

So by violence of man or animals, or the attacks of fungi, or chemical changes within, the divisions of the ovary, which while the germs were immature, were as the walls of a fort for protection, now, when ripe are as the walls of a dungeon, are broken away and the seeds liberated: liberated to germinate and in good time to grow into trees which shall bear fruit after their kind, and thus complete the cycle of growth.

Before dismissing the subject, there are some points in the anatomical structure of the apple that are worthy of thought. Observing the outside of some varieties, Tallman's Secret for instance, five lines may often be seen radiating from the stem which in rare cases may be traced quite to the calyx. Have we not in these lines an indication of the original external structure of the apple? Looking at the cavity in which the limbs of the calyx stand, it will be seen that the cup is corrugated or plaited, having five or twice that number of ridges. When the number is five, it will be found that each ridge terminates in the middle of the limb of the calyx, along a line where the midrib would naturally be; in case the number be ten, every alternate ridge terminates at the edge of a calyx limb, or in other words at the point where a petal stood at the time of flowering.

If the apple be cut open from calyx to stem through the middle of a ridge, there will be found a bundle of spiral vessels looking like a thread, sweeping along in an irregular half-circle, the other end of the thread coalescing with vessels that enter the stem. Cutting down in a similar way between the limbs of the calyx a similar thread will be hit upon, the origin of which seems to be lower down and at the place where the stamens stood, and apparently formed by the union of their bases with perhaps a portion of the midrib of a petal.

If a slice is made in the opposite direction just at the insertion of the calyx, taking off a piece, there will appear a circle having for a centre an opening not round but shaped like a star with five blunt points. Cutting a second slice the star will go with it, and in the centre of the part left there will be a hollow inverted cone, standing in the apex of which will be a column formed by the upper part of the pistil. Cutting still another slice an incipient