Three antisera were employed: (1) Antityphoid (rabbit) serum, (2) antiabortion (ox) serum and (3) antimallei (rabbit) serum. The antigens were bacillary suspensions of the specific organisms titrated in accordance with standard technique. The complement fixation tests were carried out in each case with unheated serum and the same immune serum subjected to different temperatures up to 85 degrees C., for varying intervals.

It was found after subjecting these sera to a water-bath temperature of 65 degrees C. (the thermal destructive temperature of syphilitic sera) for 1 hour, that the antibodies remained in tact. Higher temperatures showed varying degrees of antibody destruction depending particularly on the time of exposure. One hour heating at 70 degrees C. caused between 20 and 60 per cent. of antibody destruction. Thirty minutes exposure at 75 degrees C. caused between 80 to 90 per cent. of destruction. Fifteen minutes at 80 degrees C. destroyed the antibodies completely.

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On the persistence of complement fixing antibodies in the serum of rabbits immunized with purified proteins.

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This report is based on two experiments: Rabbit A was immunized intravenously with edestin and Rabbit B, intraperitoneally with phaseolin. Rabbit A received the first injection of protein November 15, 1920, and the last, eight days later. The quantities injected were 50, 75, 100, 125 and 150 mgm.—a total of 0.5 gm. Rabbit B received its injections between December 28, 1920, and January 5, 1921; the quantities were 100, 150, 200, 250 and 300 mgm. of protein—a total of 1 gm. The sera of these rabbits were examined from time to time for the presence of specific complement fixing antibodies, the last examination having been made on May 5, 1921. The results showed a gradual de-

crease in the number of antibodies. A sufficient number of these bodies, however, were present during the May determination to merit the designation of 3 plus (+++) with the usual complement fixation technique.

The case of Rabbit A, immunized with 0.5 gm. of protein showing in its blood the presence of complement fixing antibodies five months after immunization, is of significance inasmuch as it revives the old disputed question as to the nature of the complement fixing antibody. The widely accepted view that this antibody is an indication of the presence of an active antigenic manifestation in the body as differentiated from the agglutinin, for example, which is a true antibody, is brought to question ; since one would have to assume that some of this small quantity of protein is present in the animal in some form, after 5 months—a quite unlikely condition.

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Influence of radium and x-rays on the frog's leucocytes.

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The white blood corpuscles are the most sensitive cells to the action of radium and x-rays. The senior writer has indicated in his previous publications that this action differs specifically for the various types of the white blood cells. This "selective" biological action of the rays goes even beyond the apparent structural differences of the cells. The rays for instance destroy rapidly the lymphocytes of lymphatic leukemia, while they have a comparatively slight effect on the lymphocytes in conditions of inflammatory leucocytosis. As a general rule the result of the action of radium and x-rays on the normal blood consists in the diminution of the number of lymphocytes and a relative increase in the number of the polymorphonuclear leucocytes. The other types of leucocytes usually remain unaffected.