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guinea pigs when tested by the old tuberculin intracutaneous skin reaction. Killed tubercle bacilli are effective sensitizers under certain conditions. Light-killed tubercle bacilli were found to be less efficient than heat-killed bacilli, while bacilli killed by certain chemicals, such as carbolfuchsin or ether, were the most efficient. H. J. CORPER

The colloidal theory of silicosis. PATRICK HEFFERNAN. *Tubercle* **11**, 61–2 (1929).—A restatement of the "colloidal" theory of the pathol. action of inhaled silica dust is briefly: the silica dust particles, cryst. cryptocryst., or amorphous, are engulfed by phagocytes (macrophages) in the wall of the pulmonary alveoli, and conveyed into the pulmonary lymphatic channels, where they come to an arrest. The silica particle, within the phagocyte, is "hydrated" at its surface into colloidal silica hydrosol, the production of a "sol." alkaline silicate being a temporary intermediate stage in the process of hydration. The hydration occurs at the expense of the protoplasmic fluid of the phagocyte, which becomes vacuolated and dies, leaving a "ghost," of cell wall and stroma, behind. The foregoing processes are retarded if the silica particle has a protective coating, *e. g.*, of C, clay, etc., and are accelerated by the presence of alkali, *e. g.*, if the silica particle has a coating of alk. soap. After the death of the phagocyte the action spreads to the surrounding tissue cells, which are similarly influenced. So far the facts are capable of verification and the net result is destruction of tissue cells, and in due time replacement. Further is deduction or "extrapolation." Whether the action is one of simple dehydration of tissue cells or whether certain constituents of the cell protoplasm are selectively absorbed by the silica hydrosol, or whether reactions such as coagulation of cell colloids and the formation of silico-org. compds., stoichiometric or adsorptive, occur, is still unknown. The process may continue until all the silica particle is dissolved, when equil. is attained by some such means as the formation of relatively stable silico-org. substances (*e. g.*, cholesterol silicate in bird feathers) or adsorption compds.; or by the coagulation of the silica hydrosol into an irreversible gel or by the elimination of the silica, in its "sol." state, in the urine. On the other hand the hydration of the silica particle may cease, temporarily or permanently, before the particle is completely "dissolved." In this case there would be a central core of undissolved silica surrounded by silica hydrosol or gel, next to this a zone of the "ghosts" of dead cells, outside of which would be a zone of small-celled infiltration or fibrosis. Such a system would constitute a typical "silicotic" nodule. Such a dormant silica next could be reactivated should the protective barrier break down and alk. tissue juices again come into contact with the silica particles. "Silicotosis" is believed to be a true silicosis, possibly modified by the Ca, Fe, Mg, Al, etc., from which the colloidal silica has been set free. The question of the elimination of silica from the body urgently needs investigation. H. J. CORPER

The reaction of tissues to the asbestos fiber, with reference to pulmonary asbestosis. S. ROODHOUSE GLOYNE. *Tubercle* **11**, 151–3(1930).—Asbestos fibers, when injected into the body, act as a benign irritant, producing granulation tissue. This granulation tissue contains many asbestosis giant cells, presumably an attempt to destroy the asbestos fibers by phagocytosis. Connective tissue is formed in due course, but the giant cells persist. The asbestosis giant cell is readily distinguished from the true tuberculosis giant cell. Asbestosis bodies are not found. Asbestosis injected repeatedly intravenously appeared to have no toxic effects on distant tissues. H. J. C.

A case of osteitis fibrosa cystica (osteomalacia) with evidence of hyperactivity of the parathyroid bodies. Metabolic study I. R. R. HANNON, E. SHORR, W. S. MCCLELLAN AND E. F. DU BOIS. *J. Clin. Investigation* **8**, 215–27(1930).—**II.** W. BAUER, F. ALBRIGHT AND J. C. AUB. *Ibid* 229–48. **III.** W. S. MCCLELLAN AND R. R. HANNON. *Ibid* 249–58.—A series of studies of the Ca and P metabolism of a patient showing evidence of hyperactivity of the parathyroids, before and after parathyroidectomy. ARTHUR GROLLMAN

Calcification in arteriosclerosis and in dental disease. BERNARD B. BADANES. *Dental Cosmos* **71**, 1088–97(1929).—A review with bibliography. J. S. H.

Blood chemistry in ununited fractures. MILTON J. WILSON. *J. Am. Inst. Homeopathy* **23**, 334–5(1930).—In a series of fracture cases, union was defective in 16 cases with normal blood Ca and P and in 10 cases with low blood Ca and P, while normal union occurred in 7 cases with low blood Ca and P. JOSEPH S. HEPBURN

Composition of diphtheria toxin-antitoxin floccules. J. R. MARRACK AND F. CAMPBELL SMITH. *Proc. Roy. Soc.* (London) **B106**, 1–19(1930).—The floccules formed by diphtheria toxin and antitoxin closely resemble serum pseudoglobulin, have ultraviolet absorption curves identical with those of that protein, and contain only a very small fraction of lipoids. The amt. of ppt. obtained from a balanced mixt. of a given toxin and antitoxin is to a large extent independent of the conditions under which