

In Switzerland, BOUSSINGAULT says, the urine that is passed by the cattle flows along a gutter which communicates with a large reservoir containing water, in which not only the solid excrements diffused, but in which the litter is washed, this being changed twice a week. The reservoir is constructed under the floor of the cow-house itself, in order to be protected from the frost. The fermentation of a mass so diluted is scarcely preceptible, and, save from leakage, there is no loss of decomposing animal matter. The liquid manure is raised by means of a pump, and carried to the meadow in tubs placed upon carts.

All farmers recognize the virtue of such action as tends to preserve the value of manure, but there are large numbers who have not made such complete and efficient preparations as they might. The present season furnishes ample opportunities for the construction of manure sheds or such other receptacles as may be deemed expedient, and we hope that all who can will perform their whole duty in this respect.—*R. N. Yorker.*

ARCTIC VEGETATION.

Dr. Kane, in his account of his first cruise, gives the following description of the vegetation he found in a small cove, near the latitude of 70°:

Strange as it seemed, on the immediate level of snow and ice, the constant infiltrations, aided by solar reverberation, had made an Arctic garden-spot. The surface of the moss, owing, probably, to the extreme alterations of heat and cold, was divided into regular hexagons and other polyhedral figures, and scattered over these, nestling over the tufts, and forming little groups on their southern faces, was a quiet, unobstructive community of Alpine flowering plants. The weakness of individual growth allowed no ambitious species to overpower its neighbor, so that many families were crowded together in a rich flower-bed. In a little space that I could cover with my pea jacket, the veined leaves of the Pyrola were peeping out among chickweeds saxifrages, the sorrel and Ranunculus. I even found a poor gentian stunted and reduced, but still, like every thing around it, in all the perfection of miniature proportions.

As this mossy parterre approached the rocky walls that hemmed it in, tussocks of sedges and coarse grass began to show themselves, mixed with heaths and birches; and still further on, at the margin of a horseshoe, and fringing its union with the stupendous piles of debris, came an annulus of Arctic shrubs and trees,

Shrubs and trees! the words recall a smile, for they only typed those natives of another zone. The poor things had lost their uprightness, and learned to escape the elements by trailing along the rocks. Few rose above my shoes, and none above my ankles; yet shady alleys and heaven-pointing avenues could not be more impressive examples of creative adaption. Here I saw the bleberry (*Vaccinium uliginosum*) in flower and in fruit—I could cover it with a wine-glass; the wild honey-suckle (*Aralia procumbens*) of our Pennsylvania woods—I could stick the entire plant in my button-hole; the *Andromeda tetragona*, like a green marabou leather.

Strangest amongst these transformations came the willows. One, the *Salix herbacea*, hardly larger than a trefoil clover; another, the *S. glauca*, [*S. Uva-ursi*], like a young alther, just bursting from its seed. A third, the *S. lanata* [*S. arctica*], a triton among these broad minnows, looked like an unfortunate garter-snake bound here and there by claw-like radicles, which, unable to penetrate the inhospitable soil, had spread themselves out upon the surface—traps for the broken lichens and fostering moss which formed its scanty mould.

I had several opportunities, while taking sextant elevations of the headlands, to measure the moss beds of this cove, both by sections where streams for the lake had left denuded faces, and by piercing through them with a pointed staff. These mosses formed an investing mould, built up layer upon layer, until it had attained a mean depth of five feet. At one place, near the sea line, it was seven feet; and even here the slow process of Arctic decomposition had not entirely destroyed the delicate radicles and stems. The fronds of the pioneering lichens were still recognizable, entangled among the rest.

Yet these little layers represented in their diminutive stratification, the deposits of vegetable periods. I counted sixty-eight in the greatest section. Those chemical processes by which nature converts our autumnal leaves into pabulum for future growths work slowly here.