

most important of all organisms to the whole science of biology, and especially to general genealogy. For it is evident that the *Amœbæ* originally arose out of simple *Monera* (*Protamœbæ*), by the important process of segregation taking place in their homogeneous viscid body—the differentiation of an inner kernel from the surrounding plasma. By this means the great progress from a simple cytod (without kernel) into a real cell (with kernel) was accomplished (compare Fig. 8 *A* and Fig. 10 *B*). As some of these cells at an early stage encased themselves by secreting a hardened membrane, they formed the first vegetable cells, while others, remaining naked, developed into the first aggregates of animal cells. The presence or absence of an encircling hard membrane forms the most important, although by no means the entire, difference of form between animal and vegetable cells. As vegetable cells even at an early stage enclose themselves within their hard, thick, and solid cellular shell, like that of the *Amœbæ* in a state of rest (Fig. 10 *A*), they remain more independent and less accessible to the influences of the outer world than are the soft animal cells, which are in most cases naked, or merely covered by a thin pliable membrane. But in consequence of this the vegetable cells cannot combine, as do the animal cells, for the construction of higher and composite fibrous tracts, for example, the nervous and muscular tissues. It is probable that, in the case of the most ancient single-celled organisms, there must have developed at an early stage the very important difference in the animal and vegetable mode of receiving food. The most ancient single-celled animals, being naked cells, could admit solid particles into the interior of their soft bodies, as do the *Amœbæ* (Fig. 10 *B*) and the