

covered with water of an equal depth, then there would exist but little variety either in the force or direction of atmospheric waves. The only causes which would under these circumstances, operate to give the air motion would be the rotary motion of the earth round its axis and its position in regard to the sun. In addition, suppose the sun to be always in the equinoctial; in that case, we should have a system of winds like those existing at certain times of the year at the tropics called the "trades" which would be invariable, the mean line of direction prevailing at the equator, whilst the earth's motion would modify the currents as we went towards either pole gradually. But this constancy is wisely upset by two main causes, viz., the movement of the sun in declination, which tends to carry the middle line below or above the equator, according to the season, by $23\frac{1}{2}$ degrees; the other disturbing cause is to be found in the existence and peculiar form of the continents. There are many other causes of wind of a local character: the variation in colour of the landscape, and, consequently, the unequal radiating power of different tracts of land, will tend to disturb the atmospheric equilibrium; whilst the difference between the radiating and absorbing power of the sea and neighbouring land causes those diurnal currents experienced by the sea, especially in tropical regions, known as land and sea breezes. During the day the land acquires a temperature higher than that of the adjacent ocean; the atmosphere above it consequently becomes rarified, and the air from the sea flows towards the land, to occupy the partial vacuum produced there. In proportion as the heat of the land goes on increasing, the force of the sea breeze increases also; and this continues up to about 2 or 3 p. m., varying slightly with the season. After that time, the land more readily giving off the heat which it received during the morning hours, the land cools much more quickly than the sea, and the sea breezes cease about sunset. During the night the land continues to cool, and the air over the sea comparatively warmer; and the air therefore sets from the land, where it is denser towards the sea.

Now, when we consider how many causes there are combining to make the sun's action very unequal over the surface of the globe, and the consequence in the temperature of the air lying over it, we can hardly fail to see the reason why the currents of air coming to us are so diversified both as regards strength and direction; our removal from the limits of the "trades" being another reason of our not experiencing the periodicity of the tropics. Hitherto, as we have remarked, the observations relative to the phenomena of the wind have been very inadequate for the purpose of determining much about the laws by which they act in our latitude, owing to the number of disturbing causes. What is a *cause* in the tropics becomes

an *effect* in our latitude; the cause existing beyond our limits. For example, the temperature is the cause, perhaps of a certain wind in the tropics. Now with us, it frequently happens that the *wind* is the cause of a change in temperature. The element of meteorology is no doubt, as observations become more numerous, be much better understood than it is present; and as the wind affects the climate of our globe to so large an extent, by bearing moisture and heated air to regions remote from the places of their birth, and also by causing the circulation of differently heated oceanic currents, a better knowledge of its force, direction, &c., both as regards the more extended movements, as well as the influence of local peculiarities, is much to be desired.

The Parsnip.

The parsnip is one of the most valuable that can be grown. In the Island of Jersey is used almost exclusively for fattening cattle and swine. According to La Couteur weight of a good crop varies from thirteen to twenty-seven tons per acre. When parsnips are given to milch cows, with a little hay, in winter season, the butter is found to be of fine a colour and excellent flavor as when animals are feeding in the best pastures. Parsnips contain six per cent. more moisture than carrots, the difference may be sufficient to account for the superior fattening as well as butter-making quality of the parsnip. In the fattening of cattle the parsnip is found superior to the carrot, performing the business with more expedition and affording meat of exquisite, highly juicy flavor; the animals eat it with much greediness. The result of experience has shown that not only in neat cattle, but in the fattening of hogs and poultry, the animals become fat much sooner, and are more healthy than when fed with any other root or vegetable, and that, beside, the meat is more sweet and delicious. The parsnip leaves being much bulkier than those of carrots, may be mowed before taking the roots, and given to cows or horses by which they will be greatly eaten. Another thing in favor of parsnips in this country is, that the frost does not injure them. They may remain in the ground all spring, when they make a splendid feed, a time when every other kind of root or vegetable is scarce, or they may be slightly damaged where they can be obtained almost any time during the winter. On account of their rapid growth when young, the weeding is less tedious than weeding carrots.

CUTTING SEED POTATOES.—The effects of cutting seed potatoes as seed have often been discussed, some stating it as their belief that the cut was good, others as vehemently insisting