phates seem intimately concerned in the syndrome of tetany it becomes of interest to find out whether they may cause a pathological unbalancing of the cell—probably of the calcium equilibrium—in such a way that the cell is open to injury by nonspecific tetanogenic ions or molecules. The above experiments seem to show that the egg is rendered very susceptible to poisoning, especially by NaCl, when the egg was previously treated with phosphate. This observation suggests Greenwald's[1] theory of tetany—a poisoning by the sodium ion.

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62 (2585)

Some biochemical notes on Ariolimax californicus, Cooper.

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Ariolimax californicus is a species of land mollusk common in the vicinity of Stanford University. It is striking because of its yellow color and large size.

The blood of this mollusk is blue when oxidized and the blood ash contains little or no iron but much copper. It is, therefore, concluded that the oxygen carrying protein is hemocyanin. Urea, uric acid, ammonia and creatine + creatinine were found in the blood by qualitative tests. It contained 2.2 percent solids, 0.35 percent ash, and 0.22 percent total nitrogen.

Extracts of the salivary glands, stomach, intestine and liver were examined for the presence of enzymes. The salivary glands yielded a diastatic enzyme which was most active on the acid side of neutrality. Diastase, lactase, maltase and emulsin were found throughout the alimentary tract. Proteolytic enzymes could not be detected by experiments *in vitro*.

[1] Greenwald, I., *J. Biol. Chem.*, 1923, liv, 285.

That the nephridium possesses a true excretory function was indicated by its composition. On the fresh basis, it contained 0.5 percent uric acid (Folin-Denis method) and 0.016 percent of creatine + creatinine (Folin-Benedict method).

The rate of glycogen consumption was determined in liver and muscle while the mollusks were held without food. The glycogen content of the muscle, as determined by Pflüger's method, decreased from the normal of about 30 percent (dry basis) to 19.4 percent after the animals had been held at room temperature without food for fifteen days. In another lot, held in the refrigerator fifteen days, the muscle glycogen dropped to 5.4 percent.

The liver glycogen decreased from the normal of 11 percent to a minimum of about 1 percent after the animals had been held at room temperature for six days. It remained at this level until the experiment was discontinued on the fifteenth day. Essentially the same changes in liver glycogen were noted in those animals held in the refrigerator. It appears from these observations that the liver glycogen of this mollusk is the reserve which is first drawn upon, while the muscle glycogen consititutes a secondary reserve.

63 (2586)

A micromethod for nephelometric estimation of uric acid and purine bases.

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In an endeavor to develop a microchemical method for the determination of uric acid and purine bases it was found that uric acid was quantitatively precipitated, when in solutions as dilute as 1/10,000 by a modified Salkowski reagent. Graves and Kober, for nephelometric determinations, suspended similar silver purine

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