Thus, in a little more than twenty-four hours, there will be two flood tides and two ebb tides, twice high and twice low water; and this corresponds with the reality.

But it appears the tides gradually increase for seven or eight days, at the end of which time the highest flood tide, called spring tide, takes place; and, for the seven or eight days following, the tides decrease, and terminate in what is called a neap tide, that is, the lowest tide.

When the sun rises the second day, it overtakes the *re-acting tide*, which is then begining to perform a new flood tide. The sun, acting in conjunction with this tide, increases its extent and duration; so that instead of being at noon, as on the first day, it is near one o'clock when high water takes place. In consequence of the increase of the second day's flood tide, the re-action will be greater; that is, on the ensuing night the tide will be greater. On the third day, the sun acting in conjunction with the re-acting flood tide, increased by the additional impulse of the second day; the flood tide on the third day will be greater than on the second, and high water will take place still later. The flood tide of the ensuing night, being a re-action of the third day's flood tide, will also be greater, and take place later than the flood tide of the second night; and this increase will continue until the highest or spring tide takes place.

The successive increase of the extent and duration of the tides, will evidently change the periods of their vicissitudes or changes; so that, although the sun acted in conjunction with the re-acting tides on the second, third, and fourth days, on the seventh or eighth, in consequence of the pro-