

CHAPTER VI

SEEDS AND GERMINATION

THE seed contains a *miniature plant*, or **embryo**. The embryo usually has three parts that have received names: the stemlet, or **caulicle**; the seed-leaf, or **cotyledon** (usually 1 or 2); the bud, or **plumule**, lying between or above the cotyledons. These parts are well



FIG. 15. — PARTS OF THE BEAN.

R, cotyledon; O, caulicle; A, plumule; F, first node.

seen in the common bean (Fig. 15), particularly when the seed has been soaked for a few hours. One of the large cotyledons — comprising half of the bean — is shown at R. The caulicle is at O. The plumule is shown at A. The cotyledons are attached to the caulicle at F: *this point may be taken*

as the first node or joint.

The Number of Seed-leaves. — All plants having *two seed-leaves* belong to the group called **dicotyledons**. Such seeds in many cases split readily in halves, *e.g.* a bean. Some plants have only *one* seed-leaf in a seed. They form a group of plants called **monocotyledons**. Indian corn is an example of a plant with only one seed-leaf: a grain of corn does not split into halves as a bean does. Seeds of the pine family contain more than two cotyledons, but for our purposes they may be associated with the dicotyledons, although really forming a different group.

These two groups — the dicotyledons and the monocotyledons — represent two great natural divisions of the vegetable kingdom. The dicotyledons contain the woody