

made by Decandolle. He kept certain plants in two cellars, one warmed by a stove and dark, the other lighted by lamps. On some of the plants the artificial light appeared to have no influence, (*convolvulus arvensis*, *convolvulus cneorum*, *silene fruticosa*) and they still followed the clock hours in their opening and closing. The night-blowing plants appeared somewhat disturbed, both by perpetual light and perpetual darkness. In either condition they accelerated their *going* so much, that in three days they had gained half a day, and thus exchanged night for day as their time of opening. Other flowers *went slower* in the artificial light (*convolvulus purpureus*.) In like manner those plants which fold and unfold their leaves were variously affected by this mode of treatment. The *oxalis stricta* and *oxalis incarnata* kept their habits, without regarding either artificial light or heat. The *mimosa leucocephala* folded and unfolded at the usual times, whether in light or in darkness, but the folding up was not so complete as in the open air. The *mimosa pudica* (sensitive plant,) kept in darkness during the day time, and illuminated during the night, had in three days accommodated herself to the artificial state, opening in the evening, and closing in the morning; restored to the open air, she recovered her usual habits.

Tropical plants in general, as is remarked by our gardeners, suffer from the length of our summer daylight; and it has been found necessary to shade them during a certain part of the day.

It is clear from these facts, that there is a diurnal period belonging to the constitution of vegetables; though the succession of functions depends in part on external stimulants, as light and heat, their periodical character is a result of the structure of the plant; and this structure is such, that the length of the period, under the common influences to which plants are exposed, coincides with the astronomical day. The power of accommodation which vegetables possess in this respect, is far from being such as