being taken to have them free of vitamines. These hydrolysates were tested on the growth of streptococci and yeast cells. The bacterial growth was measured by the increase in the acidity of the medium, by means of the Sörensen Indicator method. The action on yeast was not constant, and in most cases showed a growth inhibition due to the known inhibiting action of certain amino acids.

The results on streptococci, which are summarized in Table III, strongly suggest that the growth-stimulating action of protein hydrolysates is not due to a constituent part of the protein molecule, but to a vitamine-like substance, probably similar to vitamine D, which is present as an impurity, and which cannot be removed by the known methods of protein purification.

93 (1840)

The existence of different immunological types of B. pertussis.

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Twenty-two strains having the typical morphological and cultural characteristics of *B. pertussis* have been studied by means of the agglutination and agglutinin absorption reactions. These tests have demonstrated that the cultures studied fall into two serological groups. If the two groups are tentatively designated as "a" and "b" the results may be briefly described as follows: Anti-serums for group "b" agglutinate the strains of group "b" but agglutinate the strains of group "a" very slightly or not at all. The absorption of group "b" serum by group "a" strains does not appreciably reduce the agglutinins for group "b." Group "a" serum, however, agglutinates group "b" strains to a considerable extent. The absorption of group "a" serum by group "b" strains results in a reduction of the agglutinins for strain "a." The serological differences, therefore, are sharply defined in one direction, but group relationship is shown in the reverse direction. These findings are of immediate interest because of their possible bearing on the use of pertussis vaccines.