

several parts of the vegetable by circulation. This vegetable aliment is (according to Dr. Woodward), a certain terrestrial matter contained in all water, and is of two kinds, viz., the one properly a vegetable matter, the other of a mineral nature. The former of these is principally the matter by which the vegetable is nourished. That this is more than probable, and that the plant owes little or nothing of its growth to earth or water, is made evident by divers experiments.

Thus Mr. Boyle raised a plant of 3 lb. and after that another of 14 lb. was produced from a quantity of earth watered with rain or spring water, and which being carefully weighed dry at first and last, was found to have lost scarce any thing of its weight.

Again: Van Helmont dried 200 lbs. of earth, and therein planted a willow weighing 5 lb., which he watered with rain or distilled water only; and after five years he weighed the tree, with the leaves it had borne in the time, and found the weight thereof to be 169 lb. 3 oz., but that the earth had lost only 2 oz. of its weight; so that the increase of the plant was 13,113½ times more than the expense of earth, and consequently earth has but a small share in vegetation.

That water likewise conduces but little thereto, is evident from Dr. Woodward's experiments. He took a plant of common spearmint which weighed 27 grains, and placed it in a vial of water for the space of 77 days; in which time it drank up 2558 grains of spring water, and then being taken out, weighed 42 grains; so that its whole increase was but 15 grains, which was but 170th part of the water expended.

He took another plant, weighing 127 grains, placed it in water for 56 days, when it weighed 255 grains, and the water expended was 14,190 grains, which was 110 times more than the increase of the plant. From these, and many other experiments, 'tis plain that water also has but a small share in vegetation, and that therefore it must proceed from a peculiar vegetable matter in water and the moisture of the earth, as before observed.