WORMS AND THEIR WORK.


I have been reading a remarkable book by our greatest living naturalist. "The formation of Vegetable Mould Through the Action of Worms, with Observations on Their Habits, and Suggestions to Cultivate the Soil with them," a book with such a title must be full and heavy and is very greatly mistaken. Scientific, of course, any work on this subject is; but this treatise is light and pleasant, and I know of no more entertaining master of the great art of teaching than Mr. Darwin. After long years of patient observation and study, has given to the world Forty-four pages, with attention to the wonderful part played by these simple and industrious agents in the economy of the earth, and now, from the publication of Mr. John Murray, this volume comes not only to substantiate his earliest conjectures, but to build on an exact understanding of the habits and usefulness of these creatures the lowest order of life.

Let us first lay before our dear reader Mr. Darwin’s book has to tell us as to the ways of worms. Pick up an earthworm, and you will find that it has a mouth, but no eyes. It appears, however, that it is partially sensitive to light. Mr. Darwin kept several worms in pots, which were protected from current of light, and made many experiments on them. He concluded that worms are sensitive to light, that they can distinguish between the days of sunshine and those of darkness; they are totally wanting in sharpness, the deepest and lowest tones of a bassoon, shouts, the noise of a siren, are all equally loud to them; but they are extremely sensitive to vibrations, as, for instance, if placed on the piano. They can hear the sound; but this is small; and, apparently, is accounted for by the perception of certain natural odours, such as those of carrion, leaves, and horse-daughter, which they feed on. Their mental qualities there is little to be said. It has been seen that they are timid in respect of light and vibrations. Mr. Darwin doubts whether they are as susceptible of as much pain when injured as they seem to express by their contortions. Judging by their querulousness for certain kinds of food, he writes, "they must enjoy the pleasure of eating them, or they are omniscient. They swallow enormous quantities of earth, out of which they extract any digestible matter; and the half-decayed fragments are consumed by them in great numbers; raw and roasted meat, and especially raw fat, town, the latter especially, they are able to eat; and it must be confessed, carnivorous. The earth swallowed by a worm is ejected from its intestines in the form of casts, and consists of leaves, twigs, etc., beneath the surface within reach of the roots of plants. Rich, dark soil, so much prized by gardeners, is, in part, due to the exertions of worms dig their burrows, partly for the purpose of food and partly to plug up their passages. When the earth is black and fruitful, it may be said to have been ferreted out by the industrious and successful gardener. It allows the air to penetrate deeply into the ground; it lightens the soil, and the earth for the downward and upward progress of roots; its casts enable many seeds to strike root. We have all heard farmers talk of herbage earth, of the marvellous qualities of it, and the cinders on the surface of their fields "work downwards and disappear as if by magic."

But Mr. Darwin proves that this is the industrious husbandman who performs this useful office. For instance, suppose a large amount of manure shaped like a cylinder and rolled in a nice film of water, "it rests, of course," writes Mr. Darwin, "on the more protruberant parts; but worms soon fill up with their castings all the hollow spaces on the lower side." They appear to the shelter of stones, as anyone who raises a large piece of rock embedded in the soil will discover. "As soon as the hollows are filled up the worms eat the earth which they have swallowed beyond the circumference of the stones, and thus the earth is raised all round the stone. As the burrows ex- cavated directly beneath the stone after a time collapse, the stones become little earthy slaks a little." It is almost impossible to over-estimate the importance which this work, proceeding continually as it is on every acre of cultivable land in England, has for the farmer or the gardener.

The immense indebtedness of man to these humble denizens of the crust of the earth has been long overlooked. The worm has been badly spoken of, and little justice has been done to the unobtrusive perseverance with which it levels our fields, makes fruitful the soil, and exemplifies the good which Shakespeare tells us to look for in everything.

Killing insects and gnawing wood.

And things of obscene and foully name.

All have their part to play in the great romance of nature; and Mr. Darwin’s book should at least serve to impress upon light-thinking people that, after all, the man who would turn aside rather than stop upon the worm in his path has gratitude and wisdom on his side.