nudicaule, *Aconitum Anthora*, *Leontice vesicaria*, tuberous species of *Oxalis*, *Megarrhiza Californica*, species of *Smyrnium*, *Bunium luteum*, *Chærophyllum bulbosum* (but not *Ch. procumbens*), *Dodecatheon*, species of *Polygonum*, and *Rheum*, and one of the *Compositæ*, namely *Serratula radiata*. However, as stated by Miss Sargant, short petiolar tubes are not uncommon among the seedlings of species allied to those enumerated above, for instance: *Ranunculus millefoliatus*, *Ferula fœtida*, *Serratula tinctoria*, *Rheum officinale*, etc.; these link the numerous species, in which the cotyledons are merely connate at the base, with those in which the cotyledonary tube is fully developed, and their existence is a strong argument for the derivation of such tubes from the fusion of two cotyledons.

As the last type of seedlings with epigeic cotyledons may be mentioned the so-called *Pseudo-monocotyledones*. Characteristic of these is the development of only one of the two cotyledons, the other one being completely suppressed. Members of this type are *Claytonia Virginica* L. (Fig. 33), *Erigenia bulbosa* Nutt. (Fig. 32) and *Dicentra Cucullaria* D.C. To these may be added, according to Miss Sargant: *Corydalis solida*, *C. cava*, *C. fabacea*, *Carum bulbocastanum*, *Cyclamen persicum* and *Pinguicula vulgaris*. In *Erigenia* the primary root soon commences to increase in thickness so as to form a round, tuberous body, and the single cotyledon,which consists of a long petiole and a simple, green blade is the only leaf that appears above ground during the first year. *Claytonia Virginica* germinates in the same way, but in this a leaf may appear in the first season, alternating with the cotyledon, and with the base partly surrounded by the sheath of this. *Dicentra Cucullaria* is described by Irmisch, and the cotyledon of this species possesses a blade with three very distinct divisions, a structure which otherwise is very seldom met with in cotyledons; it is the more peculiar since the blade of the cotyledon in the species of *Corydalis* is entire. It seems to be characteristic of these *Pseudo-monocotyledones*, with the exception of *Pinguicula*, that the subterranean organs (base of petiole, hypocotyl, or root) are more or less tuberous.

In passing now to describe some types of seedlings in which the cotyledons are hypogeic, I wish to state that even if this manner of germinating be very distinct from the one in which these leaves are epigeic, there are, nevertheless, some plants which exhibit a kind of transition between both. For instance, if we compare the cotyledons of *Phaseolus vulgaris*, which at first are hypogeic, but later on become epigeic and green, with those of *Phaseolus multiflorus*, which are hypogeic and pale, but turn green, when artificially exposed to the sunlight.