slightly. The malignant dust disorders are produced by highly active dusts, which cause considerable functional impairment. Some dusts, such as those from woods, may elicit allergic reactions. Concerning silicosis, he shows that seven different forms can be differentiated on the basis of the anatomic severity and the pathomechanical and pathomorphological classification. He mentions among other aspects reticulation, nodulation, granulation and induration, and also differentiates between mild, moderate and severe forms of silicosis.

ABDOMINAL ANTHRACOSILICOTIC PHLEBITIS. F. BARTÁK, Časop. lék. česk. **88**:1386 (Dec. 2) 1949.

A woman aged 55 had worked for 19 years at polishing wooden and rubber heels. She had suffered with abdominal pains and constipation, and was finally admitted to a hospital with symptoms suggesting suppurative cholangitis; she died shortly afterward. At postmortem examination a mild degree of anthracosilicosis of the lungs was found, with severe involvement of the hilar, tracheal, para-aortic, hepatic and splenic lymph nodes. The mesenteric veins were thrombosed, and the intestine was gangrenous, as a result of phlebitis caused by coniosis extending from the lymph nodes to the walls of the adjacent blood vessels. On microscopic examination of liver and spleen, perivascular coniosis with proliferation of fibrous tissue and thrombophlebitis was seen, together with similar changes in the lymph nodes, where the pathological process had involved the capsule and the walls of adjacent blood vessels, which contained organizing thrombi. Dust of carbon and silica which were used in the polishing process had been inhaled and had subsequently passed backward along the lymphatic system to the abdominal organs, which were much more affected than the lungs. The unusual distribution of the lesions suggests that blockage of the thoracic duct had caused the normal direction of flow of the lymph to be reversed.

D. J. BAUER [BULL. HYG.].

Industrial Toxicology

DETERMINATION OF SMALL AMOUNTS OF CHROMIUM IN HUMAN BLOOD, TISSUES, AND URINE. PAUL F. URONE and HANNS K. ANDERS, Analyt. Chem. **22**:1317 (Oct.) 1950.

Urone and Anders describe a rapid colorimetric method for the determination of small amounts of chromium in human blood, tissues and urine. The method is sensitive to 0.005 mg. of chromium per milliliter of final solution. Samples are ashed in borosilicate glass beakers by a combination of wet-ashing and dry-ashing methods. The blood and tissue samples are oxidized with bromine in alkaline solution. Oxidation of the urine samples is accomplished with sodium bismuthate in acid solution. Diphenylcarbazide is used as the color reagent. A clear red-violet color is obtained which can be measured colorimetrically or spectrophotometrically. Comparative standardization curves and typical analyses are given.

ADAPTATION OF AUTHORS' SUMMARY.

THE ANTICHOLINESTERASE ACTIVITY IN VITRO OF THE INSECTICIDE PARATHION (P-NITROPHENYL DIETHYL THIONOPHOSPHATE). D. GROB, Bull. Johns Hopkins Hosp. **87**:95 (Aug.) 1950.

Grob points out that in recent years German chemists have synthesized a number of esters of phosphoric acid which have proved to be extremely potent inhibitors of cholinesterase enzymes. These organic phosphates include di-isopropyl fluorophosphate (DFP), hexaethyl tetraphosphate (HETP), tetraethyl pyrophosphate (TEPP), and O,O-diethyl O,paranitrophenyl thiophosphate (parathion). DFP and TEPP have found clinical application in a number of situations in which cholinergic drugs are employed, including the treatment of abdominal distention, glaucoma and myasthenia gravis. HEPT, TEPP and parathion, especially the latter, have been employed as insecticides, chiefly in agriculture, and have been more effective than DDT against most insect parasites, including mites.

Grob shows that parathion inhibits human cholinesterase enzymes in vitro, but its activity is less than that of TEPP, DFP or neostigmine. All of these anticholinesterase compounds have a greater affinity for plasma cholinesterase than for red blood cell, brain and muscle cholinesterases.