

always to be found at that end of the ovule which is not attached to the ovary. (Fig. 18, *m*.)

About the time the anthers discharge their pollen, a little cavity, called the *embryo-sac*, appears inside the nucleus, near the micropyle. The pollen-tube, with its liquid contents, enters the ovary, passes through the micropyle, penetrates the nucleus, and attaches itself to the outer surface of the embryo-sac. Presently the tube becomes empty, and then withers away, and, in the meanwhile, a minute body, which in time develops into the embryo, makes its appearance in the embryo-sac, and from that time the ovule may properly be called a seed.

17. In order that ovules may become seeds, it is always essential that they should be *fertilized* in the manner just described. If we prevent pollen from reaching the stigma—by destroying the stamens, for instance—the ovules simply shrivel up and come to nothing.

Now it is the business of the flower to produce seed, and we have seen that the production of seed depends mainly upon the stamens and the pistil. These organs may consequently be called the *essential organs* of the flower. As the calyx and corolla do not play any *direct* part in the production of seed, but only protect the essential organs, and perhaps attract insects, we can understand how it is that they, as a rule, disappear early. Their work is done when fertilization has been accomplished.

Having noticed thus briefly the part played by each set of floral organs, we shall now proceed to the examination of two other plants, with a view to comparing their structure with that of the Buttercup.