

natures. These granules represent the food yolk or deutoplasm, which is usually much more abundant in the ova of other mammals and forms a mass of relatively enormous size in the ova of birds and reptiles. The nucleus (n) is situated somewhat excentrically in the deutoplasmic portion of the ovum and contains a single, well-defined nucleolus.

A follicle with the structure described above and containing a fully grown ovum may measure anywhere from five to twelve millimeters in diameter, and is said to be "mature," having reached its full development and being ready to burst and set free the ovum. This, however, is not yet mature; it is not ready for fertilization, but must first undergo certain changes similar to those through which the spermatocyte passes, the so-called ovum at this stage being more properly a primary oöcyte. But before describing the phenomena of maturation of the ovum it will be well to consider the extrusion of the ovum and the changes which the follicle subsequently undergoes.

Ovulation and its Relation to Menstruation.—As a rule, but a single follicle near maturity is found in either the one or the other ovary at any given time. In the early stages of its development a follicle is situated somewhat deeply in the stroma of the ovary, but during its growth it approaches the surface and eventually forms a marked prominence, only an exceedingly thin membrane separating the cavity of the follicle from the abdominal cavity. This thin membrane finally ruptures, and the liquor folliculi, which is apparently under some pressure while contained within the follicle, rushes out through the rupture, carrying with it the ovum surrounded by some of the cells of the discus proligerus.

The immediate cause of the bursting of the follicle is not yet clearly understood. It has been suggested that a gradual increase of the liquor folliculi under pressure must in itself