

THE RIDDLE OF THE UNIVERSE

the lower vertebrates acquaints us with the long series of the earlier ancestors of the primates which have arisen within this stem since the Silurian age. All these vertebrates agree in the structure and development of their characteristic psychic organ — the spinal cord. We learn from the comparative anatomy of the vermalia that this spinal cord has been evolved from a dorsal *acroganglion*, or vertical brain, of an invertebrate ancestor. We learn, further, from comparative ontogeny that this simple psychic organ has been evolved from the stratum of cells in the outer germinal layer, the ectoderm, of the platodes. In these earliest flat-worms, which have no specialized nervous system, the outer skin-covering serves as a general sensitive and psychic organ. Finally, comparative embryology teaches us that these simple metazoa have arisen by gastrulation from blastæades, from hollow spheres, the wall of which is merely one simple layer of cells, the *blastoderm*; and the same science, with the aid of the biogenetic law, explains how these protozoic cœnobia originally sprang from the simplest unicellular organisms.

On a critical study of these different embryonic formations, the evolution of which from each other we can directly observe under the microscope, we arrive, by means of the great law of biogeny, at a series of most important conclusions as to the chief stages in the development of our psychic life. We may distinguish eight of these to begin with:

I. Unicellular protozoa with a simple cell-soul: the infusoria.

II. Multicellular protozoa with a communal soul: the catallacta.

III. The earliest metazoa with an epithelial soul: the platodes.