inhibited in the icebox, but progressed in the controls which were left in the incubator. No inhibition to hemolysis, as occurs with the *Streptococcus hemolyticus*, was observed with the pneumococcus plated in a medium (P_H 7.8) containing 1 per cent. dextrose. These plates were first incubated three days, then stored in the icebox three days.

Fishings of pneumococcus colonies which showed markedly clear zones in blood plates were cultured on blood-agar slants. When replated these cultures produced colonies which failed to show any pronounced differences from the original cultures.

The hemolysis probably depends, among other factors, on depth of agar layer, the percentage of blood corpuscles present, and the age of the colony, and its vitality. A number of other possible factors might enter this reaction which cannot be discussed in this paper, but we hope that others may take up this problem more fully and investigate the question.

CONCLUSIONS.

In conclusion, our results would indicate that, (*a*) pneumococci of all serological groups, under certain cultural conditions, may hemolyze human erythrocytes, and, (*b*) apparently, this property is not influenced by the reaction of the medium within the growth limits of the organisms, nor (*c*) by prolonged refrigeration of the developed colonies on blood-agar plates. (*d*) Probably the hemolysin is an intracellular product liberated from autolyzed organisms which diffuse from the colony into the surrounding blood agar.

180 (1927)

Studies on the therapeutic effect of B. acidophilus milk and lactose.

By NICHOLAS KOPELOFF and C. O. CHENEY.

[*Bacteriology and Clinical Departments, New York State Psychiatric Institute, Ward's Island, New York City*]

In a series of psychotic and normal (mentally) subjects relief from chronic constipation and diarrhea was obtained by the inges-

tion of *B. acidophilus* milk and lactose. This corroborates the work of Rettger and Cheplin.

The normal subjects as well as the psychotic patients receiving treatment, gained in weight; but while the latter were improved physically, there was no improvement in their psychoses.

The intestinal flora becomes transformed on treatment with *B. acidophilus* whole milk and lactose, but the relative percentage of gram-positive rods rarely exceeds 70 per cent.

Incubating *B. acidophilus* whole milk at room temperature is satisfactory for only a few days, after which the number of viable organisms decrease rather rapidly and the acidity increases to the point of unpalatability.

181 (1928)

Observations on the behavior of the nucleus and chromosomes in spermatocytes of Lasiopogon (Diptera).

By CHAS. W. METZ and JOSÉ F. NONIDEZ.

[*From the Carnegie Institution of Washington, Cold Spring Harbor, N. Y., and Cornell University Medical College, New York City.*]

In the primary spermatocytes of *Lasiopogon* (species not yet determined) the earliest growth stages resemble those in other asilids (*e.g., Asilus sericeus*);[1] but before growth has progressed very far, the nucleus, which previously has been approximately spherical, becomes irregularly invaginated and evaginated. The nuclear membrane appears to push in around the chromosome threads and the latter to push out into the cytoplasm; so that soon each thread (bivalent) lies in a lobe or pocket, isolated to a great extent from the others. The nucleus becomes converted almost entirely into lobes, which follow the contour of the chromosomes and ramify in various directions through the cytoplasm. There is no uniform configuration; the chromosome threads are long and slender, and often follow a tortuous path, apparently at random save for a slight polarization toward the nucleolus.

As growth progresses the chromosome threads condense and shorten, and coincidently the lobes become less ramifying. This

[1] Metz and Nonidez, *Jour. Exp. Zoöl.*, 1921, xxxii, 165.