

part calcium phosphate and one part sodium chloride. In one cage the rats were given distilled water to drink, and the other, water containing 0.1 mg. of iodine per liter. Two rats on each diet were killed after 4 weeks and the weighing of the thyroid completed within 7 minutes after death. This process was repeated every 2 weeks until all had been killed. The following table shows the thyroids to be doubled in size in rats not receiving iodine:

Rat	Iodine-rich.		Rat	Iodine-poor.	
	Body wt.	Thyroid		Body wt.	Thyroid
1.	90 gm.	9.9 mg.	1.	90 gm.	15.7 mg.
2.	99 gm.	10.0 mg.	2.	97 gm.	23.3 mg.
3.	114 gm.	9.9 mg.	3.	127 gm.	33.3 mg.
4.	135 gm.	14.2 mg.	4.	133 gm.	27.6 mg.
5.	137 gm.	12.6 mg.	5.	137 gm.	25.5 mg.
6.	140 gm.	15.3 mg.	6.	140 gm.	30.1 mg.

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The reaction of tubercular serums to phenols.

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In continuing the investigations on the precipitin reaction in tuberculosis begun by Larson, Montank and Nelson,¹ it was found that certain non-specific substances would serve as "antigens".

If a serum from a tuberculous patient is covered with dilute solution of thymol, toluene, phenol or tricresol a cloud is formed at the interface of the two fluids. The reaction occurred with such regularity in the tests on tuberculous serum that it was considered worthy of further investigation. Tricresol was selected as the reagent to be used and made up to a concentration of 0.2 of one per cent in physiologic saline solution. The serums to be tested were covered with the reagent and incubated at 37° C. for a period up to 2 hours. The positive reactions often appeared in the first few minutes. In the far advanced cases the reaction developed more slowly, and in some cases, a week or more before death ensued, a negative result was obtained. Normal guinea

* Introduced by W. P. Larson.

¹ Larson, W. P., Montank, I. A., and Nelson, E., PROC. SOC. EXP. BIOL. AND MED., 1923, xx, 350.

pig, sheep, and rabbit blood serums gave negative results when tested with the reagent. Serum from guinea pigs with moderately advanced tuberculosis gave positive reactions, while those in the last stages of the disease usually gave negative tests.

Thus far the blood serum of 3030 human cases have been examined. Of these, 2286 were students entering the university. Four hundred and eighty-eight were patients in the University Hospital and Dispensary, but not in the tubercular clinic. Two hundred and fifty-six cases, representing all stages of tuberculosis, were from local sanatoriums. From the 2,286 students seven positive reactions were obtained. Two of these have since been found to have tuberculosis, although at the time of the test there were no other symptoms of tuberculosis to be found. Of the 488 cases not suspected of having tuberculosis, 61 gave positive reactions. Eleven of this group were found to be definitely tuberculous. In 22 cases the symptoms recorded were of such a nature as to be suggestive of tuberculosis. In the remaining 28 cases the charts revealed nothing suggestive of tuberculosis. Of the 256 known tubercular sanatorium cases, 238 were positive and 18 negative. Eleven of the negative cases were either cured or arrested. In the 7 remaining cases, 1 was far advanced, 4 were cases of bone, and 2 of pulmonary tuberculosis.

Rabbits immunized against typhoid bacilli, staphylococcus, human blood serum and a polyvalent vaccine containing the organism of *Streptococcus*, *Staphylococcus*, *Pneumococcus*, *Micrococcus tetragenus* and the *Pneumobacillus* all gave negative reactions with the reagent, although in each of the immune serums a high value of specific antibody content was demonstrated by the use of the agglutination, precipitin and complement fixation tests. Anti-pneumococcus horse serums also gave negative reactions with the reagent. On the other hand, the serum of a rabbit immunized with tubercle bacilli gave a very heavy ring when treated with the reagent.

It was also found that serums from apparently normal persons suffering from acute colds gave positive reactions for a few days when the cold was at its height.

In a few incipient cases of tuberculosis the reaction was not as pronounced as in the moderately advanced cases, nevertheless, it was usually very definite. In one instance, the serum from a definitely exposed case gave a positive reaction with the tricresol reagent two months in advance of any tuberculous symptoms or positive sputum findings.