

**Giant Plants.** The *Adansonia*<sup>or Baobab.</sup> is the colossus of the vegetable kingdom.

Found on the west coast of Africa, India and in S. America. In 1756 Adanson met with trunks in Senegambia having a dia. of 30 ft. and a cir. of 90 ft. Mr. Gilberry observed one - the cir. 104 ft. Height but 30 ft.; <sup>yet sometimes 60 ft.</sup> branches 50 or 60 ft. long, cir. of the branches around 150 ft. At a distance a full grown one presents the appearance of a forest. Leaves are a deep green. Cape de Verda is so called because it is covered with the gigantic trees. The flowers are white & in India. When in blossom the tree appears magnificent.

Age calculated at 2000 yrs. Adanson estimates the age of some he saw in Africa at 5000 yrs. The Banyan is the *Ficus Indica* of Botanists. Near Baroach there is one called the Cubber Burr. It is said to be 3000 yrs old, and is supposed to have been visited by Nearchus. The large trunk = 350 in No. the smaller one exceed 3000; cir. 2000 ft.; height about 100 feet. Dia. often 9 ft. Vid. Milton; par. B. IX. 1100.

The Dragon Tree is found in the E. India Islands, Canaries, Cape Verd. and in Sierra-Leone. In 1755, in Teneriffe there was one according to Humboldt 45 ft. Cir. 60 ft in height. In 1822 this tree was laid prostrate by a tempest.

The largest known specimens of the Cypress are to be met with in Mexico. At Allex<sup>there</sup> is one 46 ft. in cir., and at St. Maria del Tuti, one 118 in cir.; and one at Chapultepec 117 ft. 10 in. in cir. The largest stocks of the Cypress are 120 ft. in height. In the East, the Cypress is the emblem of mourning, or also is the yew tree. The yew of Hedder, in Bucks measures about 24 ft. in dia. and is still healthy. In 1790 in Perthshire was a yew tree 2 1/2 ft. in dia. Maundrell mentions a cyp<sup>r</sup> Cedar, that he found in the East (Lebanon) the dimensions of which were - in cir. 36 ft. and 111 ft in the spread of its branches.

The available trunk of a Norfolk pine or Kauri, which grew in New Zealand, & which was cut down and brought to England, was 150 ft. in length, and 25 ft. in cir. at the base. There is another still standing, called by the natives the Father of the Kauri!"

least opportunity of bringing forth seed. Another way in which trees multiply themselves is by their branches taking root, and growing up again, as the banyan. Perhaps the most curious mode of natural reproduction is that by the leaf. The <sup>leaves of the</sup> echeveria, marasid, gloxinia, orange tree, when fallen to the ground in a young growing state, put forth shoots and become perfect plants. Hence may the leaf of any plant produce it again? What a curious view of vegetable do the principles do the principles of reproduction unfold! that any part of the plant may produce the plant. Metamorphoses. The changes which roots and tubers can be made to undergo are numerous and highly beneficial to man; as the potato. The turnip for instance, has, since the beginning of the present century, been changed from globular to fusiform, in colour from white and yellow to purple and green, and in weight from a couple of ounces to 20 lbs. So also the carrot &c. Stems may be changed from their normal condition; for if a tree of the mountains be placed in the valley, it grows more rapidly, and its timber becomes softer and less durable. Vice versa. Leaves are also subject to many changes; as the cabbage. In its wild state on the sea-shore the leaves are small, and its stem is thin. Changes in the flower are also very frequent. As the change of petals to stamens, the increase of the petals, the modification of the color.

It is known that by cultivation, that a blue flower will change to white or red, but not to bright yellow; which last color will become white or red but never blue. <sup>besides the above there are artificial changes, as budding, grafting &c.</sup>

The changes which the fruit or seed undergoes are also very numerous. In a wild state the seeds of our cereal grains are thin & meagre. The round sour crab of our hedges is the original of the numberless varieties of apples. So also the sloe is the parent of the plum. The original of the peach was poisonous.

### Transmutation of Plants.

It is almost incredible that one plant can be transmuted into another; for eg. Barley can be converted into oats, or oats into rye. For if any one sow oats during the latter end of June, and cut them twice as green fodder before shooting into ear, the transformation will certainly take place! (For success they must come up <sup>to watering the seed</sup> at the time every