

THE EMBRYOLOGY OF THE SOUL

be correctly (both in the chemical and the romantic sense) termed "cellular affinity" or "sexual cell-love." A number of the ciliated cells in the sperm swim rapidly towards the stationary egg-cell and seek to penetrate into it. As Hertwig showed in 1875, as a rule only one of the suitors is fortunate enough to reach the desired goal. As soon as this favored spermatozoon has pierced into the body of the ovum with its head (the nucleus of the cell), a thin mucous layer is detached from the ovum which prevents the further entrance of spermatozoa. The formation of this protective membrane was only prevented when Hertwig kept the ovum stiff with cold by lowering the temperature, or benumbed it with narcotics (chloroform, morphia, nicotine, etc.); then there was "super-impregnation" or "poly-spermy"—a number of sperm-threads pierced into the body of the unconscious ovum. This remarkable fact proved that there is a low degree of "cellular instinct" (or, at least, of specific, lively sensation) in the sexual cells just as effectively as do the important phenomena that immediately follow in their interior. Both nuclei—that of the ovum and of the spermatozoon—attract each other, approach, and, on contact, completely fuse together. Thus from the impregnated ovum arises the important new cell which we call the "stem-cell" (*cytula*), from the repeated segmentation of which the whole polycellular organism is evolved.

The psychological information which is afforded by these remarkable facts of impregnation, which have only been properly observed during the last twenty-five years, is supremely important; its vast significance has hitherto been very far from appreciated. We shall condense the main conclusions of research in the following five theses: