

heat, and standardized. Eleven students were vaccinated at seven-day intervals, with three doses of 1,000,000,000 2,000,000,000, and 2,000,000,000 bacteria respectively. A slight leukocytosis followed, with malaise, headache, and fever. Occasionally signs were present suggesting meningeal irritation—severe headache, vomiting, vertigo, and photophobia. A local reaction with redness and swelling, and adenitis is the rule. The reaction lasts twenty-four hours. The immunity acquired was measured by agglutination and complement-fixation tests. The agglutinins increased after the repeated doses, one patient developing them to a titer of 1 to 1500 dilution of the serum. The highest complement-fixation was obtained in serum dilution of 1 to 250, at the end of the third week. All evidence points to the efficacy of the injection of dead meningococcus for prophylactic vaccination, as a measure which will confer considerable immunity in most cases against the infection of epidemic meningitis. The cases will be followed to determine the persistence and duration of the immunity.

Endemic Typhus Fever (Brill's Disease).—NICOLL, KRUMWIEDE, PRATT, and BULLOWA (*Jour. Amer. Med. Assoc.*, 1912, lix, 521) report a unique instance in the history of the endemic form of typhus fever (Brill's disease), in which the disease affected four members of the same family, two parents and their children. Clinically they represent types of the disease varying from the comparatively mild to an example of typhus fever such as is commonly seen in epidemics, thus giving, as it were, a clinical demonstration of the identity of the endemic and epidemic forms. The patients were Russian Hebrews of the poorer class and all were infested with head and body lice. Inoculation of the blood of one of the patients gave positive results in two guinea-pigs whose blood, in turn, injected into a monkey, caused a typical typhus temperature reaction. The authors have shown for the first time that it is possible to infect guinea-pigs with the disease, an additional point of similarity to the epidemic type.

Treponema Mucosum and Pyorrhea Alveolaris.—NOGUCHI (*Jour. Exper. Med.*, 1912, xvi, 194) isolated a small spirocheta from the pus of a case of pyorrhea alveolaris which is characterized chiefly by its capacity to produce mucin and a strong fetid odor. It is an anaërobe, and requires the presence of serum constituents for its growth. Subcutaneously it produces an acute inflammation and the tissues remain indurated a week or ten days. But there is no tendency to suppuration. The organism is easily differentiated. It has been named *Treponema Mucosum* and Noguchi holds it at least in part responsible for the strong fetid odor in the discharge from pyorrhea alveolaris.

Experimental Bronchopneumonias.—Following the experimental production of lobar pneumonia by intrabronchial insufflation of pure cultures of pneumococcus (Lamar and Meltzer), the advisability was suggested of applying the same method to the action of organisms usually found in association with bronchopneumonia. This was done by WOLLSTEIN and MELTZER (*Jour. Exper. Med.*, 1912, xvi, 126). Cultures of the streptococcus and influenza bacillus were injected