical angina pectoris as a result of direct electrical action on the cardiac conduction system.

744 Prophylaxis of Throat Infection. R.E. King. Brit. Med. J., 1, 154-155 (February 1, 1941).
In an effort to reduce the incidence of infections of the upper respiratory tract produced in overcrowded air raid shelters, a throat spray of 15-20% sodium hypochlorite was employed. A remarkable reduction in acute and subacute streptococcic throat infections was noted. There was practically no difference in the incidence, severity and duration of common colds in treated and untreated groups. The favorable results have an obvious industrial significance.

745 Peripheral Vascular Disease in Industry. B.T. Horton. Virginia Med. Monthly, 68, 131-137 (March, 1941).
Workers with peripheral vascular disease, especially thrombo-angitis obliterans, must be given work which will not aggravate the disease and lead to serious complications and amputation. Dividing peripheral arterial diseases of the extremities into functional and organic groups, Raynaud's disease and arteriosclerosis obliterans are the commonest. There is also a discussion of mechanical devices used in treatment.

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748 Spirochetal Jaundice (Weils' Disease). M. Bloom and H. Walker. Virginia Med. Monthly, 68, 192-200 (April, 1941).
Seven instances of Weils' disease are presented, with autopsy findings in the five fatal cases. The authors believe there was an occupational factor in only one case that of a junk dealer who may have come in contact with rats during his work. Interstitial nephritis was the most common and by far the most important pathological change -- the authors consider it the cause of death. Many cases are probably mistaken for catarrhal jaundice. The syndrome of acute fever, with generalized aching and tenderness of the body, and jaundice should suggest Weils' disease -- the differential diagnosis being aided by the presence of muscular pains and kidney involvement.

747 Military Explosives. G.D. Rogers. Nat. Safety News, 44, 22-23, 77-80 (July, 1941).
A discussion of the methods for controlling accident and health hazards in explosives manufacturing and ammunition loading plants. The manufacture and use of Tetryl, a booster used to insure high order detonations of bomb and shell fillers, has a real health hazard associated with it. The toxic effects of the vapors from the sulphanators, nitrator, and recrystallizers, and the effects of the crystalline tetryl itself are all dangerous. Its effects are similar to those of TNT. TNT, amatol, ether, benzol, ammonia, carbon tetrachloride and many other toxic substances are used in the explosives industry.

748 Reduce Noise in Steel Foundry Cleaning Room. A.H. Allen, Foundry 69, 60-61, 143 (September, 1941).
It has been estimated by the National Noise Abatement Council that daily losses in industry because of excessive noise amount to approximately $2,000,000. The loss is measured in terms of lessened effective effort by workmen subjected to continuous loud noise. This article recounts a program to rearrange a foundry and erect an entirely new cleaning room which would take advantage of the latest ideas in the technique of foundry noise absorption. Many noise-producing operations were housed in acoustically treated booths, and the interior of the building, including walls and roof, was treated completely with acoustic material. Expressions have already been received from the workmen indicating their approval of the noise reduction methods which have been instituted. Management is convinced that the expenditure will certainly be translated into more efficient and faster operations in the plant.

749 Dust Control System Design, Installation and Operation from the Commonsense Standpoint. F.F. Kravath. Heat. & Vent., 38, 28-31 (June, 1941).
Points to be gained from installation of an effective exhaust system, well designed and maintained, are emphasized. The advice of an expert or consultant should be employed wherever possible. There is a discussion of the importance of maintaining standards and of giving physical examinations.

750 Lighting and Efficiency. E. Kämmerer. Zbl. f. Gewerbehyg., 28, 33-40 (1941). (German).
Increasing the intensity of illumination increases visual acuity, but beyond a certain intensity this is very slight. Intensity must correspond to the fineness of the work, but the direction from which the light enters the field of work is also important. Blinding by the light and by the reflections from the work is to be avoided. Mercury and sodium lights may be of use, since color is sometimes of importance. Examples are given of the economy of better illumination.

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751 Industrial Health Defense: How Plant Engineers Can Make Field Measurements of Industrial Ventilation. W.C.L. Hemeon. Heating, Piping & Air Cond., 13, 22-28 (1941).
Apparatus for making field measurements of airflow in industrial exhaust equipment is described. Chemical smoke producers for tracing leaks or direction of air movement are discussed and illustrated as are the u-tube manometer and the pitot tube for measuring velocities. Also shown is a carrying case for these instruments.

752 The Prevention and Treatment of Affections Occurring in the Magnesium Industry. HJ Hypher. Practitioner. 145, 92-99 (February, 1941).
Some of the occupational exposures resulting in the production and processing of magnesium are discussed. Brief references are made to magnesium dust and pneumoconiosis, bichromate baths used in treating magnesium castings, sulfur dioxide, magnesium fluoride and exposure to x-rays in inspection of castings. The treatment of ailments resulting from the several exposures is given in detail.

753 Injuries and Damage to the Ear by Explosion and Sound. A. Greifenstein. Munch. med. Wchnschr. 1345-1350 (1940). (German).
The subject of injuries to the ear by acute and chronic occupational influences is reviewed. War injuries are discussed in detail: damage from firing one shot, by the effect repeated firing in a short time, noise in flying and noise from motors and propellors.

754 Diagnosis of Occupational Diseases by the General Medical Practitioner. D. C. Straus. Ill. Med. J., 79, 247-251 (March, 1941).
This is the first of a series of articles by the Director of Industrial Hygiene, Illinois Department of Labor, intended to acquaint the general practitioner with the problem of occupational diseases. Specific hazards will be dealt with later. Attention is directed to the need for getting a complete occupational history.

755 Industry Must Accept Obligation to Protect Eyesight of Workers. M. Davidson. Concrete (Cement Mill Ed.) 49, 184-185 (June, 1941).
There are two aspects to the obligation of industry to safeguard its workers' eyes. One is to make the environment safe for the worker by eliminating hazards causing accidents, and the dusts, fumes, intoxications and poor illumination, responsible for occupational diseases. Much has been accomplished in this connection. The other aspect, that of making the worker safe for himself, his co-worker and industry, has not yet received the recognition it deserves. It involves proper vocational guidance and advice for the applicant with irremediable defective eyesight and for the worker who has acquired it in the course of his employment. A survey of the incidence of true defective eyesight among the industrial population in terms of its most important element, visual acuity, indicates about 14% to 18%, with most probably less than one half serious, defectives.

756 New Theories Concerning the Origin of Myopia. K. Lindner. Klin. Monatsbl. f. Augenheil. p. 582 (1939). (German).
The author presents his concept that myopia may be acquired by working at close range, in opposition to the concept of Steiger, prevailing today, that it is always inherited. The occupational implications of this proposition are obvious.

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757 Aero-Otitis Media in Compressed Air Workers. Treatment with Helium-Oxygen Mixtures. W.H. Requarth. J.A.M.A. 116, 1766-1769 (April 19, 1941).
This condition was originally described in aviators but is found quite often in compressed air workers as well. Obstruction of the Eustachian tube is the primary cause and is most often due to upper respiratory infections. Pathologically, there is deformity and hyperemia of the tympanic membrane, and serous or sanguineous exudate in the middle ear. Clinically there is tinnitus, earache and impairment of hearing. Perforation of the drum with subsequent suppuration is the most frequent complication, with occasional permanent impairment of hearing. Pre-employment estimates are useful in eliminating those who are predisposed to upper respiratory infections; in correcting defects they may contribute to repeated infections and not allowing an individual to work while suffering from a respiratory infection. Treatment with helium is outlined.

758 Health Conditions in the Glass Industry. Pluhar. Arbeitsschutz, 11-15 (1941).
Several months ago a paper appeared on the health hazards of glass workers. The author, an employe of the insurance association of the glass industry, now publishes data from the association's material. He charts curves on the frequency of lead poisoning, CO poisoning and cataract on the reported and compensated cases. As only such cases are compensated which cause death or a disability for more than 13 weeks, it is to be understood that the figures are small, especially concerning compensated Pb and CO poisoning cases. From 1926-1939, 408 cases of cataract had been compensated, but the compensation law has been retroactive for several years. 92% of these cases arose in hollow ware and bottle manufacture, a fact that is easily understood since it is also true that cataract is found only in certain districts because of the particular type of operation, so that exposure of the eyes to radiation is different in different districts. It is unfortunate that the author does not present figures on silicosis which is the most important occupational disease; he remarks only that 60% of the cases developed in making pots and tubs, as a result of inhaling clay dust which contains up to 50% free silica. There are other less common diseases upon which the author touches briefly.

759 Xerosis of the Cornea among Glass Blowers. H.M. Kiparisov. Vestnik Oftal., 17, 1-2,100 (1940). (Russian).
The routine examination of 600 glass workers showed that 14.6% of them had ocular disturbances. Of these, 1.3% had cataract, but the relation between their work and the lenticular opacities were not definite, because these workers were all over 40 years of age. Conjunctival hyperemia, found in 11.6% of the workers, cleared up 2 or 3 hours after work. One man who worked before an open fire without glasses had blepharospasm. The deleterious effect of light and heat in this industry is indicated by 8 cases of corneal xerosis. Two cases of optic neuritis could be attributed to the effect of ultra violet rays. The author urges that workers have their eyes examined before entering the industry, and that the administrative department be charged with the responsibility of providing and enforcing all prophylactic measures.

Papers on Industrial Poisons, Cancer, Dermatitis, etc.

760 Focal Infection and Occupational Eczema. F. Koch. Arch.f.Dermat. u. Syph., 180, 47-50 (1940). (German).
Focal infection is frequent both in persons with occupational eczema and in healthy persons -- no etiological relationship could be established. The success of the therapy was the same in eczematous patients with and without focal infections; the removal of the foci was without effect on the eczema.

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761 Clinical Aspects and Treatment of Occupational Diseases of the Skin. G. Hopf. Zeitschr. f. artz. Fortbild., 38, 33-38 (1941). (German).
The importance of the occupational factor may be doubted and individual aspects considered if a skin disease continues more than six months after ceasing work. Negative skin tests are not always proof that there is no causal relationship between the disease and the occupation. Positive tests are important but not necessarily a proof. In diagnosis and prevention, inspection of work, workroom and worker are important.

762 Pathogenesis of Hypersensitivity to Flour and Persulfate in Flour Workers. H.A.E. van Dishoeck and D.J. Roux. Arch f. Dermatol. u. Syph., 181, 34-40 (1940). (German).
A discussion of the significance of flour and persulfate allergy and their importance in the origin of bakers' and millers' diseases. Nearly every baker and miller with rhinitis vasomotoria, asthma and eczema show a positive reaction to flour. Epithelial persulfate allergy is positive only in bakers suffering with florid eczema in a portion of the cases. But German authors found positive persulfate reactions in 75-80% of the eczematous bakers. The authors stress the point that flour allergy is acquired by inhalation; the skin irritation from wet flour, water, etc. promotes the development of persulfate allergy.

763 Value of Skin Tests in Recognizing and Preventing Occupational Dermatosis. F. Koch. Wien. med. Wchnschr. 91, 6-9 (1941). (German).
Skin diseases which are apparently occupational in etiology may be shown to be caused by substances not used in the patient's work. Early recognition of the cause is also useful in preventing a sensitivity from becoming polyvalent. It is imperative to make the skin test with the actual substance used in the plant, not with a substance of the same name. Variability in the results of tests and the dermatoses caused by friction (eczema of masons) must be kept in mind.

764 A New Industrial Skin Cleanser. L. Schwartz. Pub. Health Repts., 56, 1788-1790 (September 5, 1941).
Harsh skin cleansers have frequently been found to be the cause of dermatitis rather than the materials being handled or manufactured. This is especially true of materials hard to remove from the skin. A milder and yet effective skin cleanser is composed of a sulfonated oil (either animal or vegetable), a wetting agent and optionally a small amount of trisodium phosphate or sodium hexameta phosphate. This cleanser has been very useful in cases of eczema and defatted skins in which olive oil was previously used as a cleanser. It has also been used in cases of atopic eczema in children.

765 Sudden Appearance of an Occupational Eczema Among Most of the Workers in a New Division of a Chemical Plant. J. Rochstead. Nordisk, Med., 9, 982-986 (1941). (Scandinavian).
Eczema appeared among the workers in an experimental laboratory after using para-nitrodiphenylamine. The affected men gave positive results with epicutaneous tests. During illness sensitivity improved and normal persons were easily sensitized. Urethan ointment decreased the effect of the chemical.

766 Mule-Spinner's Cancer. E.M. Brockbank. Brit. Med. J., pp. 622-623 (April 26, 1941).
Experience in this subject was gained by the author from seeing 150 mule-spinners with epithelioma of the scrotum. Over 80% were on the left side. The spindles throw oil onto the men's clothing and being of a mineral carcinogenic type, readily produces skin cancers. Periodic examinations are of the utmost importance. Substitution of harmless oils is suggested.

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767 Toxic Effects of Iroko. J.M. Davidson. Lancet, 1, 38-39 (1941). (Great Britain).
Description of severe dermatitis in most of the 50 men who handled iroko logs or freshly sawed planks. Nine men had severe symptoms, some appearing within 1-2 hours, including itching of exposed parts as well as of the genitals, axilla, back of knee, etc. In some men edema of the face, ocular irritation and blepharospasm developed. Chest constriction, cough and other respiratory manifestations were other symptoms. Four to 5 weeks were required to clear up the trouble. Only two of the men had developed sensitivity to other wood. Iroko is the common and trade name for Chlorophora excelsa, also known technically as mvule, odum and kambala; it comes from East and West Africa.

768 Relationship Between Skin Cancer and Occupation in Texas: Review of 1569 Verified Lesions Occurring in 1190 Persons. C. Phillips. Texas State J. Med., 36, 613-616 (1941).
This is an analysis of a study by the U.S. Public Health Service as to the incidence of occupational cutaneous cancer in Texas over a 20 year period. In the order of frequency, the lesions were basal cell epithelioma, squamous cell epithalioma, transitional cell epithelioma, adenocarcinoma of the sweat or sebaceous glands, fibroxanthosarcoma and epithelioma in sebaceous cysts. The occupations in the order of size are outdoor work (farming and ranching), housewives, various business activities requiring moderate outdoor life, professions, laborers and carpenters, railroad and petroleum workers. All but 12.2% of the lesions were traced to occupation. A study of 123 melanomas showed no relation to occupation.

769 Asphalt as an Antigen. R. Hasche-Klunder. Dtsch. med. Wchnschr. 66, 1422-1424 (1940). (German).
Report of a case of bronchial asthma in a Danish street worker while using asphalt oil. This substance is a product of creosote derived from coal distillation, and has nothing to do with asphalt. Another case is mentioned showing susceptibility to bitumen.

770 Arsenic and Goitre. G.R. Sharpless and M. Metzger. J. Nutrition. 21, 341-346 (April 10, 1941).
Arsenic can act as a positive goiterogenic substance in rats. Iodine can reduce this goiterogenic action as well as the toxicity of small amounts of arsenic. Ingestion of arsenic may double the iodine requirement. Arsenic may exert its goiterogenic effect indirectly by interfering with some of the normal oxidation reduction systems, perhaps by combining with sulphydryl groups or some other way. Cell oxidation is hindered in this way and the thyroid is stimulated in an attempt to compensate for lost oxidative capacity.

771 Symptoms of Acute Hydrocyanic Acid Poisoning with Special Reference to Neurologic Disturbances. M. Werner. Dtsch. Zeitschr. f. Nervenheilk., 151, 123-137 (1941). (German).
Exposure to hydrocyanic acid gas produced unconsciousness with dyspnea. The worker recovered after a day in the hospital, but two days later he relapsed, with hypotonia, ataxia, adiadochocinesis (symptoms of cerebellar affection), more on the left than on the right side. He had headache and disturbance of the circulation in hands and feet; inner ear deafness developed four days later. After about 14 weeks, these symptoms disappeared. There is a discussion of these symptoms and the literature on the subject.

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772 The Effect of Sodium Thiosulfate on Excretion of Arsenic. E.T. Cedar, L. Zon and M.E. Klinger. Vener. Dis. Inform., 22, 123-129 (April, 1941).
The pharmacologic action of sodium thiosulfate in the treatment of arsenic poisoning is still a controversial issue. A disparity exists in the results of previous studies in this problem, which might be explained on technical difficulties of arsenic analysis and the selection of subjects. Ten syphilitic patients, each of whom had completed an orthodox course of neoarsphenamine therapy, were selected for this study. Six of them received sodium thiosulfate, while the remaining four were used as controls. The arsenic content of urine and feces was analyzed in those subjects over a period ranging from the 1st to the 23rd day following the completion of the course of neoarsphenamine therapy. The urinary, fecal or total arsenic excretion was not significantly affected by administration of sodium thiosulfate in popularly used therapeutic dosage. The question as to clinical efficacy of this compound in the treatment of arsenic poisoning might be raised, as the strongest case for its clinical use has been based on the supposition that it mobilized the excessive arsenic stored in the body depots.

773 Experimental Studies on Aniline Bladder Tumors. S. Morigami and I. Nisimura. Gann, 34, 146-147 (1940).
In view of the occurrence of bladder cancer among aniline workers, the authors attempted to produce the disease experimentally by o-toluidin and benzidine. Rabbits, guinea-pigs, and rats were used. A 1% solution of o-toluidin in olive oil was injected subcutaneously 6 times a week in 0.1 cc doses. In other experiments o-toluidin and benzidine were dissolved in chloroform, in the ratio of 5%, and the solutions were applied to the skin of the back every other day.
Bladder papilloma was produced in animals receiving injections of o-toluidin that survived over 100 days. Rabbits were especially resistant to the toxic action of the chemical and showed a high incidence of papilloma. Benzidine proved more toxic, but when animals withstood the treatment long enough this substance also produced atypical proliferation of bladder epithelium. Unfortunately, for the proper evaluation of the experimental results numbers of animals used and of those developing papilloma are not given. Hueper produced neoplastic lesions of the bladder in 9 of 16 dogs treated with beta-naphthylamine.

774 The Effect of Calcium and Phosphorus on the Metabolism of Lead. J.B. Shields and H.H. Mitchell. J. Nutrition. 21, 541-552 (June 10, 1941).
1. A low content of calcium or of phosphorus or of both in the diet induced a high retention of lead in comparison with diets containing higher mineral levels. In fact, the only method of securing lead storage in adult rats on the moderate concentration of dietary lead used (32 p.p.m.) is to lower the calcium content of the diet to inadequate or borderline levels.
2. Excessive dietary levels of calcium and phosphorus are not appreciably more protective against the assimilation of lead by the body than are levels approximating the requirements. This statement applies only to the moderate levels of dietary lead employed.
3. Under the imposed conditions of variable dietary concentrations of calcium and phosphorus, the retention of calcium runs in a diametrically opposite direction to the retention of lead.
4. Under conditions of practical nutrition, an adequate intake of calcium and of phosphorus presumably protects the body against appreciable assimilation of the low levels of dietary lead involved in the usual lead hazard of modern life. This protection is more effective in the adult than in the adolescent for any given concentration of calcium and phosphorus, possibly because the mineral metabolism of the bone trabeculae is considerably less intense in the adult than in the growing organisms.

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775 Lead Encephalopathy in Children and Adults: Clinicopathologic Study. A.J. Akelaitis. J. Nerv. and Ment. Dis., 93, 313-332 (March, 1941).
The post-mortem study suggests that the structural changes in children and adults are a result of edema with exudation and hyperplastic changes in the leptomeninges and endothelial cells of the blood vessels. The symptoms in adults are similar to those of any brain inflammation, and diagnosis rests on the presence of a lead line.

776 Behavior of the Alkali Reserve and the pH of the Urine Before and After Injections of Calcium and Magnesium. R. Massione and B. Bareggi. Med. del Lavoro 32, 63-70 (1941). (Italian).
Thirteen cases of lead poisoning were treated by injection of calcium chloride and magnesium sulfate. The authors conclude that some degree of acidosis is present in all cases of lead colic. The alkaline reserve increases after the injection of calcium and decreases after injection of magnesium sulfate. No change is shown by the urine pH.

777 Lead Storage Battery Manufacture in the State of Illinois. G.W. Daubenspeck and C.H. McClure. Div. Fact. Inspect. Illinois Dept. of Labor, Chicago, Tech. Paper No. 1, (March, 1941).
A report of conditions found in industry and recommendations of needed changes in equipment and in processes. Importance of air cleanliness is stressed and data from sampling with the impinger in various operations is given.

778 Nicotine and Internal Secretion. II. Dangers to Women Working in Tobacco Factories? F. Gumbrecht and A. Loeser. Arch. f. exp. Path. u. Pharm., 195, 143-151 (1940). (German).
The authors showed in a previous publication (same issue, pp. 121-142), that the reproduction organs and the thyroid are the most sensitive of the endocrine glands to nicotine. Two hundred eighty tobacco workers and 472 textile workers were investigated; no difference was found, although the tobacco workers complained more frequently of dysmenorrhea. Overstraining (combined work in factory and home, a long walk to work, etc.) probably cause symptoms referable to the thyroid which were frequently encountered.

779 Experimental Poisoning by Selenium with Special Regard to its Effects on the Bones. F.K. Bauer. Arch.f.Gewerbepath., 10, 117-132 (1940). (German).
Chronic poisoning of animals with selenium is reported. Bone changes are described and illustrated with microscopic sections. Metabolic changes are shown. The amounts of selenium found in the organs was very tiny.

780 Phosphine Poisoning (Animal Experiments). I. Acute and Subacute Poisoning. W. Müller. Arch. f. exp. Path. u. Pharm., 195, 184-193 (1940). (German).
The widespread use of insecticides which give rise to phosphine suggested these experiments. It was shown that in concentrations of 1:40,000 death occurred after 4 hours; with 1:50,000, after two exposures of four hours each; with 1:100,000, after seven exposures of 4 hours each. Concentrations of 1:200,000 could be endured for two months for four hours daily. One animal which had been exposed to such a concentration for five days died when the concentration was increased to 1:70,000 at the end of the first four hours. Previous exposure had diminished the resistance.

781 T.N.T. (Trinitrotoluene). Ind. Data Sheet No. D-Chem. 38. National Safety Council. Nat. Safety News. 44, 38, 40 (September, 1941).
Poisoning from TNT may take place in three ways: through respiration, by ingestion, or by absorption through the skin. In addition to the systemic effects, dermatitis, through contact with the skin, can also occur. Precautions for prevention are outlined.

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782 Effects of Yellow Phosphorus and Arsenic Trioxide on Growing Bones and Growing Teeth. C.O. Adams and B.G. Sarnat. Arch. Path., 30, 1192-1202 (1940).
A generalized toxic effect of both substances was observed as manifested by a reduction in the rate of weight gained and bone growth. Yellow phosphorus produced a band of increased density, the formation of which was attributed to a diminished resorption of cartilage matrix and bone. A disturbed calcification of the dentin occurred in animals receiving the yellow phosphorus and arsenic trioxide. These studies are of theoretical interest in revealing the effects of yellow phosphorus and arsenic trioxide on two types of calcified matrix.

783 Value of Vitamin C for Benzene Workers. O. Libowitsky and H. Seyfried. Wien. klin. Wchnschr., 53, 543-547 (1940). (German).
The authors claim that, in workers exposed to benzene and its homologues, they often find symptoms typical of avitaminosis C. This is particularly true in the months in which there is a vitamin C deficiency in the food and by higher concentrations of vapors due to closed windows (November to April). Rumpel-Lede congestion experiments showed 6.3% positive with the highest percentages in the winter months. Among the 59 cases with positive Rumpel-Lede tests were five cases with "clear benzene damage;" in four cases the blood showed "exceptionally low leucocyte counts"; in the fifth case there was a "moderate leucopenia and anemia of high degree." The cases were treated with cevitamic acid and 19 became negative to the Rumpel-Lede test. Vitamin C may be used as a prophylactic in exposures to benzene.

784 Masks for Protection Against Formaldehyde. Queries and Minor Notes. J.A.M.A. 116, 2639 (June 7, 1941).
The activated charcoal used in many mask canisters will absorb formaldehyde "to a large degree." Although heavy concentrations of formaldehyde are rare, it might be better to have workers wear supplied-air or oxygen masks. The toxic limits for formaldehyde have not been fixed although 20 p.p.m. has been suggested.

What is the role of employee health in industrial relations?
Are any new health hazards arising in this period of emergency production?
What's new in the study of aluminum powder?
What are the latest legal trends?
What is the audit of sick absenteeism showing?
For the answer to these and scores of other pertinent questions in the field of employee health, plan to attend the Foundation's annual meeting Nov. 12-13.

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