morphologically and culturally. These were obtained from the throats or sputa of patients with primary atypical pneumonia, as well as from persons with other acute respiratory infections without pneumonia. As yet, none of these strains has yielded results similar to those obtained with streptococcus 344 in agglutination tests. Agglutination has either failed to occur or has occurred to an equal degree in both acute-phase and convalescent sera. However, when some of these strains were extracted, it was found that soluble substances were obtained which gave results very similar to those observed in precipitation tests with streptococcus 344.

There is as yet no satisfactory explanation for the positive serological reactions which have been observed with streptococcus 344. The available evidence does not warrant the conclusion that this bacterium is a factor in the etiology of primary atypical pneumonia.

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THE ADRENALS AND SUSCEPTIBILITY TO TRANSPLANTED LEUKEMIA OF RATS

IT was demonstrated some years ago by Jaffe[1] that removal of the adrenals was followed by regeneration of the thymus in old rats and a stimulation of the gland in young rats. A transplantable lymphatic leukemia under investigation in this laboratory has as its most characteristic manifestation an extensive infiltration of the thymus.[2] In the investigation to be reported, the effect of adrenalectomy with its accompanying stimulation of the thymus has been tested on the susceptibility of rats to inoculated leukemia.

Two groups of experiments have been completed. The object of the first was to determine the result of adrenalectomy on the leukemia susceptibility of middle age rats, this being an age when normally the thymus has almost completely atrophied. Even the most receptive strain of rats at this age show a natural resistance, as illustrated by the fact that only 46.9 per cent. of 32 inoculated animals developed the disease. As a contrast to this, rats of the same age and strain subjected to adrenalectomy 15 days before inoculation developed leukemia in 90.3 per cent. of the 31 rats included in the group. The average survival time of the intact rats with the disease was 9.7 day, whereas the adrenalectomized animals averaged only 6.2 day.

In the second group of experiments tests were made of the effect of adrenalectomy on induced resistance of young rats. This state may be brought about by the injection of homologous defibrinated blood two weeks prior to inoculation.[3] In experiments involving 250 rats the following results were recorded. Intact young rats which received the blood injection alone developed leukemia in only 33.9 per cent. of the 59 inoculated. Among the 43 rats adrenalectomized before the injection of defibrinated blood 76.8 per cent. were susceptible and in 42 rats subjected to the reverse procedure, *i.e.*, the blood injection preceding the removal of the adrenals, 92.9 per cent. developed the disease following inoculation. Control rats which received no treatment before inoculation were 96.5 per cent. receptive, and untreated adrenalectomized inoculated rats all died of the disease.

Certain hormones are known to influence malignant conditions in such organs as are normally subject to control by the individual hormone. While in general it is not justifiable to draw conclusions as to the origin of a malignant state from results of a study of transplantation, yet in the present case it may not be amiss to call attention to the fact that the activity of the lymphoid tissue can be influenced by hormones. Therefore it is not unlikely that such hormones play a role in the malignant condition of this tissue, and this likelihood is suggested by the reported results. More direct evidence of this possibility is being accumulated from an extension of the investigation.

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LOW LIGHT INTENSITY AND COTTON BOLL-SHEDDING

MANY reasons have been given for the shedding of flower buds (squares) and immature bolls by the cotton plant. Aside from insect injury, such factors as drought, fluctuations in soil moisture, impaired fertilization in the flower and load of fruit on the plants have all been shown to be related to the problem of excessive shedding. The studies of Mason[1] in the West Indies and those of Knight[2] in the Sudan, as well as the paper by Canney,[3] suggest that periods of cloudy weather may have considerable effect on the fruiting and shedding of cotton.

In studying the causes of shedding in cotton, recent experiments at the Texas Agricultural Experiment Station indicate that interruptions for two or three days in the high sunlight intensities often causes undue shedding of fruiting forms. For example,

[1] H. L. Jaffe, *Jour. Exper. Med.*, 40: 325–342, 1924; 40: 619–625, 1924; 40: 753–760, 1924.
[2] J. B. Murphy and E. Sturm, *Cancer Research*, 1: 379–383, 1941.
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[1] T. G. Mason, *Annals Bot.*, 36: 457–484, 1922.
[2] R. L. Knight, *Empire Jour. Exp. Agr.*, 3: 31–40, 1935.
[3] E. E. Canney, *Shirley Inst. Memoirs*, 3: 281–290, 1924.