

with typhoid excreta after forty-one, thirty-four and thirty-five days. Under hot-house conditions in sandy soil, strain 1 survived fifty-three days. The longevity was increased under the same conditions in garden soil enriched with sterile sewage and broth to seventy-four days. Similarly, the viability of fresh culture of strain 2 in garden soil was forty-nine days. No evidence has been found that would indicate the entrance of *B. typhosus* into the interior of the plants. The organisms become attached to the surfaces from their contact with the soil and are not removed by ordinary washing. Under natural conditions, radishes grown in contaminated soil were found to be still infected with typhoid bacilli in 3 experiments after periods of thirty-seven, twenty-eight and thirty-five days, respectively; and from lettuce, after twenty-one days. This is ample time for the maturing of such vegetables. It may be reasonably concluded that vegetables grown in soil fertilized with fresh typhoid excreta shortly before planting or during the growing season are likely to be contaminated at the time they reach the consumer. Vegetables so contaminated are not made safe by the ordinary method used in the preparation of such foods for table use, and may, therefore, be a source of typhoid infection.

The Focal Pulmonary Tuberculosis of Children and Adults.—OPIE (*Jour. Exper. Med.*, June, 1917) examined fifty adults and found evidence of tuberculosis infection in all of them. Approximately one-half of all adults have encapsulated lesions of the lungs or bronchial lymphatic nodes, whereas in one-third pulmonary and lymphatic lesions are firmly calcified and completely healed. Tuberculosis pulmonary lesions of adults who have died of diseases other than tuberculosis are of two types: (1) apical tuberculosis similar to the usual type of fatal phthisis and unaccompanied by caseation of the regional lymphatic nodes; (2) focal tuberculosis not more commonly situated in the apices of the lungs than elsewhere and accompanied by caseation (or calcification) of the adjacent lymphatic nodes. Focal pulmonary tuberculosis of adults is identical with the tuberculosis of childhood. It occurs in at least 92 per cent. of all adults. It may be acquired between the ages of two and ten years but in more than half of all individuals (in St. Louis) makes its appearance between the ages of ten and eighteen years. Tuberculosis of children does not select the apices of the lungs, is accompanied by massive tuberculosis of regional lymphatic nodes, and exhibits the characters of tuberculosis in a freshly infected animal, whereas tuberculosis which occurs in the pulmonary apices of adults has the characters of a second infection. Almost all human beings are spontaneously "vaccinated" with tuberculosis before they reach adult life.

Methods for the Determination of Pneumococcus Types.—BLAKE (*Jour. Exp. Med.*, July 1, 1917, p. 67) states that the determination of pneumococcus types in lobar pneumonia is of value in the field of prognosis and as a prerequisite for specific serum therapy. The method for the determination of types should be as rapid as possible and a standard technic should be employed. The most satisfactory method is by the intraperitoneal inoculation of a mouse with the patient's sputum, by which means a rapid and abundant growth of the pneumococcus is