

(Fig. 4) by continued self-division. The outer covering, or cell-membrane, of the globular egg remains undivided. First,

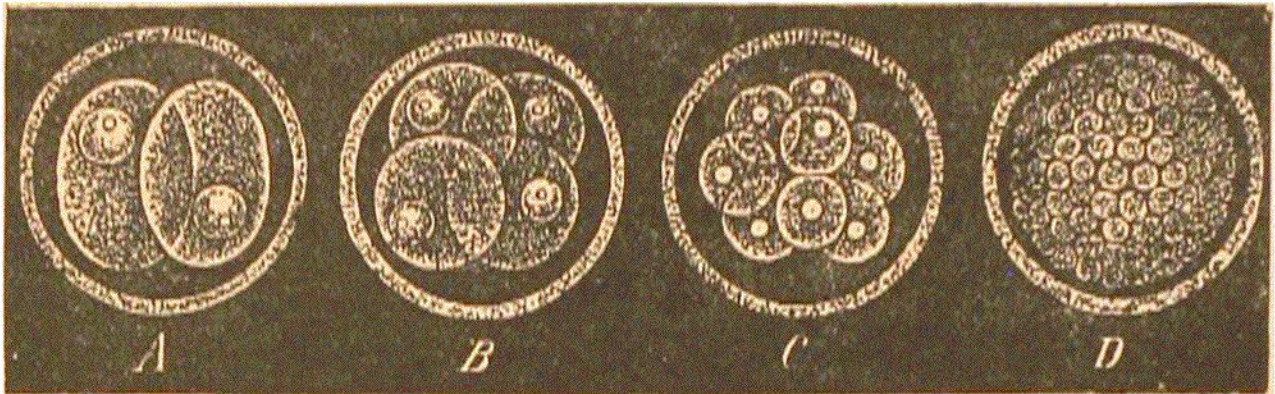


FIG. 4.—First commencement of the development of a mammal's egg, the so-called "cleavage of the egg" (propagation of the egg-cell by repeated self-division). *A*. The egg, by the formation of the first furrow, falls into two cells. *B*. These separate by division into four cells. *C*. The latter have divided into eight cells. *D*. By repeated division a globular accumulation of numerous cells has arisen.

the cell-kernel of the egg (the so-called germinal vesicle) divides itself into two kernels, then follows the cell-substance (the yolk of the egg) (Fig. 4 *A*). In like manner, the two cells, by continued self-division, separate into four (Fig. 4 *B*), these into eight (Fig. 4 *C*), into sixteen, thirty-two, etc., and finally there is produced a globular mass of very numerous little cells (Fig. 4 *D*). These now, by further increase and heterogeneous development (division of labour), gradually build up the compound many-celled organism. Every one of us, at the commencement of our individual development, has undergone the very same process as that represented in Fig. 4. The egg of a mammal—represented in Fig. 3, and its development in Fig. 4—might as well be that of a man, as of an ape, dog, horse, or any other placental mammal.

Now, when we examine this simplest form of propagation, this self-division, it surely cannot be considered wonderful that the products of the division of the original organism should possess the same qualities as the parental