alkalinity to increase rapidly, the most efficient drug being sodium lactate.

In July, 1904, he pointed out a simple method of making slides for blood films, and making a differential count by rubbing the slide with fine emery paper and sliding the other one along it at an angle with the drop of blood, spreading it evenly. He pointed out the possibility of the application of formalin gelatin as an antiseptic and disinfectant protective skin to denuded surfaces, and for the arrest of hæmorrhage oozing.

He studied the micro-organisms found in association with some pathological affections of the mouth, particularly pyorrhœa alveolaris and pointed out that the organism of this disease, known as the Bacillus Fusiformis, was in reality Trypanosoma-like in nature.

In 1902 he studied and developed the technique for the measurement of the bactericidal power of small samples of blood under ærobic and anaerobic conditions, and on the comparative bactericidal effect of human blood drawn off and tested under these contrasted conditions. This involved first a standardization of the bacterial culture employed, which he accomplished by employing one and the same stock of bacteria, and a young culture of 24 hours age, and by determining in each case the number of bacteria in a measured volume of that culture. This he did by making a measured dilution of the culture by means of a special capillary pipette which he constructed so that he could mix and dilute his cultures one million-fold to ten million-fold, or other dilutions; and then to enumerate them subsequently he transferred a series of measured volumes of the diluted culture, say 10 c.m., to the surface of a solid nutrient media and counted them by deducing the number of bacteria from the number of colonies which develop on the corresponding agar tube, and then reckon back the number in the original fluid before dilution.

Next he constructed specially built capillary tubes by means of which he aseptically drew off a measured volume of blood from the patient and hermetically sealed it. This is then centrifugalized and the serum and corpuscles thus separated. Thus in the method of bactericidal estimation of the blood, a series of measured volumes of undiluted serum are brought in contact with a series of graduated dilutions of the culture, the object being to determine what is the lowest dilution of the culture with which a complete bactericidal effect is exerted. This he did by means of a specially graduated pipette which he made with a spiral and a bulb. He draws up into it a certain definite amount of sterile broth, then the serum and the diluted culture, which are then