



1954 ANNUAL INDEX

Volume 18



Industrial Hygiene Digest

INDUSTRIAL HEALTH NEWS

LITERATURE ABSTRACTS

MEDICAL

ENGINEERING

CHEMICAL

TOXICOLOGICAL

LEGAL . . . decisions and trends

DECENNIAL INDEX - 1945-54

INDUSTRIAL HYGIENE FOUNDATION

MELLON INSTITUTE

4400 FIFTH AVENUE -- PITTSBURGH 13, PA.

months than after one month. With the middle grades then were two types of reaction, possibly due to agglomerations and discrete particles respectively. The decrease in proliferation from the finest may be due either to elimination after solution or removal by microphages. Experiments are being continued.

- 71 Occupational Lung Damage in Ships' Repairers. L. Dunger, M. Sanger, & D. T. J. Bagnall. Brit. J. Radiol. 26, 590-594 (Nov. 1953).

Occupational lung damage in ships' repairers ("boiler-makers"), due to inhaled dust and/or fumes has been described for the first time. Analysis of the materials and the dusts to which these men are exposed while at work revealed the presence of free silica and iron compounds. Two broad groups are described, namely those with definite radiological changes and those without. Each group may be subdivided into those with severe symptoms, especially dyspnea resulting in incapacity, and those without symptoms. Post-mortem findings of severe emphysema with slight pneumoconiosis are reported in two men belonging to the group, with extreme incapacity in the absence of radiological lesions.

-- Authors' summary

- 72 Asthma and Silicosis. Queries and Minor Notes, J. Am. Med. Assn. 153, 1327 (Dec. 5, 1953).

Asthma occurring for the first time in a 52-year-old person can be aggravated by silicosis. The type of dyspnea caused primarily by silicosis is due to damage of the lung parenchyma and to emphysema. In some persons with silicosis, bronchospasm is induced secondarily. It should also be remembered that a 52-year-old man may have allergic infections or cardiac asthma for the first time. If the patient in question has true asthmatic episodes (relieved by epinephrine or aminophylline), a search for other causative factors should be made by a series of observations such as examination of the sputum for eosinophils and neutrophils, skin tests, and examination for hypertensive, coronary, or syphilitic heart disease.

- 73 Asbestosis Bodies and Pseudo-Asbestosis Bodies. J. Ruttner. Schweiz. Z. Allgem. Pathol. u. Bakteriolog. 15, 628-631 (1952). German.

The literature on asbestosis bodies is reviewed. Similar products were found by the author in a lung which only contained carborundum and graphite; the bodies were formed around plates and needles of carborundum. The protein and iron which form the bulk of the "bodies" must come from the lung tissues and not from the mineral matter of the dust. Similar bodies could also be produced in vitro but they have not so far been found in animal experiments.

-- Bull. Hyg.

the eruption, especially whether it coincides with the work period; and (4) character of the eruption, with consideration of possible occupational aggravation of a non-occupational dermatitis. The limitations of the significance of patch tests are discussed. The problem of fungous infections in relation to occupational dermatitis is considered. Some cases of dermatitis require study, even by an experienced dermatologist, before an etiological diagnosis can be made.

- 101 Occupational Skin Disease. Public Health Service Publ. No. 306. U. S. Dept. of Health, Education, and Welfare, and Controlling Chemical Hazards, Series No. 10. U. S. Dept. Labor, Bureau of Labor Standards. 15 pp. (1953). For sale by Supt. of Documents, U. S. Govt. Printing Office, Washington 25, D. C. 10 cents.

This brief pamphlet presents the essentials about occupational skin disease--direct and indirect causes, and prevention and treatment on the part of the employer and the worker.

- 102 Asbestos Warts and Other Dermatoses in Workers with Lagging Materials. Farris. *Rass. med. ind.* 22, 1-17 (Jan.-Feb. 1953), Italian.

The author has investigated cases of warts on the hands of 29 workers with lagging materials, including asbestos cord which is wound around pipes, various asbestos-containing slabs, and mixtures of asbestos and cement to be molded to the shape of the tank or other object to be insulated. One to four warts were found in every case. They are due to asbestos fibers which penetrate into the epidermis and become lodged in the corium or true skin. The epidermis shows acanthosis (thickening of the prickle-cell layer) and hyperkeratosis (increased horny tissue) and the corium shows a granulomatous type of reaction with the appearance of giant cells in some cases. Exudative dermatitis may also be present. This condition is attributed to the combined action of the hygroscopic and alkaline cement and the irritating asbestos fibers. The gross and microscopic appearances of the lesions are illustrated.

-- Cond. from Bull. Hyg.

- 3 Dermatitis Due to Pancreas. S. Tara, G. Bouwens, A. Cavigneaux, and Y. Delplace. *Arch. maladies profess.* 14, 44-46 (1953). French.

Two cases are reported of workers employed in a pharmacological laboratory who experienced skin trouble when they manipulated pancreas preparations. Erosion of the skin with bleeding is a feature of this form of dermatitis. Similarly to papaya latex and pineapple juice, enzymes from pancreas exert a solvent action on the skin.

-- Cond. from Bull. Hyg.

upon the PH. From albumin solutions having a concentration comparable with plasma only about one-tenth of the available adsorption sites on a quartz surface are filled at PH 7.4. The adsorption of proteins upon the quartz surface is not considered to be an important aspect of the silicosis problem.

-- Authors' conclusions

- 905 The Presence of Asbestos Fibers in Urine of Workers Exposed to Asbestos Hazard. V. Wyss. *Rass. med. ind.* 22, 55-56 (1953). Italian.

In urinary sediment of two asbestos workers asbestos fibers were seen; the same finding was detected in urine of two female patients suffering from asbestosis, who had left their work seven years before.

-- Biol. Absts.

PHYSICAL ASPECTS OF THE ENVIRONMENT

- 906 Some Practical Aspects of Industrial Noise Measurement. L. J. Proulx. *Arch. Ind. Hyg. & Occ. Med.* 9, 496-502 (June 1954).

Some of the instrumentation problems faced by an engineer who must evaluate industrial noise environments are discussed. An array of equipment which includes a sound level meter, octave band analyzer, tape recorder, dynamic microphone, audio oscillator, vacuum tube voltmeter, high-fidelity crystal headphones, cathode ray oscilloscope, and a good quality loudspeaker is described. The use of the tape recorder and oscilloscope for measuring impact noises is given particular attention. Various calibration checks are described.

- 907 The Locus of Short Duration Auditory Fatigue or "Adaptation." J. D. Harris and Anita L. Rawnsley. *J. Exptl. Psychol.* 46, 457-461 (1953).

Auditory adaptation, defined as a reversible shift in threshold following very mild acoustic stimulation, was distinguished from true auditory fatigue by four criteria: (1) the non-cumulative effect of stimulus duration; (2) the temporal course of return to normal threshold following stimulation; (3) the relative frequency region of maximum threshold shift following pure tone stimulation; and (4) the shape of the curve of loudness (recruitment.) This experiment sought to throw light upon where, in the auditory system, adaptation occurs. By the technique of simultaneous binaural loudness balancing between one normal ear undergoing a threshold shift of a preceding adapting stimulus, it was possible to demonstrate an accelerated growth of recruitment in the adapted ear. The intimate

Foremost in disabling silicosis, emphysema stands out as the cause. Emphysema alone with its shortness of breath may lead to a condition simulating asthma and has no specific association with silicosis. In a silicotic patient with emphysema, a coexisting bronchitis may exaggerate the emphysema and thus further the total disturbances. On an organic basis, exposure to silica will not be more harmful to an asthmatic person than to any other worker. On a psychogenic basis, the asthmatic person is prone to react unfavorably to any dust and therefore on an emotional basis may not get along well in the presence of silica dust. The correspondent is referred to the report of the Third Symposium on Silicosis at Saranac Lake, 1937 for a fuller discussion.

- 21 Distribution of Mineral Particles and Fibers in the Lung after Exposure to Asbestos Dust. J. F. Knox and J. Beattie. Arch. Ind. Hyg. & Occ. Med. 10, 30-36 (July 1954).

The particle-size distributions in the incombustible and acid-insoluble residues from the lungs of 27 persons who had been exposed to asbestos dust were determined. The number of particles with greatest lengths in excess of 26 microns was considerable up to the eighth year after the last exposure to asbestos dust and then sharply fell. The number of particles within the size ranges of five microns and less and between five and 15 microns remained constant over a very long period in those cases which showed no sign of asbestosis or minimal fibrotic change. The cases of severe asbestosis showed a significant rise in the numbers of such particles.

It is considered that the mechanism which is concerned with the production of human asbestosis is not the same as that which is responsible for the production of asbestotic changes in experimental animals exposed to high concentrations of asbestos dust. The appearance of such changes seems to be related to the breakdown of asbestosis bodies which may liberate some fibrogenic agent.

-- Authors' summary

- 22 Mineral Content of the Lungs after Exposure to Asbestos Dust. J. F. Knox and J. Beattie. Arch. Ind. Hyg. & Occ. Med. 10, 23-29 (July 1954).

The mineral content of the lung parenchyma, the lung hilar region, and the tissues of the pleural and subpleural regions of the lung has been determined in lungs from 27 workers in the asbestos-textile industry. The exposure time varied from five to 33 years, and the time interval between the last exposure to dust and death (survival time) was from less than one year to 21 years. There was an indication that the mineral material found in the lungs increased in amount as the exposure time lengthened. The amount so accumulated varied considerably from person to person. As the survival time increased, the mineral content of the lung tended to decline but again at a very variable rate. The severity of the asbestotic lesions in the lungs found at death was related not to the mineral content but to the sum of exposure and survival times.

-- Authors' summary

ions on the surface irregularities produced by removal of alumina and other impurities. The presence of these ions enables the silica surface to attract a greater number of hydroxyl ions from the solvent medium, with the subsequent formation of highly soluble silicic acid. -- Cond. from authors' conclusions

- 197 Physicochemical Studies on Dusts. 8. Some Sorption Properties of Siliceous Dusts. J. G. Gibb and P. D. Ritchie. *J. Appl. Chem.* 4, 483-487 (Sept. 1954).

Rock crystal, Lochaline sand, and vitreous silica (Vitreosil) dusts all show reduced affinity for a dyestuff cation on removal of the disturbed outer layer from the particle surfaces. This layer of amorphous silica is therefore more reactive than the underlying core in sorption processes, just as in solution processes. In the case of vitreous silica, there is probably a physical difference between the outer amorphous layer and the nominally amorphous core, such as a more open structure. Heat treatment and repeated acid extraction have the same effect in both sorption and solution experiments. Alteration of the surface is probably responsible in both cases. -- Cond. from authors' conclusions

- 198 The Effect of Quartz Dust and Aluminum Phosphate on Certain Enzymes. B. Helferich and Erika Schmitz. *Beitr. Silikose-Forsch.* No. 24, 1-20 (1953). German.

This paper describes initial results on the inhibition of enzyme reactions by quartz dusts. It was found that potato phosphatase was adsorbed on quartz dust to an extent depending on the specific surface of the quartz, but that in the adsorbed state the enzyme was still nearly 100% active. Aluminum phosphate and aluminum silicate also adsorbed the enzyme. A search for phosphatase in a fresh sample of silicotic lung tissue gave negative results. The work will be continued with other enzymes. -- Cond. from Bull. Hyg.

- 199 Early Diagnosis of Asbestosis by Enlarged Radiographs. J. Krausler and R. Seyss. *Z. Unfallmed. u. Berufskrankh.* 47, 59-64 (Mar. 15, 1954). German.

After a brief description of asbestosis and the changes in the lung tissue in the early stages, the authors describe a radiographic technique with a fine focus. Of 16 asbestos workers, with 1 to 18 year's exposure, eight showed changes in the lung tissue with the enlargement technique; two of these showed no change by normal technique, and in the other six cases the degree of change shown was minimal. -- Cond. from Bull. Hyg.

- 200 Pneumoconiosis in a Feldspar Worker. W. Rotter and H. Gartner. *Zentralbl. Arbeitsmed. u. Arbeitsschutz* 4, 35-40 (Mar. 1954). German.

The authors describe a fatal case of lung disease in a feldspar worker, which they regard as modified silicosis. The dust contained 27.1% potassium

brucellosis in smoky city	299	Atomic bomb attack	
Anthrax		burns	319
bacteria, air-sampling	1074	psychological aspects	83, 1047
prevention in tanneries	828	first aid	1159
Anticholinesterases		radiologist's role	87
action	887	(see also Civil defense)	
of phosphorus compounds	888	Atomic power	
poisoning	63	project, health center	918
and respiratory failure	642	public health aspects	435
symposium	886	Autoradiography	
(see also Insecticides,		in radium detection	803
Cholinesterase)		Bacteriological safety	28
Antimony trioxide toxicity	511	BAL therapy	
Antiseptics, disinfectants,		cobalt poisoning	874
fungicides, and		lead poisoning	617, 1252, 1257
sterilization (bk. rev.)	356	Baritosis	304
Arsenic		Barium chloride, poisoning	512
hazard in mines	613	Benzene	
poisoning	755	data sheet	768
BAL treatment	1252	determination in air	561
and heart disease	271	metabolism	769
Arthritis, rheumatoid		poisoning	
x-ray appearances	180, 181	blood coagulation	1271, 1272
Artificial respiration		lymphoid lesions in	1008
(see Resuscitation)		serum lipase in	767
Asbestos		Benzene hexachloride	
dust in lungs	1021, 1022	detection in vegetables	674
and mica pneumoconiosis	550	determination in air	1165
in urine	905	determination in foods	1133
warts	262	hazard in paint	1014
Asbestosis		poisoning, chronic	166
early diagnosis	1299	sensitivity to	536
and pseudo-asbestosis		toxicity	537
bodies	73	Benzidine	
atmospheric turbulence		and derivatives, determination	564
studies	934	test for hazard	1275
		naphthylamines and tumors	772

Ar-senic (cont.)

in town air (1952) 1134
 trioxide
 detoxication by fluorides (1945) 905
 effect on rat tissue (1946) 417
 exposure in industry (1953) 809
 tolerance (rats) (1946) 416

Ar-sine

in industry (1948) 977
 mechanism of action (1947) 1173
 poisoning (1947) 224, 858;
 (1948) 841; (1950) 573, 574;
 (1952) 33, 35
 from algae (1953) 1041
 and BAL (1950) 1039
 from boiler cleaning (1951) 844, 984
 case(s) (1946) 637; (1950) 459, 824, 825, 1282; (1951) 262
 electrocardiographic changes (1951) 985
 fatal case (1952) 34; (1953) 39
 prevention (1953) 1042
 from scaling (1950) 458
 smelting industry (1950) 1157, 1158
 toxicity (1947) 1114

Arterial oxygen saturation

termination (1952) 502

Arthritis

and compensation (1950) 1036
 criteria for compensation claims (1946) 1267
 in industry (1952) 1176
 Marie Stumpel's (1950) 1037
 osteo, from pressure (1949) 790, 791
 rheumatoid, and pneumoconiosis (1954) 180, 181
 sequel of trauma wrist (1950) 40

Artificial circulation (1947) 1367
(see also Resuscitation)Artificial kidney

development of (1949) 143

Artificial respiration (see also Resuscitation)

devices for (1945) 147

Asbestos

clinical study (1953) 284
 corns (1945) 68
 dust control (1947) 327
 dust in lungs (1954) 1021, 1022
 effect on tissue cultures (1948) 77
 lung cancer from (1953) 605
 and mica pneumoconiosis (1954) 550

Asbestos (cont.)

possible substitute (1945) 1239
 and skin granuloma (1950) 1146
 in urine (1954) 905
 warts (1954) 262

Asbestosis (1948) 278; (1950) 357, 1053; (1952) 674

aluminum prophylaxis (animals) (1947) 234
 bodies, electron microscopy (1951) 1142
 and cancer (1945) 69; (1949) 867; (1952) 1009
 cases (1953) 79
 necropsied (1950) 36
 control (1952) 83
 diagnosis (1947) 1046; (1954) 1299
 experimental (1945) 436; (1951) 192; (1952) 219, 436
 in fibro-cement industry (1952) 84
 in Finland (1947) 1045
 French report (1948) 148
 pathology (1953) 78, 604
 in pipe-covering operations (1946) 353
 pseudo-bodies (1952) 438; (1954) 73
 and sarcoidosis (1947) 407
 in Slovakia (1951) 88
 study of (1951) 598
 miniature films (1953) 496
 and tuberculosis (1948) 888

Aspergillosis (1946) 142Asphyxia (see also Resuscitation)
treatment of (1946) 1259Asphyxiation

in a diving cell (1951) 580

Asthma in industry (1952) 625
bronchial (1952) 958Atabrine

dermatitis (1947) 713
 workers, "blue hales" in (1947) 1324

Athlete's foot (see also Dermato-phytoses and Fungus diseases)

cotton hose as vehicle (1945) 762
 prevention (1949) 1007
 treatment (1946) 324, 505, 1036

Atmospheric conditions

conducive to efficiency (1945) 621

Atmospheric contamination

pollution (see Air pollution)
 symposium (1950) 391

Atmospheric diffusion

measurement (1952) 1244

Atmospheric pollution (see Air pollution)Atmospheric turbulence (bk. rev.) (1951) 14

measurement (1953) 643
 studies (1954) 934

Atomic energy (1946) 1091, 1092;
(see also Radiation)

biological applications (1946) 570
 chemical problems in (1951) 292
 Commission medical program (1949) 127
 constructive use (bk. rev.) (1950) 1027
 economics (1948) 88
 employee orientation (1952) 376
 hazards (1946) 36, 988; (1947) 534, 995, 997; (1950) 612
 control, automatic (1951) 750
 control of (bk. rev.) (1950) 1027, 1028
 radiation (see Radiation)
 in industry (1947) 298, 883; (1949) 128
 insurance (1947) 1260; (1950) 1207, 1208
 international control (bk. rev.) (1947) 142
 medical aspects (1946) 301; (1947) 996, 1119
 neutron health monitoring (1949) 341 (1950) 225
 physiologic effects (1947) 297
 project, health center (1954) 918
 protection from radiation (1946) 607
 public health aspects (1954) 435
 safeguards (1947) 326
 slow tissue activation by neutrons (1946) 231
 utilization of (1947) 1349
 ventilation (1952) 227

Atomic research

alleged injury to workers (1947) 999

Atomic warfare

atomic bomb (bk. rev.) (1949) 809
 biological aspects (1946) 1042, 1223
 burns (1950) 968; (1951) 615; (1952) 790; (1954) 319
 casualties care (1951) 384, 898; (1953) 747
 damage and protection (1950) 500
 defense, civil (1951) 94
 role of doctor (1950) 1065
 disaster plan (1948) 689
 effects (1947) 174, 994, 995, 1119, 1120; (1948) 1101; (1949) 213, 339, 492, 494; (1951) 98
 on blood (1950) 216, 217, 218, 219; (1953) 619



1954 ANNUAL INDEX

Volume 18



Industrial Hygiene Digest

INDUSTRIAL HEALTH NEWS

LITERATURE ABSTRACTS

MEDICAL

ENGINEERING

CHEMICAL

TOXICOLOGICAL

LEGAL . . . decisions and trends

Decennial Index - 1945-54

INDUSTRIAL HYGIENE FOUNDATION

MELLON INSTITUTE

4400 FIFTH AVENUE -- PITTSBURGH 13, PA.

months than after one month. With the middle grades then were two types of reaction, possibly due to agglomerations and discrete particles respectively. The decrease in proliferation from the finest may be due either to elimination after solution or removal by microphages. Experiments are being continued.

- 71 Occupational Lung Damage in Ships' Repairers. L. Dunger, M. Sanger, & D. T. J. Bagnall. Brit. J. Radiol. 26, 590-594 (Nov. 1953).

Occupational lung damage in ships' repairers ("boiler-makers"), due to inhaled dust and/or fumes has been described for the first time. Analysis of the materials and the dusts to which these men are exposed while at work revealed the presence of free silica and iron compounds. Two broad groups are described, namely those with definite radiological changes and those without. Each group may be subdivided into those with severe symptoms, especially dyspnea resulting in incapacity, and those without symptoms. Post-mortem findings of severe emphysema with slight pneumoconiosis are reported in two men belonging to the group, with extreme incapacity in the absence of radiological lesions.

-- Authors' summary

- 72 Asthma and Silicosis. Queries and Minor Notes, J. Am. Med. Assn. 153, 1327 (Dec. 5, 1953).

Asthma occurring for the first time in a 52-year-old person can be aggravated by silicosis. The type of dyspnea caused primarily by silicosis is due to damage of the lung parenchyma and to emphysema. In some persons with silicosis, bronchospasm is induced secondarily. It should also be remembered that a 52-year-old man may have allergic infections or cardiac asthma for the first time. If the patient in question has true asthmatic episodes (relieved by epinephrine or aminophylline), a search for other causative factors should be made by a series of observations such as examination of the sputum for eosinophils and neutrophils, skin tests, and examination for hypertensive, coronary, or syphilitic heart disease.

- 73 Asbestosis Bodies and Pseudo-Asbestosis Bodies. J. Ruttner. Schweiz. Z. Allgem. Pathol. u. Bakteriologie, 15, 628-631 (1952). German.

The literature on asbestosis bodies is reviewed. Similar products were found by the author in a lung which only contained carborundum and graphite; the bodies were formed around plates and needles of carborundum. The protein and iron which form the bulk of the "bodies" must come from the lung tissues and not from the mineral matter of the dust. Similar bodies could also be produced in vitro but they have not so far been found in animal experiments.

-- Bull. Hyg.

the eruption, especially whether it coincides with the work period; and (4) character of the eruption, with consideration of possible occupational aggravation of a non-occupational dermatitis. The limitations of the significance of patch tests are discussed. The problem of fungous infections in relation to occupational dermatitis is considered. Some cases of dermatitis require study, even by an experienced dermatologist, before an etiological diagnosis can be made.

- 301 Occupational Skin Disease. Public Health Service Publ. No. 306. U. S. Dept. of Health, Education, and Welfare, and Controlling Chemical Hazards, Series No. 10. U. S. Dept. Labor, Bureau of Labor Standards. 15 pp. (1953). For sale by Supt. of Documents, U. S. Govt. Printing Office, Washington 25, D. C. 10 cents.

This brief pamphlet presents the essentials about occupational skin disease--direct and indirect causes, and prevention and treatment on the part of the employer and the worker.

- 302 Asbestos Warts and Other Dermatoses in Workers with Lagging Materials. Farris. *Rass. med. ind.* 22, 1-17 (Jan.-Feb. 1953). Italian.

The author has investigated cases of warts on the hands of 29 workers with lagging materials, including asbestos cord which is wound around pipes, various asbestos-containing slabs, and mixtures of asbestos and cement to be molded to the shape of the tank or other object to be insulated. One to four warts were found in every case. They are due to asbestos fibers which penetrate into the epidermis and become lodged in the corium or true skin. The epidermis shows acanthosis (thickening of the prickle-cell layer) and hyperkeratosis (increased horny tissue) and the corium shows a granulomatous type of reaction with the appearance of giant cells in some cases. Exudative dermatitis may also be present. This condition is attributed to the combined action of the hygroscopic and alkaline cement and the irritating asbestos fibers. The gross and microscopic appearances of the lesions are illustrated.

-- Cond. from Bull. Hyg.

- 3 Dermatitis Due to Pancreas. S. Tara, G. Bouwens, A. Cavigneaux, and Y. Delplace. *Arch. maladies profess.* 14, 44-46 (1953). French.

Two cases are reported of workers employed in a pharmacological laboratory who experienced skin trouble when they manipulated pancreas preparations. Erosion of the skin with bleeding is a feature of this form of dermatitis. Similarly to papaya latex and pineapple juice, enzymes from pancreas exert a solvent action on the skin.

-- Cond. from Bull. Hyg.

upon the PH. From albumin solutions having a concentration comparable with plasma only about one-tenth of the available adsorption sites on a quartz surface are filled at PH 7.4. The adsorption of proteins upon the quartz surface is not considered to be an important aspect of the silicosis problem.

-- Authors' conclusions

- 905 The Presence of Asbestos Fibers in Urine of Workers Exposed to Asbestos Hazard. V. Wyss. *Rass. med. ind.* 22, 55-56 (1953). Italian.

In urinary sediment of two asbestos workers asbestos fibers were seen; the same finding was detected in urine of two female patients suffering from asbestosis, who had left their work seven years before.

-- Biol. Absts.

PHYSICAL ASPECTS OF THE ENVIRONMENT

- 906 Some Practical Aspects of Industrial Noise Measurement. L. J. Proulx. *Arch. Ind. Hyg. & Occ. Med.* 9, 496-502 (June 1954).

Some of the instrumentation problems faced by an engineer who must evaluate industrial noise environments are discussed. An array of equipment which includes a sound level meter, octave band analyzer, tape recorder, dynamic microphone, audio oscillator, vacuum tube voltmeter, high-fidelity crystal headphones, cathode ray oscilloscope, and a good quality loudspeaker is described. The use of the tape recorder and oscilloscope for measuring impact noises is given particular attention. Various calibration checks are described.

- 907 The Locus of Short Duration Auditory Fatigue or "Adaptation." J. D. Harris and Anita L. Rawnsley. *J. Exptl. Psychol.* 46, 457-461 (1953).

Auditory adaptation, defined as a reversible shift in threshold following very mild acoustic stimulation, was distinguished from true auditory fatigue by four criteria: (1) the non-cumulative effect of stimulus duration; (2) the temporal course of return to normal threshold following stimulation; (3) the relative frequency region of maximum threshold shift following pure tone stimulation; and (4) the shape of the curve of loudness (recruitment.) This experiment sought to throw light upon where, in the auditory system, adaptation occurs. By the technique of simultaneous binaural loudness balancing between one normal ear undergoing a threshold shift of a preceding adapting stimulus, it was possible to demonstrate an accelerated growth of recruitment in the adapted ear. The intimate

Foremost in disabling silicosis, emphysema stands out as the cause. Emphysema alone with its shortness of breath may lead to a condition simulating asthma and has no specific association with silicosis. In a silicotic patient with emphysema, a coexisting bronchitis may exaggerate the emphysema and thus further the total disturbances. On an organic basis, exposure to silica will not be more harmful to an asthmatic person than to any other worker. On a psychogenic basis, the asthmatic person is prone to react unfavorably to any dust and therefore on an emotional basis may not get along well in the presence of silica dust. The correspondent is referred to the report of the Third Symposium on Silicosis at Saranac Lake, 1937 for a fuller discussion.

- 21 Distribution of Mineral Particles and Fibers in the Lung after Exposure to Asbestos Dust. J. F. Knox and J. Beattie. Arch. Ind. Hyg. & Occ. Med. 10, 30-36 (July 1954).

The particle-size distributions in the incombustible and acid-insoluble residues from the lungs of 27 persons who had been exposed to asbestos dust were determined. The number of particles with greatest lengths in excess of 26 microns was considerable up to the eighth year after the last exposure to asbestos dust and then sharply fell. The number of particles within the size ranges of five microns and less and between five and 15 microns remained constant over a very long period in those cases which showed no sign of asbestosis or minimal fibrotic change. The cases of severe asbestosis showed a significant rise in the numbers of such particles.

It is considered that the mechanism which is concerned with the production of human asbestosis is not the same as that which is responsible for the production of asbestotic changes in experimental animals exposed to high concentrations of asbestos dust. The appearance of such changes seems to be related to the breakdown of asbestosis bodies which may liberate some fibrogenic agent.

-- Authors' summary

- 22 Mineral Content of the Lungs after Exposure to Asbestos Dust. J. F. Knox and J. Beattie. Arch. Ind. Hyg. & Occ. Med. 10, 23-29 (July 1954).

The mineral content of the lung parenchyma, the lung hilar region, and the tissues of the pleural and subpleural regions of the lung has been determined in lungs from 27 workers in the asbestos-textile industry. The exposure time varied from five to 33 years, and the time interval between the last exposure to dust and death (survival time) was from less than one year to 21 years. There was an indication that the mineral material found in the lungs increased in amount as the exposure time lengthened. The amount so accumulated varied considerably from person to person. As the survival time increased, the mineral content of the lung tended to decline but again at a very variable rate. The severity of the asbestotic lesions in the lungs found at death was related not to the mineral content but to the sum of exposure and survival times.

-- Authors' summary

ions on the surface irregularities produced by removal of alumina and other impurities. The presence of these ions enables the silica surface to attract a greater number of hydroxyl ions from the solvent medium, with the subsequent formation of highly soluble silicic acid. -- Cond. from authors' conclusions

- 197 Physicochemical Studies on Dusts. 8. Some Sorption Properties of Siliceous Dusts.
J. G. Gibb and P. D. Ritchie. *J. Appl. Chem.* 4, 483-487 (Sept. 1954).

Rock crystal, Lochaline sand, and vitreous silica (Vitreosil) dusts all show reduced affinity for a dyestuff cation on removal of the disturbed outer layer from the particle surfaces. This layer of amorphous silica is therefore more reactive than the underlying core in sorption processes, just as in solution processes. In the case of vitreous silica, there is probably a physical difference between the outer amorphous layer and the nominally amorphous core, such as a more open structure. Heat treatment and repeated acid extraction have the same effect in both sorption and solution experiments. Alteration of the surface is probably responsible in both cases. -- Cond. from authors' conclusions

- 198 The Effect of Quartz Dust and Aluminum Phosphate on Certain Enzymes.
B. Helferich and Erika Schmitz. *Beitr. Silikose-Forsch.* No. 24, 1-20 (1953). German.

This paper describes initial results on the inhibition of enzyme reactions by quartz dusts. It was found that potato phosphatase was adsorbed on quartz dust to an extent depending on the specific surface of the quartz, but that in the adsorbed state the enzyme was still nearly 100% active. Aluminum phosphate and aluminum silicate also adsorbed the enzyme. A search for phosphatase in a fresh sample of silicotic lung tissue gave negative results. The work will be continued with other enzymes. -- Cond. from Bull. Hyg.

- 199 Early Diagnosis of Asbestosis by Enlarged Radiographs. J. Krausler and R. Seyss. *Z. Unfallmed. u. Berufskrankh.* 47, 59-64 (Mar. 15, 1954). German.

After a brief description of asbestosis and the changes in the lung tissue in the early stages, the authors describe a radiographic technique with a fine focus. Of 16 asbestos workers, with 1 to 18 year's exposure, eight showed changes in the lung tissue with the enlargement technique; two of these showed no change by normal technique, and in the other six cases the degree of change shown was minimal. -- Cond. from Bull. Hyg.

- 1300 Pneumoconiosis in a Feldspar Worker. W. Rotter and H. Gartner. *Zentralbl. Arbeitsmed. u. Arbeitsschutz* 4, 35-40 (Mar. 1954). German.

The authors describe a fatal case of lung disease in a feldspar worker, which they regard as modified silicosis. The dust contained 27.1% potassium

trachiosis in smoky city	299	Atomic bomb attack	
Anthrax		burns	319
bacteria, air-sampling	1074	psychological aspects	83, 1047
prevention in tanneries	828	first aid	1159
Anticholinesterases		radiologist's role	87
action	887	(see also Civil defense)	
of phosphorus compounds	888	Atomic power	
poisoning	63	project, health center	918
and respiratory failure	642	public health aspects	435
symposium	886	Autoradiography	
(see also Insecticides,		in radium detection	803
Cholinesterase)		Bacteriological safety	28
Antimony trioxide toxicity	511	BAL therapy	
Antiseptics, disinfectants,		cobalt poisoning	874
fungicides, and		lead poisoning	617, 1252, 1257
sterilization (bk. rev.)	356	Baritosis	304
Arsenic		Barium chloride, poisoning	512
hazard in mines	613	Benzene	
poisoning	755	data sheet	768
BAL treatment	1252	determination in air	561
and heart disease	271	metabolism	769
Arthritis, rheumatoid		poisoning	
x-ray appearances	180, 181	blood coagulation	1271, 1272
Artificial respiration		lymphoid lesions in	1008
(see Resuscitation)		serum lipase in	767
Asbestos		Benzene hexachloride	
dust in lungs	1021, 1022	detection in vegetables	674
and mica pneumoconiosis	550	determination in air	1165
in urine	905	determination in foods	1133
warts	262	hazard in paint	1014
Asbestosis		poisoning, chronic	166
early diagnosis	1299	sensitivity to	536
and pseudo-asbestosis		toxicity	537
bodies	73	Benzidine	
atmospheric turbulence		and derivatives, determination	564
studies	934	test for hazard	1275
		naphthylamines and tumors	772

- Arsenic (cont.)
 in town air (1952) 1134
 trioxide
 detoxication by fluorides (1945) 905
 effect on rat tissue (1946) 417
 exposure in industry (1953) 809
 tolerance (rats) (1946) 416
- Arsine
 in industry (1948) 977
 mechanism of action (1947) 1173
 poisoning (1947) 224, 858;
 (1948) 841; (1950) 573, 574;
 (1952) 33, 35
 from algae (1953) 1041
 and BAL (1950) 1039
 from boiler cleaning (1951) 844, 984
 case(s) (1946) 637; (1950) 459, 824, 825, 1282; (1951) 262
 electrocardiographic changes (1951) 985
 fatal case (1952) 34; (1953) 39
 prevention (1953) 1042
 from scaling (1950) 458
 smelting industry (1950) 1157, 1158
 toxicity (1947) 1114
- Arterial oxygen saturation
 determination (1952) 502
- Arthritis
 and compensation (1950) 1036
 criteria for compensation claims (1946) 1267
 in industry (1952) 1176
 Marie Stumpel's (1950) 1037
 osteo, from pressure (1949) 790, 791
 rheumatoid, and pneumoconiosis (1954) 180, 181
 sequel of trauma wrist (1950) 40
- Artificial circulation (1947) 1367
 (see also Resuscitation)
- Artificial kidney
 development of (1949) 143
- Artificial respiration (see also Resuscitation)
 devices for (1945) 147
- Asbestos
 clinical study (1953) 284
 corns (1945) 68
 dust control (1947) 327
 dust in lungs (1954) 1021, 1022
 effect on tissue cultures (1948) 77
 lung cancer from (1953) 605
 and mica pneumoconiosis (1954) 550
- Asbestos (cont.)
 possible substitute (1945) 1239
 and skin granuloma (1950) 1146
 in urine (1954) 905
 warts (1954) 262
- Asbestosis (1948) 278; (1950) 357, 1053; (1952) 674
 aluminum prophylaxis (animals) (1947) 234
 bodies, electron microscopy (1951) 1142
 and cancer (1945) 69; (1949) 867; (1952) 1009
 cases (1953) 79
 necropsied (1950) 36
 control (1952) 83
 diagnosis (1947) 1046; (1954) 1299
 experimental (1945) 436; (1951) 192; (1952) 219, 436
 in fibro-cement industry (1952) 84
 in Finland (1947) 1045
 French report (1948) 148
 pathology (1953) 78, 604
 in pipe-covering operations (1946) 353
 pseudo-bodies (1952) 438; (1954) 73
 and sarcoidosis (1947) 407
 in Slovakia (1951) 88
 study of (1951) 598
 miniature films (1953) 496
 and tuberculosis (1948) 888
- Aspergillosis (1946) 142
- Asphyxia (see also Resuscitation)
 treatment of (1946) 1259
- Asphyxiation
 in a diving bell (1951) 580
- Asthma in industry (1952) 625
 bronchial (1952) 958
- Atabrine
 dermatitis (1947) 713
 workers, "blue hales" in (1947) 1324
- Athlete's foot (see also Dermato-phytoses and Fungus diseases)
 cotton hose as vehicle (1945) 762
 prevention (1949) 1007
 treatment (1946) 324, 505, 1036
- Atmospheric conditions
 conducive to efficiency (1945) 621
- Atmospheric contamination
 pollution (see Air pollution)
 symposium (1950) 391
- Atmospheric diffusion
 measurement (1952) 1244
- Atmospheric pollution (see Air pollution)
- Atmospheric turbulence (bk. rev.) (1951) 14
 measurement (1953) 643
 studies (1954) 934
- Atomic energy (1946) 1091, 1092;
 (see also Radiation)
 biological applications (1946) 570
 chemical problems in (1951) 292
 Commission medical program (1949) 127
 constructive use (bk. rev.) (1950) 1027
 economics (1948) 88
 employee orientation (1952) 376
 hazards (1946) 36, 988; (1947) 534, 995, 997; (1950) 612
 control, automatic (1951) 750
 control of (bk. rev.) (1950) 1027, 1028
 radiation-(see Radiation)
 in industry (1947) 298, 883; (1949) 128
 insurance (1947) 1260; (1950) 1207, 1208
 international control (bk. rev.) (1947) 142
 medical aspects (1946) 301; (1947) 996, 1119
 neutron health monitoring (1949) 341 (1950) 225
 physiologic effects (1947) 297
 project, health center (1954) 918
 protection from radiation (1946) 607
 public health aspects (1954) 435
 safeguards (1947) 326
 slow tissue activation by neutrons (1946) 231
 utilization of (1947) 1349
 ventilation (1952) 227
- Atomic research
 alleged injury to workers (1947) 999
- Atomic warfare
 atomic bomb (bk. rev.) (1949) 809
 biological aspects (1946) 1042, 1223
 burns (1950) 968; (1951) 615; (1952) 790; (1954) 319
 casualties care (1951) 384, 898; (1953) 747
 damage and protection (1950) 500
 defense, civil (1951) 94
 role of doctor (1950) 1065
 disaster plan (1948) 689
 effects (1947) 174, 994, 995, 1119, 1120; (1948) 1101; (1949) 213, 339, 492, 494; (1951) 98
 on blood (1950) 216, 217, 218, 219; (1953) 619