

## DR. DARWIN ON THE VALUE OF EARTH WORMS.—

This great naturalist has brought into full light the nature and function of earth-worms, with the result of proving that there is no creature to which man, as a civilised being, owes more than to this humble object. Dr. Darwin has for many years past closely studied these neglected denizens of our common planet, and now gives the fruits of his investigations in his new work "Vegetable Mould and Earth-worms." Instead of being useless, or even harmful, it turns out that we could never do without earth-worms. They, and they alone, in their countless millions, and their ceaseless hidden toil, have made the globe what it is, fit for agriculture and the residence of man. The bulk of the humus or vegetable mould of his fields everywhere is mainly of their manufacture, and goes perpetually through and through their organs to be fitted and perfected for fertility. The most assiduous and wealthy farmer does not lavish half as much nourishment upon his crops as the earth-worms, which in many parts of the British Isles make and bring to the surface of each acre of land ten tons or more of rich fine mould yearly. It is the worm which, by perpetually consuming decayed leaves and small particles of soil, disintegrates and renews all the face of our earth. Their castings, hardly noticed, alter invisibly the contour of a whole country. Brought up from below, they make stones and rocks gradually sink, covering these by the collapse of their tiny burrows, so that the surface grows smooth for our use by their viewless help. Antiquarians owe to the earth-worm the preservation of almost every ancient pavement and foundation by the soft coat of mould with which they overlay these relics. They remove decaying leaves, facilitate the germination of seeds and the growth of plants, and create for us most of our wide, level, turf-covered expanses. Their numbers are prodigious. It has a mouth and a most peculiar digestive apparatus; it breathes by the skin, but has no eyes, and is quite deaf. Slightly sensitive to light, it escapes danger by knowing and avoiding the day. Worms hide during a frost, and, though insensible to atmospheric sounds or waves, they feel the vibrations of solids. They have no sense of smell, and yet display strong preference for certain food, such as cabbage and onion. Dr. Darwin pronounces them distinctly intelligent by reason of the way they make and line their burrows, and draw in fallen leaves to close them up. These leaves they prepare for digestion by a strange and unique alkaline secretion. These humble creatures, have been proved by their exquisitely patient method to perform an extraordinary amount of world-work, although their active period of toil is little more than half the year. On a down in Kent Dr. Darwin found the worms had thrown up digested soil amounting to 18 tons per acre.

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