His work has been repeated in this laboratory as nearly as was possible from the meagre description given of his technic. Three old and three young rabbits were injected under the skin of the ear with the Scharlach R-olive oil solution, and the injected tissue excised and examined at times varying from seven to sixty-one days. Our results show that the solution has absolutely no influence on the epithelial elements, but acts as a mild irritant, inducing a chronic inflammation with slight reaction on the part of the connective tissue in the case of the old rabbits, and a greater reaction with the formation of foreign body giant cells in the case of the young rabbits, the conclusion being that the attraxin theory is without sound foundation, in so far as "Scarlet-oil" is concerned.

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The effects of struggle on the content of white cells in the lymph.

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As the first stage of an investigation into the content of white cells in the lymph under certain common physiological and pathological conditions, the author has studied the effects on this content of variations in muscular activity. The lymph running from the thoracic duct was collected in a special mixing-tube — 3 c.c. of lymph to 3 c.c. of a 4 per cent. solution of sodium citrate in 0.8 per cent. salt solution — tinting accomplished with a trace of methyl violet, and counts made in the blood-counting chamber. Adult dogs under morphin and chloroform were used.

Preliminary determinations, with the animal quiet, showed that for any one individual the number of leukocytes per c.mm. of lymph was practically a constant during the 1–4 hours in which observations were made. Thus certain unavoidable changes in the body state — increased concentration of the blood as the body lymph drained away, variations in the amount of anesthetic — could for later work be ruled out as regards any marked influence in lymph's cell content.

The effects of struggle were then taken up. With struggle, as others have shown, the lymph flow increases sharply in amount for a few minutes. With this the author found a corresponding increase in cell content, an increase marked in "cell concentration" per c.mm. of lymph and in the total number of elements passed. Specimens taken at short intervals showed that the curve of increase in cell concentration was not coincident with that of the lymph flow, but was somewhat retarded, the greatest cell increase often existing in the few c.c. of lymph obtained in the quiet immediately following muscular exertion. That a transient flushing out of cells was not responsible for the main results, was shown by the data from long-continued struggle. The cell content and concentration remained high throughout, even when the rate of lymph flow had lessened to that seen previously during quiet. In an instance in which struggle was prolonged to 35 min. slightly more than twice as much lymph was voided, and over four times as many cells, as in the 35 min. of quiet immediately preceding. Following such prolonged exertion the lymph was for a time poorer in cells than previous to it.

An additional conclusion reached was that, for a given individual, the lymph glands seem "set" to produce cells at definite rate. This rate has a wide range for reasons unknown. The cell increase with struggle comes from the peripheral lymph system rather than from sedimented cells in the receptaculum chyli, and is probably dependent on another factor besides increased lymph flow (a supposition upheld by later experiments with lymphagogues). The facts elicited have a bearing on the "physiological mononucleosis" of the blood observed in man following active exercise, on the disappearance of this following prolonged exertion (25 mile run), and the absolute decrease in mononuclears sometimes seen.

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A lipolytic form of hemolysis.

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The varieties of hemolysis hitherto described imply the direct action of certain chemically-defined bodies, acids, alkalis, glucosides,