

THE RIDDLE OF THE UNIVERSE

protracted research into the unicellular forms of life. Many of these tiny (generally microscopic) protists show similar expressions of sensation and will, and similar instincts and movements, to those of higher animals; that is especially true of the very sensitive and lively infusoria. In the relation of these sensitive cell-organisms to their environment, and in many other of their vital expressions (for instance, in the wonderful architecture of the rhizopods, the thalamophoræ, and the infusoria), we seemed to have clear indications of conscious psychic action. If, then, we accept the biological theory of consciousness (No. IV.), and credit every psychic function with a share of that faculty, we shall be compelled to ascribe it to each independent protist cell. In that case its material basis would be either the entire protoplasm of the cell, or its nucleus, or a portion of it. In the "psychade theory" of Fritz Schultze the elementary consciousness of the *psychade* would have the same relation to the individual cells as personal consciousness has to the multicellular organism of the personality in the higher animals and man. It is impossible definitively to disprove this theory, which I held at one time. Still, I now feel compelled to agree with Max Verworn, in his belief that none of the protists have a developed self-consciousness, but that their sensations and movements are of an unconscious character.

VI. *Atomistic theory of consciousness*.—It is an elementary property of all atoms. This atomistic hypothesis goes furthest of all the different views as to the extension of consciousness. It certainly escapes the difficulty which so many philosophers and biologists experience in solving the problem of the first origin of consciousness. It is a phenomenon of so pecu-