

giving rise to the appearance of a ring bare of grass, surrounding the dark ring; but after the fungi have ceased to appear, the soil where they had grown becomes darker, and the grass soon vegetates again with peculiar vigour. When two adjacent circles meet and interfere with each other's progress, they not only do not cross each other, but both circles are invariably obliterated between the points of contact; for the exhaustion occasioned by each obstructs the progress of the other, and both are starved. It would appear that different species of fungi often require the same kind of nutriment; for in cases of the interference of a circle of mushrooms with another of puff-balls, still the circles do not intersect one another; the exhaustion produced by the one being equally detrimental to the growth of the other, as if it had been occasioned by the previous vegetation of its own species.

The only final cause we can assign for the series of phenomena constituting the nutritive functions of vegetables is the formation of certain organic products calculated to supply sustenance to a higher order of beings. The animal kingdom is altogether dependent for its support, and even existence, on the vegetable world. Plants appear formed to bring together a certain number of elements derived from the mineral kingdom, in order to subject them to the operations of vital chemistry, a power too subtle for human science to detect, or for human art to imitate; and by which these materials are combined into a variety of nutritive substances. Of these substances, so prepared, one portion is consumed by the plants themselves in maintaining their own structures, and in developing the embryos of those which are to replace them; another portion serves directly as food to various races of animals; and the remainder is either employed in fertilizing the soil, and preparing it for subsequent and more extended vegetation, or else, buried in the bosom of the earth, it forms part of that vast magazine, of combustible matter, destined to benefit future communities of mankind, when the arts of civilization shall have developed the mighty energies of human power.