23. "On the absence of a cane sugar inverting enzyme in the stomach": GRAHAM LUSK.

It was shown by Professor Lusk that free hydrochloric acid and not an enzyme caused the inversion of cane sugar in the stomach.

24. "A new head holder for rabbits," with demonstration: **FREDERIC S. LEE.**

Professor Lee described and demonstrated the use of a head holder, devised by Mr. John T. Hoyt, showing a new universal clamping device.

25. "The action of potassium cyanid upon the unfertilized egg" (review).: **HOLMES C. JACKSON.**

Loeb and Lewis were the first to note the fact that unfertilized eggs (of the sea-urchin), when placed in n/1000 KCN solution, retain their capability of fertilization much longer than when suspended in normal sea water. This was ascribed to the action of the KCN in inhibiting intracellular autolytic processes which lead normally to maturation and finally death. The bactericidal action of KCN was excluded, as the result of experiments in which eggs apparently died as rapidly in sterile as in putrid sea water.

Gorham and Tower's experiments in the same connection indicated, on the other hand, that the effect of KCN was entirely bactericidal. The sterile eggs retained their capacity for fertilization longer under absolutely sterile conditions than when placed in n/1000 KCN.

As the matter now stands there are two almost identical series of sterilization experiments by two pairs of investigators, with results diametrically opposed to each other. Critically considered, the more carefully conducted experiments seem to be those by Gorham and Tower; and in the lack of further evidence in favor of an intracellular action of KCN in this connection, we must conclude that the destruction of the bacteria by the KCN removes the condition which causes the death of the cell, and in the absence of which the eggs retain their potential power for growth after fertilization.

26. Results of recent investigations in proteid chemistry (review): **PHŒBUS A. LEVENE.**

Recent work on the chemistry of the proteid molecule has furnished explanation of many biological phenomena. Thus in

certain pathological conditions there appears in the urine a sulfur and nitrogen containing substance, cystin. The source of this substance in the organism had been unknown until, through the efforts of Mörner and Embden, and others, its radical was demonstrated to be a normal constituent of the proteid molecule.

The chromatin of a developed cell differs from that of an unfertilized egg by the presence in it of radicals of purin bases. It is probable that these bases are derived from the histidin radical, which is also a normal constituent of proteids.

Hemoglobin is known to be absent from the unfertilized egg, and it appears only in the course of development of the embryo. It was shown recently that the non-proteid part of hemoglobin is a pyrrol derivative, and it is probable that a pyrrol radical is present in the proteid molecule. Chlorophyl is also a pyrrol derivative, a fact further establishing its close relationship to hemoglobin.

The work of Emil Fischer points to the way in which the various component radicals may combine in order to form the proteid molecule, and makes probable the eventual synthesis of true proteid material.

Fifth meeting.[1]

Pathological Laboratory of the Cornell Medical College. February 17, 1904.

27. "The nature and basis of sexual selection in moths": HENRY E. CRAMPTON.

The object of the investigation described was to obtain a quantitative expression for the strength of the mating instinct in certain species of large saturnid moths (*Philosamia cynthia* and *Samia cecropia*), and to determine the correlation between the mating instinct and structural characters. The results of earlier statistical studies upon the pupæ of these species were reviewed, dealing with the nature and basis of the process of natural selection during the period before emergence and at emergence. It was shown that:

1. Those pupæ which die after pupation and prior to metamorphosis are structurally different from and more variable than those individuals which successfully survive the pupal period.

[1] Reprinted from *Science*, 1904, xix, p. 459; *American Medicine*, 1904, vii, p. 480; *Medical News*, 1904, lxxxiv, p. 571.