periments was there any appreciable decrease below the normal minimum. There was no alteration in the morphology or staining qualities of the red cells. Furthermore, it was found that but slight reactions occurred in the white cells of the blood. Immediately following the inoculation there was a temporary rise in the number of white cells amounting in its greatest extent to 2,000 cells above the normal maximum (10,000). This increase remained only for twenty-four hours and then the count declined to normal. The increase was not confined to any particular type of cell, though the response in the polymorphonuclear neutrophiles was more common. The experiments indicate that for the amount of the cholesterin mixture used intravenously, there is no particular reaction in the blood cells of this animal. There was no evidence that the cholesterin macrophages appearing in organ lesions during hypercholesterinemia, migrate by the blood stream.

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The physical state of antigen as related to the specificity of the Wassermann reaction.

(Preliminary Communication.)

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The shortcomings in the diagnostic value of the Wassermann reaction have been demonstrated by many authors. Of late, however, in addition to errors inherent to this reaction on account of its very nature, different investigators called attention to discrepancies arising from the use of various modifications. There is a definite tendency among the serologists to standardize the Wassermann test as a whole and thus make the results obtained by different workers comparable. In view of facilitating this standardization, we wish to call attention to certain qualities of antigen which have not been described thus far.

So far as the chemical composition of antigen is concerned, the

pure lipoid (acetone insoluble fraction of tissue lipoids) properly prepared is, in our experience, by far superior to any watery or alcoholic extracts, as well as to those reinforced by cholesterin.[1] We found, however, that in order to obtain constant results it is not sufficient to merely ascertain the chemical composition of antigen, but its physical state as well. By changing the method of emulsifying the alcoholic solution of acetone insoluble tissue lipoids in salt solution, we obtained emulsions which were essentially different from one another. In general, the emulsions can be divided into two groups: those opaque and those only slightly opalescent and fluorescent. The two types are essentially different; thus no amount of dilution of the opaque emulsions will give them the fluorescent appearance characteristic for the second group of emulsions even though the degree of opalescence can be approached.

We found that the results of Wassermann tests performed on the same sera with these two emulsions give different results, and in general the opaque emulsions are more anticomplementary and the fluorescent are more antigenic. The opaque emulsions of antigen give the results comparable to those obtained with cholesterinized alcoholic extracts, namely, one obtains more positive reactions in treated cases as well as in a certain percentage of normal cases and misses a number of reactions in early stages of syphilis, whereas the fluorescent-opalescent emulsions, though missing a certain number of treated cases, are very much more sensitive and specific at the same time.

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The influence of subcutaneous injections of morphine upon the hydrogen ion concentration of the urine in the dog and rabbit.

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The subcutaneous administration of morphine (morphine sulphate, 10 mg. per kilo body weight) to fasting dogs results in the

[1] We are reporting elsewhere a comparative study with different antigens on over 20,000 cases.