

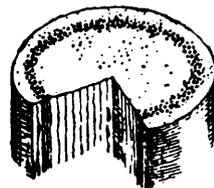


THE OLD OROTAVA DRAGON-TREE DESTROYED BY A STORM IN 1867.

bundle is to convey nutriment, chiefly water, from the roots of the tree to its own particular leaf. While the tree is still young the dots will be found distributed equally over the cross-section; but as it grows older the new dots seem to be produced near the bark, as shown in the following sketch. In fact it is in the zone between the bark and the interior wood (and not in the centre) that the new bundles are formed that cause the trunk to swell in size; and it is to the inextinguishable vitality of this zone that the dragon-tree owes its longevity.

We have seen that after a certain period in the growth of the tree no new fibres make their appearance in the middle portion of the trunk, but it does not follow that this middle portion remains altogether unaltered. It usually undergoes a very important change; in point of fact, it dies. Hence it is that the trunk of a large dragon-tree, like the patriarch of Orotava, is hollow; and hence arose the ingenious theory that an old dragon-tree ought not properly to be called a single tree, but rather a community of many trees. Each of the branches is really a separate individual. The original tree is dead and gone; the only living portions of the huge fabric are the topmost branches and their fibres in the circumference

of the slowly expanding hollow trunk. An old dragon-tree, then, is an aggregate of individuals, each of which in some measure contributes to the support and aids the existence of the rest, just as the bees in a hive are separate individuals, all of which contribute to the support and continuance of the whole. In fact, as Professor Asa Gray has remarked, an old



SECTION THROUGH THE STEM OF A MONOCOTYLEDON.

*Dracæna* is like nothing so much as a genealogical tree, the later ramifications of which alone are living.

Professor Gray, it may be mentioned, who formerly calculated the age of the Orotava tree at "perhaps hundreds of centuries," has since altered his estimate, and reduced the total to "something more than two thousand years." This