

diameter of the apple. The skin of the growing fruit no doubt performs the functions of a leaf. The chemical changes which go forward from the time the petals drop, to that when the fruit falls back in decay to its original constituents, is a study of itself, and must be passed here with the bare assertion that the apple becomes a laboratory in which materials are stored and wrought over and re-wrought until most wonderful compounds are perfected. The work goes on until sight, touch, smell, all tempt the taste, all invite to partake of the delicious autumn fruit, which has developed from the delicate spring flower.

But before the fruit matures preparation is made for the separation of the stem of the apple from the limb on which it is borne. The stem perhaps, like the limbs of some of the poplars, makes a natural amputation. In the case of the poplar, an enlargement appears near the junction with the larger limb; probably there is a partial arrest of circulation and a drying up of a circle of cells, then a sudden whisk of wind, and the superfluous branch falls to the ground.

The separation of the apple from the branch does not at the ordinary temperature prevent the progress of chemical and physical changes. The woody cells sooner or later soften, the contents change, the skin changes as the maturing leaves change to red or yellow, while not unfrequently a waxy coating polishes the outer surface. A delicate aroma varying with the variety now escapes, and heralds the news of the ripening through the air round about.

If the invitation which the aroma extends to man and animal to partake of the delicious morsel is not accepted, and the seeds loosened by such means from their imprisonment, the fruit proceeds to secure their release by breaking down its own structure—dropping down into decay; the woody tissue throughout the cellular mass becoming disintegrated, the contents of the cells running together and becoming liquid; then the slightest external violence loosens the seeds from their cells, or the attack may come from without, as a green mould, which finding or making a place in the skin, induces decay that spreads like a cancer through the whole body.