

*Section second, of Stems.*—Under the term stem is included in the fullest sense every part of a plant which cannot be considered as belonging to the root or parts of fructification, as above described. In order to assist the memory of the beginner, and perhaps with the view of simplifying the subject it has been customary to separate this part of it into two heads; the first descriptive of the stems and branches; and the second including an account of the leaves, tendrils and prickles called by Botanists the *fulcra* of plants. Pursuing this plan I shall first direct the students attention to the *stems and branches*. These seem by nature intended for the double purpose, of facilitating the growth and ripening of the seeds, and to aid in their dissemination by elevating them above the surface of the ground. We find the earliest writers on Botany dividing all kinds of stems into two great classes. The first termed *herbaceous* which decay every winter and spring up again in the season of vegetation from the roots. These in common language are called reeds or straws and are peculiar to grasses and plants of the smallest size. The second sort is the *Ligneous* or woody stem which suffers no change in the winter season except being stripped of its leaves. These in common language are called Trunks, and belong to the trees and largest sized plants. This is the only division of vegetable bodies founded upon their nature and quality, necessary to be noticed by the Botanist, and although from this characteristic being so obvious to the senses, we might expect it would become the first discriminating mark which early writers on this science would attempt to class plants by; a farther attention to the subject has long since shown its total inutility for this purpose; and the division of plants into the herbaceous and ligneous is now never thought of unless in describing some new or rare plant with which few have opportunities of becoming acquainted. More modern writers on this subject have adopted three different modes of classing and describing the stems of plants. Some have adopted what may be termed the superficial character of stems, and arranged them all under three different classes according to it. First, The *simple stem* which includes all those which grow without branches, knots or joints upon them—whether they be naked or covered with leaves, plain or furrowed.

Second the *Branched stem*, a species of stem sufficiently described by its name.

Third *jointed or knotted stems* among which are placed a great number of plants of all sises, for although many of those which have knots or joints upon them have also branches, they are described as belonging to this class, from the knots or joints being their most conspicuous characteristic.

Other writers have chosen to discriminate the stems of plants, from the position in which they grow, and have on this principle divided all of them into four classes, viz.

First the *Erect Stem*, which grows perpendicular or nearly so, and is by far the most common kind to be met with in nature.

Second, The *declining stem*. Under this class is included all such as bend in their growth, also the nodding stem which has its top pointing towards the horizon: as well as all, who after growing to a