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SILICOSIS. E. Donzelet, A. Meyer, Calmich, in. *Presse med.*, vol. 54, p. 148 (1946). Report a case of a man with mitral after two hundred and eighty hours of dust, showed serious silicosis clinically and histologically. The congestion of the lungs used a susceptibility.—*Occup. Med.*

HAZARDS IN MANUFACTURE OF MANIKINS. J. A. Mies and Minor Notes, vol. 132, no. 10, p. 9, 1946).

Any occupational hazards in the manufacture of manikins? These are molded from plaster, sandpapered, sprayed with lacquer and packed in shredded newspaper. The manikin is usually filled with a mixture of plaster, paint and newspaper dust. Would this cause sinusitis and severe chronic bronchitis? Should any precautions be taken? The author introduces a number of theoretical considerations for small injuries. Lacquers contain vapors of which may be mildly irritating. Sandpaper depends on silica for its abrasiveness. If the silica dust created is extensive and exposure prolonged, the possibility of silicosis must be counted. Counts will afford some index of the amount of dust, but special procedures will be required to establish the proportion of free silica. Plaster of Paris (gypsum sulfate) is rated only as a nuisance dust. Small amounts of any nuisance dust are not dangerous and may, on a mechanical basis if not disturbing to workers, especially those with respiratory disorders. The quantity of dust from shredded paper is likely to be negligible. Conditions such as the press rooms of daily newspapers arise of alleged irritation from paper dust. However, disease states mentioned would be more responsive to these mild irritants than a healthy worker. For protection dust should be directed to the feasibility of masks, either general or local, depending on the quantities of dusts or vapors present. Nuisance dusts which are readily available will be controlled by such measures as from paper but cannot be relied on against either vapors or silica dust.

MECHANISM OF MINERAL PARTICLES IN LUNG. A. Policard. *Arch. d. mal. prof.*, vol. 10 (1946).

The author assumes that the fate of mineral particles in the lung must be similar to the fate of these particles in a humid medium. In a humid medium the more movable cations (Ca, Na, K, etc.) which are in intramolecular spaces, will be replaced by water coming from the surrounding medium by OH ion.

The author assumes that the same procedure takes place in the lungs by the action of the lymph in the tissues. This mechanism explains the difference in toxicity of recent and of old dusts. The old dusts are much less toxic as they have already lost their content of movable cations.

A possible explanation of the cytopathologic findings is as follows: The mineral particles are inhaled and fixed in the alveoli, where they bind a thin liquid film on their surface by adhesion. Then the process of removal of the movable cations by hydrolysis takes place, which changes the pH to the alkaline side. A local reaction is assumed; an intra-alveolar serous exudation. Hypertrophy and desquamation of coating cells takes place at the same time. The cells fall into the exudation liquid and phagocytize the mineral particles.

The second and slower process is the dissolution of the silica which appears then in the cellular medium.

In the experimental inhalation of permutit dusts in animals, the typical silica cells are never formed, the alveolar cells show considerable hypertrophy of cytoplasm and nuclei with serous exudate. Later they are occupied by hypertrophic monocytes with a strong pericellular membrane but without abnormalities in color or aspect. On this basis the modification of hypertrophic cells can be specifically attributed to the dissolved silica by the action of the bases passing from the mineral particles into the alveolar medium.—*Martha de Csepel.*

COEXISTENT PULMONARY ASBESTOSIS AND SARCOIDOSIS.

John H. Skavlem and Robert J. Ritterhoff. *Am. J. Path.*, vol. 22, no. 3, pp. 493-517 (May, 1946).

This is a necropsy report of a forty-two year old man who died a respiratory death after eleven months of increasing severe exertional dyspnea. Previously the patient had worked for twenty-five years in an asbestos plant. The pathological study revealed a coexistent asbestosis and sarcoidosis of both lungs.—*Elwood F. Ireland, Jr.*

A CASE OF BYSSINOSIS. Robert Bogan. *Indust. Med.*, vol. 15, no. 11, pp. 635-636 (Nov., 1946).

A case of byssinosis is reported and the clinical picture of byssinosis described. It is hoped that with a greater awareness of the condition there will be less likelihood of such cases being overlooked. There is little in American medical literature regarding this disease. Much more is found in English medical literature and the reason may be that the English are more aware of the existence of this condition or that English working conditions in the cotton industry are responsible for the occurrence of a greater number of cases.—*Author's summary.*

DERMATITIS DUE TO A CASE-HARDENING COMPOUND.

G. P. B. Whitwell. *Brit. J. Dermat.*, vol. 57, p. 169 (Sept.-Oct., 1945).

A dermatitis occurring in workers handling a case-hardening compound is reported by the author. The case-hardening of steel consists essentially in bringing carbon into contact with the metal surface in such a state that the steel is made richer in carbon content. The dermatitis is caused by the sodium carbonate in the carbon pellets. It is eczematoid and affects mainly the backs of the hands and the flexor surfaces of the forearms; sometimes it involves the face. The rash often evolves rapidly, especially if the man remains at work after the erythema has started. The few extra days of exposure entail many weeks of added incapacity. When severe the rash spreads to the unexposed parts. The skin with a severe eruption takes months to recover, and relapses occur from time to time, even when no carbon packing is done. In nearly all cases the dermatitis develops after the patients have been several months at work. It is not considered that trauma of the skin plays a great part in the causation. Although the dermatitis is eczematoid, a striking feature of an early stage is that the rash can be seen to originate from the follicles; this is especially noticeable on the flexor surfaces of the forearms. The management of this form of dermatitis begins when the employee is assigned to this work. He should be warned to report any rash immediately. To prevent the rash it is arranged so that no men do carbon packing while they are still perspiring after work at the furnace. The only therapeutic measure of use after the carbon packer's dermatitis has become established is an immediate change of occupation. The usual treatment for eczema is given.—*Arch. Dermat. & Syph.*

DERMATITIS IN WOOLEN MILL WORKERS. J. A. M. A., *Queries & Minor Notes*, vol. 132, no. 15, p. 961 (Dec. 14, 1946).

Certain employees in our local woolen mills develop a dermatitis of a pustular nature when handling the dyes and chemicals. The dyes used are all coal tar products; the chemicals are sodium bichromate, sodium sulfide, sulfuric acid, formic acid and acetic acid. . . .

Answer: Dermatitis among dyers in woolen mills is not uncommon. Most of it is due to sensitization to sodium bichromate, which is used as a mordant in the dye bath. The other chemicals mentioned (sodium sulfide, sulfuric acid, formic acid and acetic acid) are all primary skin irritants in strong concentration and sensitizers in low concentrations.

The best protective measures to be used by exposed workers are the wearing of impervious sleeves, gloves and aprons. These prevent contact of irritants with the skin. Protective ointments are less effective and in some cases not practical because they may come off on the wool. However, if protective ointments should be used, those of the water repellent type are the best. Such types can be obtained in either the greasy form or the dry film form. An ointment consisting of 70 parts of anhydrous lanolin and 30 parts of olive oil can be

osis and 115 tuberculosis alone. Silicosis had spent a significantly longer time in machine-drilling or without evidence of fibrosis, but the relationship between the degree of duration of employment. Nevertheless, the main bulk of the work is done by short periods only, there will not be of silicosis in the labor force as a function of the degree of silicosis hazard, 1. Examinations were made on 50 Africans employed underground; silicosis was found in whom also had tuberculosis, and 7. Of the 115 cases examined there were 115 cases of silicosis, and 19 of combined silicosis. The incidence of tuberculosis without silicosis, was 7.7 per cent in the tuberculin tests were performed together with PPD or OT; the results showed rates of infection, usually about 10 per cent in adult males in the mines, the rates were somewhat higher than in the general population. Of the pre-employment medical examinations, although no definite physical signs were found, the percentage rejected varied from 10 to 20. The chief reasons for rejection were emphysema, weight, bronchitis and fever. In the two mines, 32 were rejected for pulmonary tuberculosis. (This is a high percentage, which is high for a purely physical test, such as was presumably, carried out in urban Africans, and it is likely that this occurred, in that men ill with tuberculosis tend to avoid presenting themselves for work. These considerations increase the importance of this figure in the rural population. The generally accepted incidence of silicosis is widespread in the Gold Coast. The authors include a table of tuberculosis from official reports, since 1930. The authors make one point clear, silicosis represents "a much graver problem than does tuberculosis"; the latter and its prevention should be attended to. The tuberculosis so far is only a human infection, since tuberculosis is recognized in cattle in the Gold Coast. Tuberculosis is highest in underground workers who have been employed in drilling or in that subclinical silicosis is a significant mortality. The high mortality of "beggars" who live near the mines, and the fact that many of them are disabled mine employees. "Tuberculosis associated with silicosis, becomes

more frequent with increasing length of service in underground work."—*Bull. of Hyg.*

ON THE INCIPIENT STAGES OF PORCELAIN SILICOSIS. Preben Eskildsen and P. Flemming Moller. *Acta Radiologica*, vol. 27, no. 6, pp. 601-606 (1946). The authors present the results of an orientating study respecting the difficulty of the early diagnosis of porcelain workers' silicosis, based on a follow-up examination of a number of the cases which formed the material for Gudjonsson's and Flemming Moller's investigations, in 1933 and 1934, concerning porcelain silicosis in Denmark. The result of the present study, the object of which was to test the dependability of the early diagnosis, shows that the diagnosis can only be established with absolute certainty when the question is of silicosis in the 2nd stage.—*Authors' summary.*

TIN MINING AND SILICOSIS IN CORNWALL. L. W. Hale. *Thorax*, vol. 1, (June, 1946).

The rock associated with tin ore in Cornwall is an acid granite. The dust risk in tin mining is greatest in the operations of drilling, shot firing, and shoveling of ore into trams. The usual measures are employed to combat dust, namely natural ventilation, wet drilling, mist projectors, hand-operated water sprays, and shot-firing only at the end of a shift. Tin miners' silicosis is of the classical type. The course and complications of the disease are discussed in detail. It appears after 10 years or more of exposure, with dyspnea and coughing as the first symptoms, and emphysema as the most prominent physical sign. Tuberculosis with silicosis follows the usual course. The question of determining disability is discussed, with the author believing that a careful consideration of the clinical findings, with an exertion tolerance test, will usually enable an experienced observer to estimate disability. Serial spirometric records of workers would be of value. Determination of the capacity of the lungs to oxygenate the blood, by estimation of the arterial blood oxygen would seem to be the ideal method but too difficult to apply. The effects of tuberculous infection are discussed.—*From Occup. Med.*

ASBESTOSIS. L. Rousseau. *Laval méd.*, vol. 11, p. 57 (January 1946).

The presence of asbestos bodies in the sputum is proof of a pathological tissue reaction in the lungs. The asbestos body consists of an asbestos fiber surrounded by hemosiderin. In contrast to silicosis, asbestosis usually does not show characteristic changes on the roentgenogram. Four case histories are presented: (1) A 42 year old man, who had worked in the asbestos industry for eighteen years, complained of productive cough and dyspnea of three years' duration. The sputum contained asbestos bodies and no tubercle bacilli. The chest roentgenogram had an appearance similar to one in silicosis. This is the only case of

asbestosis without tuberculosis that the author saw. (2) A 66 year old man, who had worked in an asbestos mill for twenty-two years, complained of cough of fifteen years' duration and increasing dyspnea. The findings on X-ray examination were the same as in silicosis. The patient developed renal tuberculosis and diabetes. (3) A 67 year old man, who had worked in an asbestos mill for forty-eight years, showed asbestos bodies and tubercle bacilli in the sputum. The autopsy proved the presence of tuberculosis and asbestosis. (4) A 57 year old man, who had worked in the asbestos industry for twenty-five years, died from lung carcinoma and asbestosis, proven by autopsy. The chest roentgenogram had shown no sign of asbestosis, nor had there been any functional pulmonary damage due to asbestosis.—*Am. Rev. Tuberc.*

PNEUMOCONIOSIS IN DOCKERS DEALING WITH GRAIN AND SEEDS. L. Dunner, R. Hermon and D. J. T. Bagnall. *British Journal of Radiology*, vol. 19, p. 506 (Dec., 1946).

Dunner and his associates observed 55 dock workers who for years had been handling cargoes of grains, seeds and certain chemical materials such as bauxite, iron ore, sulfur and manganese. These workers are exposed to large amounts of dust. The analyses of cereal dusts have disclosed the presence of appreciable amounts of silica, fine hairs, starch grains and cellular matter. These substances may produce lung disease. Of 55 grain workers 11 had pneumoconiosis.—*J. A. M. A.*

EFFECT OF PAPER DUST. J. A. M. A., *Queries and Minor Notes*, vol. 133, no. 6, p. 435 (Feb. 8, 1947).

Pulmonary X-ray studies of a man aged 50 demonstrate typical pneumoconiosis with severe and extensive bilateral fibrosis and nodular masses in the left hilus. The patient worked in the paper industry for twelve years, where he was exposed to large concentrations of paper dust engendered in cutting paper. What is the nature of paper dust and what is its effect on the lungs? If the X-ray pattern is characteristic of a pneumoconiosis and other disease can be ruled out, it is essential to make certain that there was no previous employment that might involve exposure to dust. If this can be established, it would then be necessary to investigate the atmospheric environment in the paper cutting operation. It seems improbable that this procedure would produce fragments of paper small enough to be inhaled. However, the paper might be coated with sizing, pigments or other substances that could produce inhalable dust. One should also investigate any other operations in the vicinity of the paper cutting operation that could give rise to atmospheric contamination. An analysis of settled dust or air floating dust from the vicinity of the patient's last job is advised to establish particle size, as well as physical, chemical and mineralogical characteristics.—*J. A. M. A.*

gas masks should be available. spillage or breakage of drums. Employee education must be main- sures include calling a physician administration of oxygen for est until cured. Oxygen is the phine should be avoided, and sary. First aid for eye contact hing with water; also for skin et dressings; for swallowing, llowed by flour paste, raw egg ste are best antidotes, followed ry.—Ind. Hyg. Found.

DISTRIBUTION OF THE TRABECULAE SIS OF RATS AND IN CARBON EOSIS OF RATS AND GUINEA a, K. M. Endicott, F. S. Daft m. J. Path., vol. 23, no. 1, pp.

ents were performed to settle the distribution of trabeculae etrachloride cirrhosis. ats received a cirrhosis-produc- in 50 to 150 days. The portal mptied and injected with char- for microscopic examination. e fatty deposition, ceroid accu- bacular followed and connected severe alteration the trabeculae the large portal areas, but the ese livers were not primarily e. eous administrations of carbon in groups of rats and guinea e also injected with charcoal d. Again the trabeculae were atic veins. As before the con- tes in the same areas where place, which makes it unneces- sence of an autolysate traveling patic to portal areas, as some H. Jandl.

E OF BAL. A REVIEW, WITH CE TO ARSENICAL DERMATITIS. and Rudolf L. Baer. J. A. 5, pp. 293-296 (Feb. 1, 1947). e development of BAL is re-

e important antiarsenical ef- in laboratory animals and in arized. L in counteracting the toxic arsenicals is reviewed. dosage schedule for BAL is

presented, and the undesirable side effects of the drug are listed. 5. It is pointed out that BAL was developed on the basis of a fundamental theoretic concept, which led to in vitro studies, indicating that it was able to compete successfully with thiol-containing tissue enzymes in attracting the poisonous metallic ion. 6. BAL has been proved of great practical value in preventing and counteracting many of the toxic effects of different arsenicals and of mercury. Its effects against many other metallic and non-metallic poisons are not yet proved and require further study.—Authors' summary.

A (CASE OF) CHRONIC INDUSTRIAL ARSENIC POISONING. L. van Itallie. Pharm. Weekblad, vol. 81, pp. 213-215 (1946). A report of the case of a factory worker whose hair,

nails, and urine had still an abnormally high As content 18 months after leaving the factory.—Chem. Abstrs. EFFECT OF ASBESTOS, AND OF ASBESTOS AND ALUMINUM, ON LUNGS OF RABBITS. E. J. King, J. W. Clegg and V. M. Roe. Thorax, vol. 1, p. 188 (Sept., 1946). The purpose of the experiments described by King and his associates was to test whether short fiber asbestos is less damaging in the lungs of the rabbit than is long fiber asbestos and whether metallic aluminum will suppress any toxic effect produced by fiber asbestos. Four groups of animals were tested. All groups showed a foreign body reaction in the lungs. In animals in the long fiber experiments there developed a nodular reticulosis comparable with the experimental silicotic nodule. In animals in the short fiber experiment there developed a diffuse interstitial reticulosis. The addition of aluminum did not afford any benefit in any group.—J. A. M. A.

MEDICINE AND SURGERY

FUNCTIONS OF THE CIVILIAN MEDICAL DIVISION OF THE WAR DEPARTMENT. CONDENSED REPORT, 1942-1946. F. C. Smith. Occup. Med., vol. 2, no. 4, pp. 285-297 (Oct., 1946). This report summarizes the medical service for Pentagon Building employees during the war years. Approximately 1 of 50 employees visited the emergency rooms each day, occupying the services of 30 nurses, 7 physicians and a small clerical force. Costs ranged from \$2.37 to \$3.69 per annum per employee. Immediate emergency treatment for any accident or illness was provided, following which line-of-duty cases were referred to the United States Employees Compensation Commission, while incidental illnesses or accidents were referred to a private physician or, in emergencies, to a local private hospital. The maintenance of cordial relations with private physicians or dentists, hospital emergency rooms and public clinics was stressed. All employees leaving work because of illness were referred to the emergency room, but were not required to report on return to work. Considerable attention was given to mass health education by movies and lectures.—Marshall Clinton, Jr., M.D.

hazardous nature are to be used the Industrial Hygiene Section has, by this procedure, suitable information to institute promptly the necessary field investigations.—M. W. First. GENERAL MOTORS INDUSTRIAL HYGIENE SERVICE. Frank A. Patty. Amer. Indust. Hyg. Assn. Quarterly, vol. 7, no. 3, pp. 3-9 (Sept., 1946). The organization, operation and aims of an industrial hygiene service maintained by one of America's largest manufacturing corporations is outlined. In addition to the study and control of environmental conditions that may affect the health of employees, the following subsidiary functions are performed by the General Motors Industrial Hygiene Service: 1. The prevention of fires and explosions from inflammable vapors, gases and dusts. 2. The control of corrosion and abrasion caused by air contaminants. 3. Prevention of neighborhood nuisances by atmospheric pollution. 4. To act as a clearing house for health protection ideas.—M. W. First.

PURCHASING DEPARTMENT OPPORTUNITY IN OCCUPATIONAL DISEASE PREVENTION. Andrew H. Phelps. Amer. Indust. Hyg. Assn. Quarterly, vol. 7, no. 3, pp. 17-20 (Sept., 1946). By means of a standardized procedure, specifications of all materials intended for use in the Company's plants are routed by the Purchasing Department to the Industrial Hygiene Section of the Company's Medical Department for a statement as to the precautions to be observed in their use. The data supplied by the Industrial Hygiene Section are distributed to all interested personnel. When materials of a

INDUSTRIAL PHYSICAL EXAMINATIONS. F. E. Poole. J. A. M. A., vol. 133, no. 2, pp. 91-97 (January 11, 1947). A comprehensive industrial health program should include 5 classes of physical examination. 1. Preemployment physicals to determine who is totally unfit for employment, who is fit for limited duties, and who is fit for any type of work. 2. Special examinations for those exposed to known industrial hazards. 3. Health maintenance examinations for early detec-

where they would have to jobs is unfair and needless. already been done. There ng greater financial loss or otic may be more wisely ob. The practical value of prophylaxis is still to be ork is most damaging, since y as part of their physical otic, and the man also loses follow-up by his own plant

ated by tuberculosis must be sh and amenable, the long tive, and the non-infective ic workman who develops nt to a sanatorium. The silicious nodules developing lesion should be allowed to a content is very low as long ples show no active, rapidly otics with latent tuberculosis th will not be helped by bed ved to continue employment : subject's condition. These ds, gradually becoming more id X-ray changes occur and tive, hospitalization for the ated.—*Elwood F. Ireland, Jr.*

ATIONS IN SILICOSIS. *Harry*, vol. 2, pp. 470-475 (Nov.,

ns in 65 persons with silicosis or rated polymorphonuclear erythrocyte sedimentation in ated silicosis, compared to s as controls. e in general not marked, re sis.—*Marshall Clinton, Jr.*

THE BRICKLAYER. *Lester M. Commission Monitor*, vol. 20, 1947).

every 25 claims allowed for icklayer. Silica bricks, glass ks emit silica dust, especially cutting operations. More l wet saws for cutting would *Curtland C. Brown, Jr.*

THORAX IN SILICO-TUBERCULO- *A. Hurst. Am. Rev. Tuberc.* 11 (December, 1946). se of silico-tuberculosis with fter extrapleural pneumotho- the sputum became negative

for tubercle bacilli ten weeks following operation.—*Curtland C. Brown, Jr.*

SILICOSIS AND HEMATOGENOUS TUBERCULOSIS. *R. Zollinger. Schweiz. Zeit. f. Tuberkulose (Basel)*, vol. 3, p. 205, (1946).

Pathologic anatomic studies on 8 patients revealed to Zollinger that the association of silicosis with tuberculosis produces the anatomic conditions for increased passage of tubercle bacilli into the blood. The small pulmonary arteries and veins undergo some destructive inflammation and are thus deprived of their elastic tissue, an important defensive element against tuberculous invasion. Silicosis produces many more contacts between tuberculous foci and the vessels than tuberculosis alone. In this way the tendency to hematogenous spread in the combination of tuberculosis and silicosis is explained. Furthermore, the destruction of lymph nodes by silicotic granulation tissue transfers the tubercle bacilli into the blood directly as well as through the thoracic duct. The vascular damage due to silicosis plays a predominant part in the hematogenous dissemination.—*J. A. M. A.*

FUNCTIONAL REPERCUSSION IN SILICOSIS. *J. Garcia Cosio. Rev. clin. espan.*, vol. 21, p. 467 (June 30, 1946).

Garcia Cosio reports clinical and roentgenologic studies on 1,424 coal miners and stone grinders exhibiting silicosis. He presents a roentgenologic, functional classification to determine the legal degree of loss of working capacity. There is a group of non-nodular silicoes in which the initial, reticular and interstitial types of fibrosis are included. Initial and reticular fibrosis represent an early primary roentgenologic stage. They are characterized by rough linear and granular roentgenologic images, respectively, which lead to nodulation or to the following roentgenologic stage. Incapacity to work is due to emphysematous bronchitis. The lesion is reversible if the patient stops that type of work. Interstitial fibrosis can be observed in the various roentgenologic stages of the disease. It leads to chronic involvement of the right side of the heart and produces early permanent loss of working capacity. Nodular types if roentgenologically uncomplicated correspond to the first legal stage and do not produce incapacity. Nodular forms if complicated by infected emphysema correspond to the second roentgenologic stage in which there is cardiac insufficiency and pronounced incapacity to work with periods of improvement. These types if complicated by pleural and diaphragmatic involvement correspond to the third legal roentgenologic stage in which there is cardiac insufficiency and total permanent incapacity to work. Pseudotumorous acute and infected types of silicosis, silicotuberculosis and tuberculosilicosis are all acute types of the disease which correspond to the third legal roentgenologic stage of the disease.—*Occup. Med.*

ANALYSIS OF 200 CASES OF PROVED SILICOSIS. *V. V. Labbé, P. A. Reyes, M. E. Zuniga, H. P. Schuller and C. Garcia. Bol. Med. Social., Santiago*, nos. 138/139, pp. 160-65 (Mar.-April, 1946).

Of these 200 cases observed in Santiago, Chile, 172 were of silicosis alone, and 28 of silicosis with tuberculosis. Of the 172, 78 were in the first stage (nodular fibrosis), 80 in the second stage (marked nodular fibrosis), and 20 in the third stage (confluent nodular fibrosis). Most of the patients were employed in copper mines, but 20 were in glass works, pottery or cement works. The average periods of employment were 13 years for those in stage 1, 16 in stage 2, 19 in stage 3, and 12 for the patients with silicosis and tuberculosis. Silicosis developed very quickly in some of the younger patients, and the incidence is relatively high in young people in glass and pottery works. Ten of the patients with silicosis and tuberculosis worked in glass works.

The authors have noticed that there was a history of syphilis in 7 per cent of patients in the first stage, 17 per cent in the second, 30 per cent in the third and 32 per cent in those with silicosis and tuberculosis; Kahn tests were positive in somewhat similar proportions. This is regarded as very suggestive, and it seems as if syphilis leads to aggravation of the pneumoconiotic tendency. The authors have not previously seen this point mentioned in the literature.

An account of the symptomatology, and of the results of various laboratory examinations, is given; these are not exceptional. Men in the first stage can perform ordinary work, but cannot perform work requiring special effort. If a man retires from work which carries the silicosis hazard, either voluntarily or because he is not permitted to continue that work, he is compensated by money sufficient to provide the necessities of life during the period of adaptation to new work. If he remains in the mine or factory in which there is a silicosis risk, he should be transferred to some work in which the hazard is minimal.

In the second stage, compensation may be paid up to 100 per cent of that allowed by the Compensation Acts, according to incapacity; in the third stage, and in those with tuberculosis, life pensions may be given.—*Bull. of Hyg.*

HISTOLOGY OF ASBESTOSIS. *L. Noro. Acta Pathol. & Microbiol., Scandinav., Copenhagen*, vol. 23, no. 1, p. 53 (1946).

Two workers in an asbestos factory died under circumstances which indicated that the cause of death was their trade. When the workers of this factory were examined roentgenologically asbestosis was found in 65 per cent of the 167 workers examined. The microscopic picture of asbestosis is characterized by a reaction caused by the needles in the tissue, which becomes manifest in exudate cell infiltration, accompanied by numerous giant cells containing foreign particles and an increase of interstitial connective tissue and fibrosis.

Noro is inclined to think that in the pathogenesis of asbestosis, the mechanical factors are the most important, although the chemical factors may have some significance in a later phase.—*J. A. M. A.*

RECENT DEVELOPMENTS IN PNEUMOCONIOSIS. *L. Carozzi. Praxis, vol. 35, p. 485 (July 25, 1946).*

Carozzi presents a review of the recent literature on pneumoconiosis comprising American, British, French, German, Italian and Northern articles.

The occupational hazard of silicosis among workmen employed in various operations in foundries has been investigated. The prevention of silicosis in foundries is intimately associated with the control of the dust caused by the processes of removing the sand which remains on the casings. To replace the sand with a product which does not contain quartz rather than to mix the sand with water under high pressure seems to be the best solution for the prevention of silicosis. An ordinance promulgated in Great Britain early in 1946 forbids the use of earthen material for molds in foundries if it does not contain less than 3 per cent of free silica. Olivine, a silicate of magnesium and iron, has been found to be uninjurious to the lungs, and properly ground may be used safely for making molds and for cleaning purposes. The risk of silicosis in foundries may thus be considered controlled.

In pulmonary silicosis the functional disturbances do not conform with the morphologic extent of the lesions of the lung. Functional tests are therefore of considerable importance particularly for those cases of silicosis which are complicated by neurosis or cardiovascular disturbances. The definite degree of dyspnea may be determined by spirometric recordings which may likewise be an aid in distinguishing the various factors on which the dyspnea depends. Bronchial spasms may be considered responsible for dyspnea in persons with silicosis; epinephrine thus may alleviate the dyspnea while histamine may aggravate this condition. An allergic effect of silica is suggested by the eosinophilia which may be observed in a considerable number of cases of silicosis.

A deviation to the left in Arneith's formula and an increase in the sedimentation rate may offer considerable aid to diagnosis; often they may be the only manifestations of an association of silicosis with tuberculosis. Electrocardiographic changes were found to be by no means in proportion with the importance of the pulmonary lesions. There are three factors which are essential for diagnosis: the occupational history, the clinical picture and the roentgenologic findings. Diagnosis of silicosis should never be based on only one of these three factors.

Northern physicians report cases of pneumonomycosis caused by the threshing dust from cereals which have been contaminated by *Monilia albicans*.

Laws which recently had been promulgated in Australia and Tasmania compel the employers of miners to

provide for the appropriate apparatus for preventive treatment with aluminum, but general use of this method for prophylaxis still requires unbiased clinical control to assure efficiency in preventing and in lessening the risk of silicosis. Aluminum may be used as a therapeutic for persons with a diagnosis of silicosis whose exposure to a certain ratio of silica dust continues. In order to control a progressive course of the disease aluminum therapy may also be suggested for persons with silicosis who have been exposed to silica dust for the last ten years. Persons may be given treatment with aluminum who have been disabled by silicosis but who do not present any other pulmonary and particularly any tuberculous lesions. Persons with silicosis who have silent tuberculosis may be treated with aluminum provided that they are subjected to strict control. Persons with silicotic lesions who are working in an environment in which their co-workers are normal may be considered particularly sensitive to silica and may be treated likewise with aluminum. Prophylactic treatment with aluminum should be practiced in those industries in which prevention of silicosis may be impossible by technical means.

Experience in discussing roentgenologic observations and occupational fibrosis in about 200 cases in the iron mining district and foundry industry where periodic roentgenographic examinations were made proved that the worker with silicosis should be informed of the roentgenologic observations by a competent physician in a frank and honest manner and that such a policy can be carried out with mutual satisfaction to management and its employees.

New compensation laws including the coverage of silicosis have been promulgated in Belgium in 1938, in Spain in 1941, in France in 1945 and in Italy in 1942. In the two last-mentioned countries the coverage has been broadened by inclusion of asbestosis. The law promulgated in Great Britain on Feb. 4, 1943, rules in article 2 that "the term pneumoconiosis signifies pulmonary fibrosis due to silica dust, asbestos dust or other types of dust, including the condition of the lung for which the term 'reticulation' has been coined." By this wording the former provisions of the British compensation law have been broadened considerably.—*Occup. Med.*

INDUSTRIAL PULMONARY DISEASES AND CAPACITY FOR WORK. *George W. Wright. Occup. Med., vol. 2, no. 6, pp. 546-549 (Dec., 1946).*

Anthraxis, siderosis, welding fumes, and chemical fumes produce no permanent reduction in working capacity, except for a transient acute exudative reaction following the inhalation of chemical fumes.

Beryllium does cause a chronic disease of the lung which produces virtually without exception a reduction in working capacity.

Asbestos rarely produces sufficient damage to cause a reduced working capacity, except where there is over-

whelming involvement or an age disease.

Silicosis in the discrete nodular form causes no loss in working capacity. The disease, however, usually associated with chronic bronchitis, is, nevertheless, of considerable importance, nevertheless, to continue in less demanding work if not disqualify them from employment. Aluminum therapy seems to be the best therapy for silicosis.—*F. Ireland, Jr.*

FISH POISONING. *H. L. A. Tarr. Res. Bd. Canada, Pacific States (1944).*

Fish poisoning described here commonly occurs as an erysipeloid condition of the hands. The general form is slowly progressing, sharply defined dark violet-red zone which develops into a severe infection, this eruption being accompanied by intense sensation and pain. A severe form on the finger and caused by teeth claws of shellfish, is accompanied by intense itching, with pus at site of puncture of lymph glands, and fever. An Alaskan fisherman shows symptoms but spreads locally between the skin, with a few drops of cloudy pus only being formed with secondary infective bacteria in this case. Many respects to those associated with symptoms in all types develop. The incubation period lasts 1-3 weeks, but serious symptoms in a British Columbia fisherman treated for such infection with solution of $HgCl_2$ as hot compresses is likely to occur, washing of hands with germicidal solution (0.1% hypochlorite solutions) may be used as a prophylactic.—*Brit. Abstrs.*

OCCUPATIONAL DERMATOSES I. CHROMATE DERMATITIS. *Fr. Med., vol. 2, no. 5, pp. 452-454 (1946).*

Of 235 patients referred during the last year from a large aircraft manufacturing plant, 133 (56.6%) have nonoccupational dermatitis, 102 (43.4%) were considered to have occupational dermatitis. Twenty-one (9 per cent) of the occupational cases were of undetermined origin.

Primary irritants were the cause of 44.4 per cent of the 81 patients with occupational dermatitis. Contact dermatitis was due to chromates in 30 per cent; in 20 (83.4 per cent) of the cases of occupational dermatitis was due to chromates. In 10 per cent of the cases of occupational dermatitis was due to chromates.

entary basis, providing that there
ative tuberculosis; (c) Men with
ca exposures within the past two
a course of treatment regardless
er exposure. (5) (a) Constant
the aluminum powder treatment
of careful clinical observations
ng radiography are necessary, if
e process is eventually to be as-
control groups of workers who do
tment would also greatly assist
(b) The patenting of the process
ch Ltd. was quite justified, and
e continued, especially while the
treatment is being established.
ith aluminum powder should be
, after its experimental nature has
ose whom it is proposed to treat.
eveloped and stabilized silicotic
roof that aluminum treatment in
e progress of the disease. Symp-
ave been relieved by aluminum
y such cases. It is considered
ices, this improvement is due to
s. There is no evidence that the
ases with aluminum powder does
(6) In the presence of a tuberculous
ent of a silicotic with aluminum
ted, as a general rule. (9) Alum-
ations are considered more likely
a prophylactic of silicosis rather
nt after it has developed. (10)
tion at present for applying alum-
ll employed in an industry, unless
nce that silicosis is being produced
ven then, an attempt should be
e silica hazard of each individual
l treatments to those exposed.
s, some form of a chamber for
atments appears to have advan-
atments. Aluminum inhalations
d indiscriminately. Unless large
quire treatment, or for any other
sible to administer them, it is felt
individual treatments lends itself
osage and better observations on
n, whilst the value of the process
han mass treatment methods in
) In certain processes in industry
ble to add 1 per cent of amorphous
o the dust or the mixture of dusts
azard, if such an addition did not
process concerned. (12) The best
ing the development of silicosis
ation of the dust hazard by con-
s humanly possible, the liberation
osphere at its point of origin. In
industries this should be combined

with pre-employment medical examination and peri-
odic radiography to eliminate from that industry
tuberculosis in any form. Men shown to be sus-
ceptible to silicosis should be transferred to non-
hazardous work. Under no circumstances should the
use of aluminum be permitted to lead to any relaxation
in the control of silica hazards by competent engineer-
ing and medical supervision.—*Author's conclusions.*

BYSSINOSIS IN THE COTTON TRADE. C. I. C. Gill.
Brit. J. Indust. Med., vol. 4, no. 1, pp. 48-55 (Janu-
ary, 1947).

Byssinosis is a respiratory disease affecting workers
inhaling dust in cotton mills, possibly an allergic
manifestation. The strippers and grinders are the
principal sufferers.

In the early stage byssinosis is characterized by
Monday morning fever accompanied by a dry, irrita-
tive feeling in the throat and a short, hacking cough.
There may be sneezing, an urticarial rash, and con-
junctivitis. This usually lasts for several months
and then subsides.

Ten to twenty years later a metallic cough develops
with a sticky sputum. The disease progresses insi-
diously with fatigue, dyspnea, decreased working
capacity, and asthma-like nocturnal attacks.

The classical signs are those of bronchitis and
emphysema, as are the demonstrable pathological
findings. X-rays are not diagnostic.

Preventive measures include hooding the carding
machine and attaching a suction fan. In addition
all persons with a history of asthma, bronchitis, hay
fever, eczema, or recurrent urticarial attacks should
be excluded from the carding room, as should mouth-
breathers, those with nasal pathology, and those
people with emphysema.—*Elwood F. Ireland, Jr.*

CHANGES IN THE LUNGS IN 126 CASES OF ASBESTOSIS
OBSERVED IN FINLAND. Carl Wegelius. *Acta Radio-
logica*, vol. 28, no. 162, pp. 139-152 (1947).

Asbestosis of the lungs is an industrial disease not
often hitherto observed in Scandinavia, only five cases
have been published from Norway. In Finland,
where a considerable asbestos industry has been
established for a couple of decades, asbestosis of the
lungs appears to occur to an appreciable extent. The
author gives an account of 126 cases of asbestosis of
the lungs, 94 or 75% of these cases being the mild,
23 or 18% in the moderate and 9 or 7% in the advanced
stage of asbestosis. The roentgenological character-
istics of the changes in the lungs, the differential diag-
nosis, the classification in different stages and the
importance of the time of exposure are discussed in
detail. The different stages of asbestosis of the lungs
are illustrated by typical pictures.—*Author's summary.*

ASBESTOSIS. P. Luton and J. Champeix. *Arch. d.
Mal. Prof.* vol. 7, no. 5, pp. 365-378 (1946).

From observations made during four years in a
plant using asbestos, the authors list the following
symptoms of asbestosis: 1) Functional signs. These
often appear in an intense form before any radiological
changes can be noted. The clinical findings in no way
differ from other pneumoconioses. 2) Radiological.
The findings are more fine and diffuse than those of
silicosis, and are of varying degree of severity. Most
usual is an accentuation of the network appearance,
with a trabecular appearance and small zones of a
stippling finer than that in the micro-nodules of
silicosis. 3) Sputum. Characteristic elements of as-
bestos fibers and asbestos-bodies are present. The
bodies may appear after short exposure and may per-
sist after exposure has ceased. Their presence indi-
cates exposure to asbesto dust, it does not mean
pathological involvement. Complications associated
with asbestosis are the same as for silicosis.

After a presentation of several case histories and
their accompanying X-ray films and sputum photo-
graphs, it is concluded that diagnosis can only be made
by a combination of observations: functional, radio-
logical, sputum. Because of the progressive nature
of the disease, yearly examinations should be made
with comparison of the measurements of respiratory
function (spirometry, etc.) and X-rays. But func-
tional signs must guide the physician when a change
of environment is advisable, and when the worker
can be said to have contracted asbestosis.—*Marc
P. Moldaver.*

OLEOGRANULOMA: THE LATE EFFECTS OF ACCIDENTAL
INJECTION OF MINERAL OIL UNDER PRESSURE. B.
Moore. *Brit. J. Indust. Med.* vol. 3, no. 4 pp.
250-252 (Oct., 1946).

The picture presented by victims of the accidental
introduction of mineral oil under pressure into the
tissues has been stressed in all published reports, and
cases of such accidents have recently come into promi-
nence. No records of late effects have, however,
appeared in the literature, although they have been
predicted on the basis of comparable conditions.
Intermediate stages involving the appearance of
nodular tumors have been reported which show hist-
ologically that the tumors are the result of an intense
productive fibrosis around a nidus of mineral oil. The
importance of the adequate surgical removal of the
mineral oil from the tissues has been constantly
stressed. Oleo granuloma may result from the clinical
use of oils in lipoid pneumonia and hemorrhoid treat-
ment.

The need for radical treatment of oleo granuloma at
an early stage is well illustrated by the following case:
Nine months after the accidental injection of an un-
known amount of heavy lubricating oil into his ischio-
rectal tissues a patient was seen with a large perineal
abscess, which was drained and required 4 months to
heal. Two and one-half years later he developed an