

test. A strain secured by me a few years ago from a Rockwood Hospital patient, dead of typhoid, has proven superior to several other strains isolated by me or secured from others. In making the test it is best to use an 18 to 24 hour old broth culture grown at 37°C the broth being inoculated from a stock agar tube which is replanted every fortnight. Some prefer to transfer from day to day from one broth culture to another, but after a few days it is best always to go back again to the stock agar culture.

The reaction will occur with a culture of bacilli which have been killed by heat, but of course we have no motility here to be lost and further the dead bacilli have a marked tendency to fall to bottom of containing tube and naturally tend to adhere more or less to each other. Dead cultures are practically never used in laboratory practice but would prove of value where cultures could not be carried on. The ordinary method of making the test is to mix a loop or ose of the diluted serum with a similar loop of the broth culture on a cover glass and then examine this in a "hanging-drop" preparation. This brings me to speak of the third and last point in the method, i.e., the reaction time. Frequently one finds the reaction develop at once so that it is present as soon as preparation can be placed under microscope. In other cases and particularly in low dilutions the reaction is slower and one can trace its gradual progress. In dilutions of 1 in 20 one hour is perhaps the outside time limit while in lower dilutions the time can be extended a second hour. I have rarely seen a true reaction develop after the first hour, though pseudo-reactions are apt to develop at later periods so that all late reactions should be looked upon with some suspicion. Finally to speak of my own experience with this test which has been to a great extent limited by the fact that until this season we have had but little typhoid and when we had the typhoid the bacillus was subjecting me to its vagaries so that I could not make of the material afforded by the epidemic. However, I have used examinations in 125 cases so far, of these 84 were positive and were clinically typhoid. In seven of these cases a second or third examination was made before the reaction became positive. Of the remainder 19 were undoubtedly not typhoid