

During the night, on the contrary, or in the shade, plants, in general, convert a portion of the oxygen of the atmosphere into carbonic acid; but the quantity of oxygen thus converted into carbonic acid, is less than the quantity of oxygen separated from the carbonic acid, which plants decompose, under the influence of the solar light. At the same time with this formation of carbonic acid during the night, plants are said also to absorb from the atmosphere a certain portion of oxygen; to replace that oxygen which had been given off, during exposure to sunshine, on the preceding day. Plants absorb carbon as long as they are exposed to the light: during the season, therefore, when the day is long and the night is short, plants give off much less carbon than they absorb. This excess of the absorption of carbon, is probably one reason why in the Polar latitudes, the progress of vegetation is so rapid. By a beautiful provision of nature; in the course of the short summer of a few weeks, but of unvarying light; plants, in these latitudes, go through all the changes which in hotter climates require many months.

These phenomena of gaseous absorption and secretion in the leaves of plants, seem to be produced by a portion of the leaf peculiarly organized, and situated immediately under its external covering or epidermis. Professor Burnet has lately explained these phenomena, by referring them to the respiration and digestion of