

moon at full looked down from the middle heavens, undimmed by a single cloud; but far to the west there was a gathering wreath of vapor, and a lunar rainbow stretched its arch in pale beauty across a secluded highland valley. A wide river rolled at the foot of the wooded terrace; but a low silvery fog had risen over it, bounded on both sides by the line of water and bank; and I could see it stretching its huge snake-like length down the hollow, winding with the stream, and diminishing in the distance. The frosts of autumn had dyed the foliage of the wood; the trees rose around me in their winding-sheets of brown, and crimson, and yellow, or stretched, in more exposed openings, their naked arms to the sky. There was a dark moor beyond the fog-covered river, that seemed to absorb the light; but directly under the nearest hill, which rose like a pyramid, there was a tall solitary ruin standing out from the darkness, like the sheeted spectre of a giant. The distant glens glimmered indistinct to the eye; but the first snows of the season had tipped the upper eminences with white, and they stood out in bold prominent relief, nearer, apparently, than even the middle ground of the landscape. The whole was exquisitely beautiful—a scene to be once seen and ever remembered.—*Essays by Hugh Miller.*

PLANTED BY NATURE.—Some seeds when ripe are provided with hooks made to catch hold of passing animals, which after a time, get rid of them by rolling on the ground. Those seeds which are surrounded by a succulent pulp, and are swallowed by birds and quadrupeds, are generally favourably consigned to the earth. Most seeds pass uninjured through the stomach and intestines of all animals, with the exception of gallinaceous fowls. Currant seeds, after having been eaten by man, can germinate. Foxes sow seeds of the cranberry (*vaccinum*) after eating its red berries. Apple and pear trees are often found in ditches and under hedges, proceeding, it is said, from fruit which has been devoured by peasants. Farmers are often astonished when, after having, as they think, perfectly prepared their fields, and sown excellent corn, on reaping they find some places covered only with useless oats. In other cases, manifers and birds devour only a portion of seeds while the rest fall and become productive. When the squirrel shakes the cone of the pine tree to obtain the seeds, a great number fall to the ground and are lost to him. The inhabitants of Iceland call a particular sort of nut "rat's nut," from the circumstance that the rats gather them in great numbers, and hide them in the ground. But as the rats are very often killed by one or other of their enemies, the nuts are often left to germinate. Seeds falling into worm-holes are sure to germinate, as well as seeds which drop into subterraneous

passages made by the moles to ensnare worms and insects. The hog by tearing up the ear as with a ploughshare, prepares it for the reception of seeds. The hedgehog passes his life doing the same service.—*Dickens's All Year Round.*

FOREST TREES.—From the manner in which the Germans preserve and improve their forests our countrymen might take a valuable lesson. Hohenheim, this forms one of the most important departments of study. The pupils are instructed in the best method of preserving, propagating, and improving their forest trees, and at the same time a proper estimation of the pecuniary and moral value of those productions of nature is instilled into their minds, which must eventually become the common sentiment. Our people must give attention to this either sooner or later; and every day's neglect of practical science will entail evils upon us which years of labor can hardly make amends for. We do not as a people appreciate the value of our forest. Negligently, carelessly and wastefully, we are destroying them on every side, considering that in them lies a mine of national wealth; for the time comes with every year when they can turn their own natural products to the most advantageous use for themselves; and this law applies as firmly to the trees as to the coals and various mineral ores. It affects our connection and family health, enjoyment and comfort, with a grove of primeval forest about the homestead, never entered by the practical heads of our fathers; and their example before them, pursued the same suicidal course. Down came the lofty and the beautiful maple, leaving the homestead to parch, and the spring to dry up in these burning rays of the sun.

If there are any exceptions here and there you will find the value of the farm increased a thousand fold, simply because the trees are left alone; and what if they have been cultivated with proper care? All along the line of the road in Southern Germany, I saw acres and acres of forests trees, from ten to fifteen and perhaps twenty years old, planted in rows as regular as corn is with us, and all cultivated in the scientific manner.

When will our people learn wisdom in this matter. Will they heed the warning of the World—listen to the admonitions and exhortations of science, and be prudent in good time? Or do they wait to learn it too late from their own experience?—*Field Notes*

In a soil unmanured the produce was a single fold, the nitrogenous substances being 66.7 parts. In the same soil manured with guano, the produce was five-fold, the nitrogenous substances being 9.6 and the non-nitrogenous 6.5 cent.