

though this must be done briefly. Light appears to be as necessary to the health of plants as air or moisture. A plant may, indeed, grow without it, but it does not appear that a species could be so continued. Under such a privation, the parts which are usually green, assume a white colour, as is the case with vegetables grown in a cellar, or protected by a covering for the sake of producing this very effect; thus, celery, is in this manner blanched, or *etiolated*.

The part of the process of vegetable life for which light is especially essential, appears to be the functions of the leaves; these are affected by this agent in a very remarkable manner. The moisture which plants imbibe is, by their vital energies, carried to their leaves; and is then brought in contact with the atmosphere, which, besides other ingredients, contains, in general, a portion of carbonic acid. *So long as light is present*, the leaf decomposes the carbonic acid, appropriates the carbon to the formation of its own proper juices, and returns the disengaged oxygen into the atmosphere; thus restoring the atmospheric air to a condition in which it is more fitted than it was before for the support of animal life. The plant thus prepares the support of life for other creatures at the same time that it absorbs its own. The greenness of those members which affect that colour, and the disengagement of oxygen, are the indications that its vital powers are in healthful action: as soon as we remove light from the plant, these indications cease: it has no longer power to imbibe carbon and disengage oxygen, but on the contrary, it gives back some of the carbon already obtained, and robs the atmosphere of oxygen for the purpose of reconverting this into carbonic acid.

It cannot well be conceived that such effects of light on vegetables, as we have described, should occur, if that agent, of whatever nature it is, and those organs, had not been adapted to each other. But the subject is here introduced that the reader may the more readily receive the conviction of com-