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SIR THOMAS OLIVER

THE editors of the Journal of Industrial Hygiene and Toxicology announce with regret the death of Sir Thomas Oliver on May 15th, 1942, in his 90th year. He was one of the earliest associate editors of this Journal, and one of the first scientists to become interested in the field of industrial hygiene. His contributions to scientific and medical journals were numerous, including many articles on industrial disease.

Sir Thomas Oliver graduated from Glasgow University in 1875, and practiced medicine in Newcastle, and at the time of his death was emeritus professor of medicine in the University of Durham. He early became interested in industrial disease and the welfare of industrial workers. His particular interest was in lead poisoning, and he was on the boards of many government commissions, enquiring into the various poisonings which resulted from the different glazes used in pottery making, into phos-

phorus and white lead poisoning. He served on the White Lead Commission, attended the International Congress on Hygiene in Madrid in 1898, took part in the enquiry into Lucifer Matches and Pottery, and was a member of the Dangerous Trades Committee. One of his chief contributions to industrial hygiene was his success in influencing the government to abolish female labor in the white lead industry. Since 1937 he has been President of the Royal Institute of Public Health and Hygiene. He edited "Dangerous Trades, Historical, Higher Aspects of Industrial Occupations as Affecting Health," and published "Diseases of Occupation, from the Legislative, Social and Medical Points of View."

The Journal of Industrial Hygiene has lost one of its oldest and most distinguished editors, and the field of industrial hygiene has lost a pioneer worker.

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BOOK REVIEWS

VOLUMETRIC ANALYSIS, VOLUME I. By I. M. Kolthoff and V. A. Stenger. Interscience Publishers, Inc., New York, N. Y., XV + 309 pages. 1942. (\$4.50).

This book is, as the authors state, a thorough revision and enlargement of the 1928 English translation. Considerable new material has been added, especially in the section on oxidation reduction indicators,—including a selected list of indicators having oxidation potentials between 0.24 and 1.30 volts. The principles of polarimetric titrations have been introduced. In addition, a detailed quantitative discussion concerning errors caused by mixed crystal formation is given for the first time. The chapter on Stability of Solutions has been transferred to the revised second volume.

This work is a theoretical treatment of the subject making possible the development of new titration methods, the improvement of old procedures and the formulation of titration errors. The authors stress the important fact that theory is only a guide and that results derived therefrom must be tested experimentally.

The authors have produced a fine piece of work. The first chapter is exceedingly well written and readily understandable, even to the beginning student. The table of acid-base indicators and the appendix, which contains ionization constants of a large number of acids and bases and solubility products of various salts and alkaloids, and oxidation potentials of a large number of Red-Ox systems are of particular value. The placing of detailed material in smaller type and of critical definitions and statements in italics greatly facilitates the reading. This work is a credit to both the authors and the publishers.—*Ralph W. McKee.*

OCCUPATIONAL TUMORS AND ALLIED DISEASES. By W. C. Hueper. C. C. Thomas, Springfield, Illinois. 896 pp., 1942. (\$8.00).

This book is undoubtedly the most useful single-volume source of information concerning occupational

tumors that has been published to date. Its organization, bibliographic documentation, and index are excellent. The first of its fourteen chapters is devoted to a general discussion of occupation as it may influence tumor development. In chapters two to eleven, beginning with the skin and ending with the sex organs, the various tumors which are or may be caused or affected by occupation are described. Chapters twelve and thirteen are devoted respectively to "Special Aspects of Occupational Tumors" and "The Relation of Occupational Neoplasia to Theories of Carcinogenesis." Chapter fourteen is concerned with "Medicolegal and Public Health Aspects."

The book will be a valuable acquisition to any medical library if for no other reason than because of chapters 2, 4, 5, and 7. These deal with occupational tumors of the skin, lungs, urinary organs, and skeletal system.

Although the merits of the book greatly outweigh its defects, the latter are in some instances rather serious. The reader will be well advised to exercise considerable caution in the acceptance of certain opinions. Conclusions based on inconclusive and controversial evidence are occasionally advanced as though they were accepted facts and the uninformed or uncritical reader may find it difficult in places to distinguish between what is and what may be true. Thus, for example, on page 341 it is stated that, "The majority of the malignant neoplasms involving the lips and the oral cavity are generally the result of direct contact of exogenous carcinogenic agents with the mucous membranes of these organs. A similar mechanism is responsible for the periampullary cancers of the duodenum, as these are located in an area of intense and primary contact with a carcinogenic agent contained in the bile, and entering the duodenum at the papilla Vateri." Fortunately such ill-advised statements are few in number. It is to be hoped that they will be corrected in the next revision.—*Alan R. Morris.*

PROCUREMENT AND ASSIGNMENT SERVICE

IN THE offices of the State Medical Chairmen for the Procurement and Assignment Service, there are list of physicians who have indicated their willingness or desire to go into industrial medicine.

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though there is no history of contact with scarlet red. Physical examination is essentially negative except for dermatitis, and discharging sore on left leg. Patch tests were positive for scarlet red, paraphenyldiamine, and methyl orange as well as numerous articles of clothing. The patient later developed dermatitis due to exposure to varnish. Following treatment with X-ray, histamine therapy, and avoidance of contact with dyed clothing and paints, the lesions disappeared and the patient has remained symptom free for two years.

It is well to remember in contact dermatitis, that a patient, following a latent period, may develop a generalized sensitivity, such as appeared to have occurred in this case.—C. H. Wilson.

CALLUSES ON HANDS OF HAT WORKERS. J. A. M. A. (*Queries and minor notes*), vol. 119, p. 917 (July 11, 1942).

The extent of callus formation among workers occupied in blocking felt hats probably is partially based on an individual disposition. Persons with a tendency

to ichthyosis, xerosis and hyperhidrosis are said to be more inclined to have calluses than "normal" persons.

Treatment of calluses—which to a certain degree protect the worker's hands against steam, acids and friction—is usually not indicated unless they become painful, eczematized or fissured. If, however, such treatment becomes necessary, the hands should be soaked for 1 or 2 days (1 hour, 4 times daily) in warm boric acid solution; soaking is to be followed by the application of a 10 to 20% salicylic acid ointment for several days, after which time the excessive horny tissue can be shaved off with a scalpel. Fissures should be painted twice daily with a 10% silver nitrate solution.

In cases of resistant calluses intensive roentgen irradiation can be tried, but this is usually followed by a recurrence if the worker resumes his regular occupation. The tendency to hyperkeratosis and fissuring can be reduced in some cases by the ingestion of large doses of vitamin A or by thyroid medication. In suitable instances rubber gloves may be worn as a protective measure.—J. A. M. A.

DUST HAZARDS AND THEIR EFFECTS

CHRYSOTILE ASBESTOS AS AN INDICATOR OF SUBTLE DIFFERENCES IN ANIMAL TISSUES. Leroy U. Gardner. *Am. Rev. Tuberc.*, vol. 45, pp. 762-766 (June 1942).

In the course of experiments upon the action of asbestos fibres upon living tissue it has been observed that this irritant is not like finely divided quartz, which provokes specific cellular responses in any organ of all species of animals investigated (tadpoles, fish, chickens, mice, rats, guinea pigs, rabbits, cats, dogs, monkeys and man). Asbestos fibres are acted upon to produce the "bodies," described by Cooke, only in the lungs of a few species like man, guinea pigs and white mice. They do not form in other organs of these species nor have they been observed in the lungs of white rats or dogs; in rabbits' and cats' lungs there are occasional atypical ones. Fibrous tissue reaction is also limited to the lungs, but none at all has developed in those of mice and dogs. The subtle differences in tissues responsible for such variation have not been identified but they may be of significance to the general problem of host resistance to other irritants like tubercle bacilli.—*Author's summary.*

SILICON IN NONSILICOTIC LUNGS: ITS RELATION TO APICAL SCARS AND TO NODULES. George J. McHaffey, *J. Lab. and Clin. Med.*, vol. 27, pp. 1023-1035 (May 1942).

1. Anthracotic and silicious dust deposits in the lung tissue increase with age, and the grade of anthracosis in a given lung is a rough index to the relative amount of silica deposits present in the same lung, since silica deposits occur in conjunction with anthracotic deposits and in corresponding amounts.

2. The average total content of silica in the lungs of the male is higher than that of the female.

3. The percentage of cases of apical scars increases with age and with the grade of the total silica content of the lung.

4. Of the cases of apical scars 97.0% reveal evidence of healed tuberculosis elsewhere in the lung or hilar lymph nodes.

5. The average total content of silica in lungs possessing apical scars is higher than in those lungs that do not have apical scars.

6. On the basis of 200 cases the incidence of healed tuberculosis in the lungs is 88.5%.

7. On the basis of 133 cases of apical scars the incidence of "specific silicotic" apical scars is 5.3%, and the silica content in these specific cases is relatively high.

8. On the same basis the incidence of the "specific tuberculous" apical scars is 12.8%, and the average silica content in these cases is considerably lower as compared to the "specific silicotic" scars.

9. The incidence of the silicotic nodule in the non-silicotic lung is 10.5%.—*Author's summary.*

AN INTERIM REPORT ON THE PREVALENCE OF SILICOSIS AND TUBERCULOSIS AMONG MINE WORKERS IN THE GOLD COAST. A. J. Murray and J. A. Crocket. *London: Crown Agents for the Colonies.* 1941.

This is a preliminary report concerning mine employees working in the gold mines in the Tarkwa area of the Gold Coast. Its purpose is to show that silicosis and tuberculosis occur amongst native mine workers, and that the incidence of these diseases calls for further investigation.

In an examination of 560 under-trying lengths of service, 21 instances were found, 10 without and 11 with active tuberculosis. Silicosis was the basis of radiological appearance diagnosis was fairly high, and the reported may be an underestimate.

The incidence of pulmonary tuberculosis that of silicosis and, in the view, constitutes a much greater menace to miners. In the course of the examination of 560 underground employees of the mine, 4 cases of active pulmonary tuberculosis were found, and 20 of tuberculosis of definite silicosis, a total of 24 of these cases were entirely un-expected. It was believed that none was receiving treatment. The total of 560 persons examined showed pathological signs in the lungs or physical examination which fully advanced to justify definite diagnosis. A good proportion of these cases it is suggested that compulsory registration be introduced, that pulmonary tuberculosis be notifiable throughout the Colony. Dust concentrations and atmospheric conditions measured and recorded for use.—7

PNEUMOCONIOSIS ENCOUNTERED IN BITUMINOUS MINES. R. Harold Jones, *J. A. M. A.*, pp. 611-615 (June 20, 1942).

During a four-year period, 86 cases of pneumoconiosis were discovered in a group of miners of bituminous coal. In this series only those cases were included in which bituminous coal was the only known cause. Industrial history, medical history, roentgenography, sputum and blood analysis were made in all cases. Each respective case was classified as stage 1, 2, or 3 of silicosis. The following classification:

Stage 1—Those cases showing a fine nodular appearance with no, or only partial, of clear markings. Nodules measured less than 1 mm.—57 cases.

Stage 2—Nodules demonstrated exceeding 1 mm. with associated emphysema—20 cases.

Stage 3—Pronounced symptoms. Emphysema at the bases or the apexes; clear appearance due to the coalescence of a few nodules—9 cases. Thirteen patients, or 15% of the series, were classified as being disabled. The youngest patient was 26 and the oldest 79. Duration of employment was not significant, the average of employment being 28 years. The greater

afterwards the bronchi were filled with aluminum dust. Anatomic examination made at various intervals up to 15 days after the last inhalation showed that the lung purifies itself very quickly. Only a small part remains in several places. The particles are phagocytosed by alveolar epithelium. Aluminum dust is inert as is coal dust and no fibrosis is found. The author says that the experiments covered too short a time to allow conclusions—but he draws conclusions.—*L. Teleky.*

OCCUPATIONAL CANCER AMONG ASBESTOS WORKERS. *A. J. Linzbach and H. W. Wedler. Virchows Arch. f. path. Anat., vol. 307, pp. 387-409 (1941).*

A 61 year old worker had worked in an asbestos plant from 1921-1939. After 3 yrs. of work he had had respiratory disturbances and at that time changed his working place so that he was scarcely exposed to dust. The development of his asbestosis has been followed radiologically since 1934; by February 1938

there was asbestosis stage III and dense basal fibrosis. The complaints increased. In February, 1940 there was a sharply defined, intensive, nearly homogenous shadow the size of a child's fist above the right diaphragm. Some less dense spots were seen within this shadow in May and later, a large cavity. From that a cancer was diagnosed. Post mortem there was seen a chronic interstitial pneumonia which showed a very specific peculiarity. Asbestosis bodies were scattered irregularly all over the lungs. The cancer was a squamous cell carcinoma. The author discusses the literature thoroughly and concludes that asbestotic fibrosis creates a local disposition to cancer; one factor is the mechanical irritation from hornblende asbestos, the other the chemical irritation from silicic acid derived from the easily soluble serpentine asbestosis.

The study of this case for many years, the exact case history (Wedler) and the exact description of the pathologic findings (Linzbach) make this publication very valuable.—*L. Teleky.*

DUST, SMOKE, FUMES AND VAPORS: THEIR DETERMINATION AND ELIMINATION

A RAPID METHOD FOR THE MICROANALYSIS OF LEAD. *L. T. Fairhall and R. G. Keenan. J. Am. Chem. Soc., vol. 63, pp. 3076-3079 (Nov. 1941).*

The authors present data to show that the apparent lead content of urine as indicated by the dithizone procedure is greater than the chemical separation of the total lead from large urine volumes. A rapid procedure for large urine volumes is described. The urine is adjusted to pH 10 with NH_4OH . After allowing the precipitate to settle it is filtered and washed with EtOH . The precipitate, after being transferred to a beaker and dissolved with HNO_3 ,

is boiled for 15 min. Citric acid is added and the sample is neutralized with NH_4OH . The lead is extracted with dithizone, is then removed from the dithizone with nitric acid and determined as the chromate by the Fairhall method, using sodium thiosulfate.—*Leslie Silverman.*

INSTRUMENTAL METHODS OF CHEMICAL ANALYSIS. *R. H. Müller. Ind. & Eng. Chem., Anal. Ed., vol. 13, pp. 667-754 (Oct., 1941).*

A profusely illustrated monograph with a bibliography of 313 references.—*Philip Drinker.*

OCCUPATIONAL DISEASES OF THE SKIN AND SPECIAL SENSES

GENERALIZED CONTACT DERMATITIS (LEATHER). *A. B. Cannon. Arch. Derm. & Syphil., vol. 44, p. 1156 (Soc. trans.) (Dec. 1941).*

A 65 yr. old shoemaker was presented. He had suffered for 6 months from a generalized dermatitis which began on the legs as a red, intensely itchy papular eruption. The itching comes in waves at intervals of about 15 min. There is generalized redness, swelling, scaling and crusting, especially on the extremities, with irregular patches on the trunk. When tested with all the leathers he works with, it was found that he was sensitive only to the outer surface of black leather.—*Helen Lawson.*

THE DYNAMICS OF OCCUPATIONAL NYSTAGMUS. *V. A. Panova and H. I. Medvedev. Vestnik Ophth., vol. 18, pt. 2, p. 189 (1941).*

As a result of this study, made at the Institute of Hygiene and Work, the authors question the validity of the accepted view that the development of miners' nystagmus calls for a transfer of the worker to surface labor. The material studied shows that miners with compensated nystagmus may remain at their jobs and those with mild forms without disagreeable subjective symptoms may remain in the mines doing lighter work, without danger to their vision.—*Ray K. Daily (Am. J. Ophth.).*

OCCURRENCE AND PREVENTION OF INDUSTRIAL ACCIDENTS

ACCIDENTS AMONG PUNCHERS. *E. Zanetti. Med. del lavoro, vol. 32, pp. 89-96 (1941).*

The author investigated the rate of accidents among punchers. Of those who used a hand lever, 13% had had an accident. 31% of those operating their machine with a pedal had suffered injuries, and 35.3% of those working on automatic machines. Most of these persons

had had only 1 accident, and most had occurred in the first years of work.—*L. Teleky.*

A FATAL ACCIDENT ATTRIBUTED TO ANOXIA. *G. Benassi. Rass. med. ind., vol. 12, pp. 423-428 (1941).*

The author published in the same journal (April, 1940) a fatal case which had occurred in an underground

chamber and which he attributed to oxygen. Some scientists expressed doubts that such was possible, and could not explain this. In oxygen in the chamber, the author made investigations on the oxygen content in con- When such chambers had been closed for he found only 5.88% O_2 . The engineers was impossible that the transformer work chamber could consume the oxygen. The that experiments on a larger scale will be Judging from other similar circumstances possible for the moving and heated oil from burner to absorb the oxygen.—*L. Teleky.*

INDUSTRIAL INJURIES IN THE UNITED STATES

M. D. Kossoris. U. S. Bur. Lab. S. Inform. Bull., vol. 8, pp. 8-10 (Oct. 19-)

300,000 more industrial injuries occurred in the United States in 1940 than in the preceding year because of increased employment hours and lack of expanded safety. 1,000,000 workers sustained injuries of were either fatal or resulted in permanent. Logging continued to have the highest (104.9). In descending order are iron and steel production, machinery, textiles and equipment. Industries showing great increase are explosives, metal machine building and aircraft manufacture. In the percentage increase of accidents due to the rise in employment and hours worked, assembly, automobile parts, building and repairing. Laundries and hotels reported 4% of the deaths and total disabilities, 4% in agriculture and 4100 in construction. 1 in 10 in trade, mining and quarrying and group reported about 1900 deaths. Total fatalities and permanent total disabilities was highest in the explosives industry, employment at coke ovens and in the cement industry. Injuries to hand and fingers accounted for 7%, followed by foot or toe injuries 7%, and parts 5%, and arms and legs 3% each. were very common in the cement industry, refining and in rayon manufacture.—*L. Teleky.*

ELECTRICAL ACCIDENTS: SHOCK, BURNING INJURIES TO THE EYES. *H. E. Fisk. Therap., vol. 22, pp. 611-617 (Oct. 1-)*

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THE IMPORTANCE OF CLOTHING IN ACCIDENTS. *C. P. Yaglou and A. Messer. J. A. Hyg., vol. 46, pp. 1261-1262 (Oct. 11, 1941).*

The conclusion to be drawn from the differences of comfort standards between men and women, and individual differences, are differences in dress and can be reco-

SILICOSIS IN STOURBRIDGE FIRECLAY MINERS. F. A. Taylor. Proc. Roy. Soc. Exptl. Biol. & Med., vol. 48, pp. 70-72 (Oct. 1941).

"Fireclay" is a term applied to refractory clays which do not fuse when exposed to considerable heat; they owe this property to their free silica. These clays occur just beneath the measures, in the Stourbridge area beneath the coal. Miners getting this clay are exposed to free silica in sufficient amount (at least in the case of granite dust) to set up true silicosis. Findings are reported of one miner who had died since 1934 and died recently. To x-rays lungs showed progressive fibrosis; and autopsies showed the existence of silico-anthraxosis. Patients, still alive, are described who have certificates of disablement by reason of silicosis. Distribution of the lesions of fibrosis is, characteristically, mid-zone; the root shadows are not abnormally enlarged. Dyspnea on exertion has been the symptom, associated with pleuritic pain and cough. No tubercle bacilli were found in any of the cases. (The curious thing about the pulmonary lesions occurring in these miners is that they predispose to tuberculosis, which infection has been recognized to be unusually prevalent among them; it is among sandstone masons and gold-miners. L. Collis (Bull. of Hyg.).

REPORT OF THE MEDICAL OFFICER OF INDUSTRIAL HYGIENE FOR THE YEAR ENDED DECEMBER 31, 1941. J. Badham. New South Wales, Report of Director of Public Health for Year 1939. (1941).

This report comprises "Studies in Industrial Hygiene No. 20" which deals with the chemical pathology of the lungs in coal miners in New South Wales. 30 lungs of coal miners who had worked in the different coal fields are concerned, of which details are presented. The coal-dust pneumoconiosis was found in 23 cases; 6 with experience entailing exposure to silica dust, and 17 with coal dust, showed the silicosis type; and 13 with mining life was normal. Only 1, a silicotic type; the amount of free silica found in the lungs was normal. Generally, less free silica was found in the coal-dust type than in the silicotic type. A monograph is promised in which the results given will contribute to an attempt to determine the mineral content of the lungs of coal-miners in New South Wales. At present the only conclusion is that, while active free silica originally causes the silicotic response, others, so-called inert dusts, mixed with the free silica, may so modify its action as to give the type of response which appears to be of the silicotic type. How far this type of reaction is due to inert dusts, and how far to the minimal amount of free silica formed with the inert dusts, cannot be determined.—F. F. Rupert.

MENT OF ANTHRACOSIS. F. A. Taylor. Proc. Roy. Soc. Exptl. Biol. & Med., vol. 48, pp. 70-72 (Oct. 1941).

It has been a matter of controversy whether the pigment found in anthracotic lungs is the soot originally inhaled therein or a product of hemorrhage and infarction. Treatment of the lungs with concentrated hydrochloric yielded a product high in nitrogen, which led some authors to take the latter view. In the author's experiments uncontaminated calf lung on acid treatment an insoluble residue containing 10% nitrogen. However, on treatment with hypochlorite or by papain digestion followed by hypochlorite there was only a trace of residue. When an anthracotic lung was given the hypochlorite treatment, a pigment was isolated, and three samples contained 0.4 to 0.8% nitrogen, compared with 0.4% in the normal. The results leave no doubt that the pigment is of external origin.—F. F. Rupert.

STUDIES ON HUMAN PULMONARY ANTHRACOSIS. F. F. Rupert. Soc. Path. Jap. Trans., vol. 30, pp. 290-294 (1940).

In 69 cases of anthracosis there was no difference in amount of pigment in the lungs. In general there was no difference between the upper and lower lobes. The middle lobe of the right lung had the least amount of pigment. The costal surface of the lung had the least pigment and the interlobar pleurae the least. Phagocytic cells that ingest the dust are derived from the alveolar epithelium. Less active areas of the

lung, such as atelectasis, healed tubercles, fibrosis or healed pleuritis, had more pigment than normal tissue. The dust is removed from the latter more effectively by the passage of air. Of 108 cases studied, only 4 had anthracosis involving spleen, liver, heart and kidney. This is said to result from hematogenous metastasis of the dust particles from the lungs.—Biol. Abstrs.

BRONCHIOGENIC CARCINOMA IN ASSOCIATION WITH PULMONARY ASBESTOSIS. REPORT OF 2 CASES. Herbert H. Holleb and Alfred Angrist. Am. J. Path., vol. 18, pp. 123-135 (Jan. 1942).

2 cases are reported in which men in the fifth decade of life were found to have both a primary carcinoma and asbestosis of the lungs. A table listing 10 reported cases, collected from the literature, in which a carcinoma and asbestosis of the lungs was found, is presented. The authors briefly consider the possible relationship between the two disease processes. However, they conclude that the data from 2 cases are insufficient for a statistical evaluation.

Caution in ascribing a relationship between carcinoma and asbestosis on the basis of 2 cases is justified. In the first case, the location of the carcinoma as described in the right main stem bronchus is a region least affected in asbestosis. It, however, is in an area where carcinoma is frequently found in persons who have not been exposed to an asbestos hazard.—Reuben Z. Schulz.

DUST, SMOKE, FUMES, VAPORS: DETERMINATION AND ELIMINATION

DETERMINATION OF ACETYLENE IN THE AIR OF INDUSTRIAL PLANTS. E. A. Finkelshtein. Zavodskaya Lab., vol. 9, pp. 52-54 (1940).

A method was developed for determining small amounts of C_2H_2 in concentrations up to 0.0005 vol.-% in air. Two traps were connected in series; the first consisted of glass tubes (1.1 mm. in diameter) packed with 10 g. of 10/20 mesh porous polymer beads, immersed in liquid O and filled with 8.55 g. of C (diameter of the grains 1-3 mm., height of the column 9 cm). Through these was passed a mixture of C_2H_2 and N_2 . Before each experiment the C was heated to 120-150° and the gases were forced out. The temperature of the gas over the C was measured with a calibrated Cu-constantan thermocouple and was constant at 181-183°. The adsorption was determined after 1 cc of N_2 was passed through the traps and all gas expelled from the gasholder. The adsorbed gas was desorbed into Petri tubes filled with a reagent. Desorption at first took place owing to heat exchange with the surrounding atmosphere. After complete desorption, the traps were heated to 120-150° by blowing with N_2 . The completion of desorption was determined by the absence of color in the Ilosvay reagent. The amount of C_2H_2 was determined color-

metrically. At velocities over 10 l/min. some C_2H_2 passes into the second trap. The presence of O in the air has no effect on the results of the determinations. The determinations required from 30 min to 2 hrs.—W. R. Henn (Chem. Abstrs.).

MAGNESIUM ACETATE AS AN ASHING AGENT IN FLUORINE ANALYSIS. Wm. E. Crutchfield. Ind. Eng. Chem., Anal. Ed., vol. 14, pp. 57-58 (1942).

In determining less than 0.1 mg of F in biological fluids there is danger of losing some F during the ashing of the sample. Many of the ashing agents recommended in the literature are likely themselves to contain F. Some 2000 analyses were made with fair success when MgO_2 was used but difficulty was encountered with some samples of food. Pure $Mg(OAc)_2$ prepared from electrolytic Mg was found excellent. The blank is negligible and more concordant. In 64 cited results the greatest error appears to be 36.9% in determining 0.084 mg. of F.—W. T. Hall (Chem. Abstrs.).

DETERMINATION OF BENZENE IN THE AIR OF INDUSTRIAL PLANTS. M. V. Alekseeva. Okhrana Truda, no. 8, p. 38 (1940).

S TEST IN EXPERIMENTAL ETHYLENE GLYCOL POISONING. O. Cortese. *Russ. Med. Indust.*, vol. 12, pp. 383 (1941).

The test tries to find out the filtering power of glomeruli by measuring the amount of creatinine excreted after intake of a given quantity of glycol. The author injected subcutaneous doses into 4 rabbits for a rather long time (days) and found that the tubular apparatus is damaged while the glomerular function is much affected.—L. Teleky.

ETHYLENE GLYCOL POISONING. J. A. J. and minor notes, vol. 117, p. 1492 (Oct. 1941).

Attention is requested regarding diagnosis of a case of possible ethylene glycol poisoning. A patient had been exposed to ethylene glycol, while working in a powder factory. At the end of 33 months of employment, shortness of breath on effort, and epigastric pain were noted. Examination gave a blood pressure of 130/80 mm. Hg, pulse 100, and a normal electrocardiogram. The electrocardiogram showed a normal rhythm. Small doses of digitalis caused a revert to normal rhythm.

On the basis of the reply suggests the need for further physical and medical examination before a diagnosis can be formed. Exposure to concentrations of 25 ppm has been associated with the symptoms mentioned. The actual exposure, the symptoms mentioned, and the diagnosis of ethylene glycol poisoning, but the outstanding features of such poisoning, namely mental disturbance, anemia, and leukopenia. A definite anemia was present, but leukopenia is fairly constant.

OF FLUORINE IN THE URINE IN CASES OF POISONING AMONG CRYOLITE WORKERS. H. Buckwald and K. Roholm. *Acta Med. Scand.*, vol. 106, pp. 261-273 (1941).

The fluoride content of 24 hr. urine samples from 10 patients on normal diets averaged 0.18 to 1.85 mg. The per liter values were from 0.30 to 1.60 mg, average 0.85 mg. Workers exposed to cryolite (Na_2AlF_6) showed values lay between 2.41 and 43.6 mg. Urinary fluoride varied according to the amount of fluoride intake. It was noted that generalized osteoporosis was observed in workers caused by fluoride developed in the bone of about 25 mg fluoride for a period of 10 years.

Cryolite workers still excrete about 10 mg of fluoride years after they have left the industry. The fluoride deposited in the bone is gradually mobilized, while at the same time the bony tissue is built up.

The possible development of an endemic osteoporosis is present in regions where the fluoride content of the drinking water is especially high or where the use of fluoride is great. There follows a discussion of observations from the recent literature which strengthens this view.—Authors' Summary.

TELLURIUM POISONING. W. Haring. *Dtsch. med. Wochenschr.*, vol. 67, pp. 930-932 (1941).

There has been only one case of poisoning by tellurium reported by the person involved (Tietz, *Samm. Vergiftungsfällen*, p. 163, 1934), although there were reports on tellurium absorption in the Public Health

Reports in 1920. The present author reports in detail a second case which occurred in the same way—in laboratory work. On pipetting a 1% solution of potassium tellurite in water, a small amount was swallowed. For 5 months there persisted a strong garlic odor of the breath and a black discoloration of the buccal mucosa (tongue and gingiva). Furthermore, there was nausea, a bad general condition at first, and 2 wks. later, headache, dizziness, vomiting, diarrhea, marked sweating (with garlic odor) and weakness. In the first few weeks there was low blood pressure (100/75), 10-24 stippled cells per 10,000 red cells, apathy and weakness lasting for many months.—L. Teleky.

DUST HAZARDS AND THEIR EFFECTS

EXPERIMENTAL STUDY OF INHIBITORY EFFECTS OF ALUMINUM COMPOUNDS IN SILICOSIS. L. U. Gardner, M. D. Orski, and A. B. Delahant. *Bull. Am. Ceram. Soc.*, vol. 20, pp. 281-284 (1941).

Experimental tests were made using vitrified sagger containing 50% free SiO_2 . No silicotic reaction occurred in guinea pigs within 12 mos. Previous experiments showed similar preventive action resulting from the use of $\text{Al}(\text{OH})_3$. Whether the protection in the case of the sagger clay was due to the Al in the dust or to other mechanisms could not be established. The free SiO_2 content of a dust is not necessarily a reliable index of its capacity to cause silicosis.—Kerr. (*Chem. Abstrs.*)

ROENTGENOLOGIC PICTURE OF PULMONARY ASBESTOSIS. G. Mastrosimone. *Russ. Med. Indust.*, vol. 12, pp. 429-452 (1941).

The author gives a description of roentgenologic findings in asbestosis, based on 400 pictures. 6 cases are described extensively and 7 pictures are reproduced. The author describes in detail the technic. He outlines 4 stages of fibrosis. The first stage seems to be identical with "more fibrosis than usual". The second stage shows, besides an increase in this fibrosis, spots of various size and of irregular density. The third stage fibrosis continues to increase, especially in the vicinity of the pleura, and emphysema is indicated by shadows near the heart and diaphragm. The fourth stage shows all the signs mentioned before, and enlargement of the borderlines of the heart and the diaphragm, and emphysema in the upper fields.—L. Teleky.

diaphragm, and emphysema in the upper fields.—L. Teleky.

SOFT COAL MINERS' HEALTH AND WORKING ENVIRONMENT. R. H. Flinn, et al. *U. S. Pub. Health Service, Bull. No. 270* (May 1941).

This bulletin describes the results of a survey made in the bituminous coal mines of Utah. Studies of the working environment, mining methods, engineering control of hazards, and incidence of silicosis are included. Some representative case histories and plates are given. The incidence of pulmonary tuberculosis was 2.7% which agrees closely with that in the general population. Anthracosilicosis was found in 3.2% of the group examined (3 mines comprised the study group). Of the 16 workers with anthracosilicosis, 15 were first stage and one second stage. No third stage cases were found. Recommendations and improvements are given.—Leslie Silverman.

FIBERGLAS HEALTH HAZARD INVESTIGATION. W. J. Siebert. *Ind. Med.*, vol. 11, pp. 6-9 (Jan. 1942).

Glass fiber products have been recently introduced for thermal and electrical insulation. On the basis of study of the physical and chemical properties of the substance, review of the literature for reports of possible hazards and examination of several hundred individuals exposed to the material, Dr. Siebert concludes that there is no silicosis, fibrosis or dust hazard connected with Fiberglass work. There occurs, in some workers, a mild, transient dermatitis.—Doris Dart.

DUST, SMOKE, FUMES AND VAPORS: THEIR DETERMINATION AND ELIMINATION

WEBSTER TEST FOR T.N.T. DERIVATIVE IN URINE. J. Ingham. *Lancet*, vol. 241, pp. 554-555 (Jan. 1941).

The author describes a modification of the Webster test for TNT in urine. The sensitivity of this reaction is increased by boiling the mixture of urine and

H_2SO_4 before adding the ether and by using a larger quantity of urine.

A simplified technic for routine daily urine examination of workers is described in which the ether extraction is carried out in a test tube. Alkali is then added to the layer of ether which separates from the urine-