

THE RIDDLE OF THE UNIVERSE

first plasmophagi, with animal nutrition—the *protozoa*, or primitive animals.* This metasitism, or circulation of nutritive matter, implies an important psychological advance; with it began the development of those characteristic properties of the animal soul which are wanting in the plant.

We find the highest development of the animal cell-soul in the class of ciliata, or ciliated infusoria. When we compare their activity with the corresponding psychic life of the higher, multicellular animals, we find scarcely any psychological difference; the sensitive and motor *organella* of these protozoa seem to accomplish the same as the sense-organs, nerves, and muscles of the metazoa. Indeed, we have found in the great cell-nucleus (*meganucleus*) of the infusoria a central organ of psychic activity, which plays much the same part in their unicellular organism as the brain does in the psychic life of higher animals. However, it is very difficult to determine how far this comparison is justified; the views of experts diverge considerably over the matter. Some take all spontaneous bodily movement in them to be automatic, or impulsive, and all stimulated movement to be reflex; others are convinced that such movements are partly voluntary and intentional. The latter would attribute to the infusoria a certain degree of consciousness, and even self-consciousness; but this is rejected by the others. However that very difficult question may be settled, it does not alter the fact that these unicellular protozoa give proof of the possession of a highly developed "cell-soul," which is of great interest for a correct decision as to the *psyche* of our earliest unicellular ancestors.

* Cf. E. Haeckel, *Systematic Phylogeny*, vol. i.