

guano. Lime and salt will prove equally beneficial, but this dressing is more expensive, while the lime and salt require to be mixed for some weeks previous to application to the land."

EXCESSIVE CLEANLINESS—Even cleanliness can be exaggerated, as in the case of the Pharisees, and the late Duke of Queensberry, who would wash in nothing but milk. Our own Queen uses distilled water only for her toilet; but this is not a case in point, since it is for the sake of health, I believe, with her. A sad case however, was that of the lovely princess Alexandra of Bavaria, who died mad from over-cleanliness. It began by extreme scrupulousness. At dinner hour she would minutely examine her plate, and if she saw the slightest speck on it she would send for another. She would then turn the napkin round and round to examine every corner, and often rise from the table, because she thought she was not served properly in this respect. At last it became a monomania, till on plates, napkins, dishes, tablecloth, and everything else, she believed she saw nothing but dirt. I weighed on her mind, poor thing; she could not be clean enough, and it drove her to insanity.—*English Hand Book of Etiquette.*

GLACIERS—Among the most remarkable objects on the surface of our earth are the great rivers of ice that are forever slowly creeping down the valleys of the Alps. The globe on which we live is sweeping through a region of intense cold, the warmth which is essential to animal life extending at farthest but a few miles from its surface. The rays of the sun, which produce the heats of summer, pour through the cold space above without leaving in it any traces of their power. The water which is evaporated from the ocean and rivers, as it floats upward into the cold regions, is there condensed, and, falling upon the summits of the mountains, covers them with deep layers of perpetual snow. As the snow accumulates in vast masses in the valleys which furrow the steep sides of the mountains, it is pressed downward by its own weight along the valley, and when it reaches the boundary of perpetual frost, it is converted into clear solid ice. From what we know of the properties of ice we should suppose that a mass of it hundreds of feet in thickness, wedged in between the rocky and ragged sides of a crooked valley, would remain immovably fixed in its position; but careful and repeated experiments show that this is not the case. Professor Forbes, in Edinburgh, by placing rows of stakes across a glacier and observing them carefully with a level, ascertained that the whole mass was moving slowly and steadily downward, at the rate of a few inches only in 24 hours.

Within a few years glaciers have been thoroughly investigated by Agassiz, Forbes, Tyndal and many others, and hundreds of ob-

servations of their motions and phenomena have been made with suitable instruments. It is found that the motion is more rapid in the middle than at the sides, at the surface than at the bottom, in the summer than in the winter—like rivers of water, glaciers move the more rapidly in the steepest part of their course, the motion becoming very slow indeed where they spread out to fill a broad part of the valley. When the earth falls down from the sides of the valley upon the edges of the glacier, it rests there, forming long lines or walls, which are called moraines. When two streams of ice unite, the moraines upon the continuous edge come into the middle of the combined stream and thus the glacier in the lower part of its course becomes marked with rows of earthy matter and broken rocks extending lengthwise along its surface. When separate masses of rock are down from the sides of the valley and rest upon the ice, they protect the ice directly beneath them from the action of the sun's rays, and the surface around is melted away, these remain lifted up in short pillars, presenting a very singular appearance. Isolated masses of gravel also protect the ice from melting, and when that around melts away, the mass falls in a conical form, and thus the glacier becomes dotted with cones of gravel the hearts of which are of ice.

As the glacier moves down the mountain in the warm regions, it is melted on the surface, and thus its vertical depth diminishes at its lower portion, though it generally terminates abruptly with an end of considerable thickness, a stream of water usually flowing out of a deep cave in the end. In summer this end melts more rapidly than the glacier moves down, and the terminus retreats up the valley; but in winter the head of the frozen monster is pushed downward along the valley, plowing up the ground, tearing trees from the earth, and sometimes crushing in the walls of houses.

The Himalayas and other mountains which rise into the regions of perpetual frost produce glaciers, as well as the Alps. Near the poles the glaciers are sometimes pushed quite into the sea, when their ends break off and float away forming the icebergs, which are occasionally encountered on the voyage from this country to Europe.—*Scientific American.*

Editorial Notices &c.

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We have much pleasure in being able to state that the *Agriculturist* has attained a considerably larger circulation this year than ever before.