in the contractile vesicle, and all clear water-vacuoles of the endosarc, in other Rhizopods and Protozoa in which these constituents occur.

Sometimes two contractile vesicles are seen in *Amœba proteus*, as represented in fig. 6, pl. II. They occupy the usual position back of the nucleus, or may be temporarily separated by one shifting in advance of the latter, or indeed both may be transferred to any other position. Rarely a greater number of contractile vesicles occur, usually in such cases smaller and often more or less scattered.

Sometimes after the disappearance of the contractile vesicle, two or three minute ones appear simultaneously in its place, and, as they gradually augment in size, break into one another until all become one.

In the progressive movements of *Amœba proteus*, and the extension of its pseudopods, the flow of the endosarc is accompanied with a more or less thorough mingling of all its constituents. The smallest elements are hurried along most briskly, while the largest exhibit more or less inertia; the nucleus and contractile vesicle almost always being hindmost in the race. Occasionally, a more than ordinary impulse drives the nucleus in advance of its habitual position, and even carries the contractile vesicle beyond it, but in a little while they again assume their usual place.

A remarkable fact in the streaming of the endosarc, with all its varied constituents rolling among and jostling one another, is the circumstance that the food-balls with their liquid envelope, the water-vacuoles, the contractile vesicle, and all else, retain their integrity, as if they were solid, or contained each within a membranous sac. Never are the materials observed to break and run together, as a result of the continued jar to which they are subjected.

As previously intimated, Dr. Wallich expresses the opinion that the endosarc and ectosarc of the Rhizopods are mutually convertible into one another. When endosarc comes into contact with water, it undergoes a sort of temporary coagulation, or conversion into ectosarc, and when the latter is transferred into the interior after a time it again undergoes resolution into the more liquid endosarc. In the taking of food he supposes that each portion when swallowed becomes enveloped with a film of ectosarc, which forms a vesicle enclosing the food and water-drop in the interior of the endosarc. As the food undergoes digestion, and the water, altered in condition, is im-