

In talking the subject over with friends, I have found a widely prevalent idea that the beauty and variety of leaves are a beneficent arrangement made specially with reference to the enjoyment and delight of man. I have, again, frequently been met by the opinion that there is some special form, size, and texture of leaf inherently characteristic of each species; that the cellular tissue tends to "crystallize," as it were, into some particular form, quite irrespective of any advantage to the plant itself. Neither of these views will, I think, stand the test of careful examination.

In the first place, let us consider the size of the leaf. On what does this depend? In herbs we very often see that the leaves decrease towards the end of the shoot, while in trees the leaves, though not identical, are much more uniform in size.

Again, if we take a twig of hornbeam, we shall find that the six terminal leaves have together an area of about 14 square inches, and the section of the twig has a diameter of .06 of an inch. In the beech the leaves are rather larger, six of them having an area of perhaps 18 inches, and, corresponding with this greater leaf-surface, we find that the twig is somewhat stouter, say .09 of an inch. Following this up, we shall find that, *ceteris paribus*, the size of the leaf has relation to the thickness of the stem. This is clearly shown in the following table:—

	Diameter of Stem in inches.	Approximate Area of six Upper Leaves in inches.
Hornbeam	.06	14
Beech	.09	18
Elm	.11	34
Nut	.13	55
Sycamore	.13	60
Lime	.14	60
Chestnut	.15	72
Mountain Ash	.16	60
Elder	.18	93
Ash	.18	100
Walnut	.25	220
Ailanthus	.36	240
Horse-Chestnut	.30	300