

brane of the graafian follicle. This fluid is known as undifferentiated protoplasm; it is a living fluid, and differs from artificial protoplasm in being contractile, irritable, receptive, secretory, respiratory and reproductive. In other words, it is a living product of living tissue. In some part of this particle of fluid protoplasm, an opaque spot is soon seen; this is known as the germinal spot, or nucleolus. Soon a network of fibrillæ is seen radiating from the nucleolus through the surrounding fluid. This fluid is known as the germinal vesicle and is readily distinguished by its transparency from the yolk in which it is suspended. The thick, transparent envelope which surrounds the yolk is known as the zona pellucida. The ovum is now mature and awaits the rupture of the graafian follicle, which permits it to escape and to commence its brief, or otherwise, life's career.

At the moment of its expulsion from the graafian follicle, it is seized by the fimbriæ and conveyed into the fallopian tube, through which it passes into the uterine cavity where, if it have not yet done so, it may meet the spermatozoa on their undulatory and vibratory journey upwards. If there are no spermatozoa *en route*, the ovum dies and is cast off. Why, we may ask, does the ovum, failing to meet the spermatozoa, cease to exist? We may assume that it was living and vigorous when it left the ovary, and that had it been properly nourished in transit, it would not have arrived *in utero* a starved and famished weakling, with hardly a spark of vitality left. Such, however, is the condition of most ova when they arrive *in utero*, and we cannot say positively whether or not nature intended to have the ova impregnated and fertilized while lying in the graafian follicle, immediately after expulsion therefrom, or while they are in transit through the tube. It may occur in any of these locations.

In virgins, it would seem, all ova inevitably die. Yet it is conceivable—no pun meant—that an ovum may be developed of such robust vitality that it may arrive *in utero* strong, vigorous and healthy, attach itself to the endo-metrium and evolve an embryo. This would be an instance of parthenogenesis. Such a conception, however, rests on the assumption that the living ovum is a distinct organic entity, and that the spermatozoa are not essential to the perpetuation of its life.

The spermatozoon, like the ovum, consists of protoplasm and possesses ameboid properties. Its vitality is intense; and its purpose and function seems to be to stimulate, invigorate and nourish the less vigorous and insufficiently rationed ovum. The spermatozoon, also, dies unless it meets an ovum; but should it meet an ovum, it penetrates its enveloping membrane in an ameboid fashion, and gives up its life, substance and identity