would not recognize the epiblast as an independent leaf, was because he found no vascular system in it; however, in *Avena sativa* Didrichsen observed the epiblast to possess a very regular lobation corresponding with the presence of several mestome-strands. So far as concerns the internode, which Van Tieghem has declared to show the structure of simply a node, I must say, that in *Coix* for instance, the structure is very different from that of a node, but identical with that of an internode, and especially of a subterranean. In order to settle this question, whether this stem-like portion, by Celakovsky called "mesocotyl," be a node or an internode it is necessary to examine the internal structure in a larger number of genera, when it is fully matured; in *Coix* it is an internode, but it may not be constantly so in *Gramineæ* and *Cyperaceæ*. Furthermore the presence of a bud in the axil of the coleoptile, or according to Warming, in the axil of the second leaf succeeding the scutellum, speaks in favor of defining this leaf as independent of epiblast and scutellum. Such axillary buds have been observed in a number of genera of *Hordeæ;* beside that Van Tieghem observed them in *Avena*, and Bruns in *Bambusa*. The explanation offered by Warming seems so simple and readily to be understood, that it is undoubtedly the most natural.

In revising these various views we notice that there is one point, however, in which all these authors agree, namely, that the *Gramineæ* have only one cotyledon. We shall see now that there were formerly some authors who attributed two cotyledons to this family, the scutellum and epiblast, thus the *Gramineæ* should possess one large and one small cotyledon; these authors were Mirbel, Poiteau and Turpin. Recently Van Tieghem (1897) has abandoned his former theory, and adheres now to the views of these authors; in his new system he thus removes the *Gramineæ* from the other *Monocotyledones*, and places them among his "*Inséminées*." How untenable this classification is has been shown by Celakovsky, who calls attention to a fact, known long since, that in some genera of *Gramineæ* the seed is not grown together with the pericarp, but is free as in *Eleusine*, *Sporobolus*, *Crypsis* and *Heleochloa*, and these genera should consequently in accordance with Van Tieghem's system be separated from the other *Gramineæ*, and referred to his "Seminées."

The last type of monocotyledonous seedlings which may be described here is exhibited by *Peltandra undulata*, Raf. (Fig. 18). In this plant the fruit is a berry with a thin, almost black pericarp, and contains mostly a single seed with no endosperm. The seed is globular, surrounded by a tenacious jelly which, according to Baillon and Engler, is the transformed exterior integument of