

## **WHAT MAN OWES TO EARTH-WORMS.**

Dr. Charles Darwin, whose "Natural Selection" and "Descent of Man" have revolutionized the biological studies of the present generation, has published a book which is destined to create a profound as well as an amusing impression. It is entitled "Vegetable Mold and Earth-Worms," and it goes to prove that this wriggling, slimy little creature is one of the most useful and beneficent of any of the various forms of life inhabiting the globe.

The earth, it seems, would practically be a desert were it not for the worm. The vegetable mold which makes the soil fruitful is due to its labors, and the secret of its value is that it eats dirt, which has been so well characterized as "matter in the wrong place." In one acre there is an average of 53,767 worms. The prodigious result of their labor is shown by an investigation of a field in Kent, England, where Dr. Darwin found that the worms had thrown up digested soil amounting to eighteen tons per acre in one year. On a sandy soil at Leith-Hill the investigation showed sixteen tons to the acre. Although at work only half the year, the sum total of their activity is stupendous. The great naturalist calculates the actual weight of soil rendered serviceable by the worm for vegetable life in Great Britain alone, since its appearance there, at the enormous total of 320,000,000,000 of tons. Man subsists on animal and vegetable food, but there would be very little of either were it not for the worm.

It will not do, therefore, any longer to despise the worm. Indeed, not only is it useful in creating the mold which makes the earth fertile, but it helps also to preserve for man the memorials of the past. Its mission is to cover all naked surfaces with its ejecta. The

earth which passes through its intestinal canal is rendered soft and fertile, and covers and preserves whatever it is deposited upon.

The discovery of the value of the worm in the scheme of evolution (it is not scientific to say creation) is another instance showing the changed point of view which scientific men are taking of the origin and destiny of the human race. The tree does not grow from its leaves downward, but from its roots upward. The origin of our life dates back to the savage past, and not from the blissful Eden. Our gratitude for the good things of the world is due to the worm and not to supernal providences. Our ancestors were not the gods but the beasts, and our main dependence for sustenance, strength and life is not upon unseen spiritual agencies, but material conditions of a very inferior sort. Edgar A. Poe has written that "an angel throng" looked on at a drama—

The play was the tragedy man,  
And the hero the conquering worm.

But it is the worm that is the victim in the tragedy. Man is the conqueror, for he lives by the toil and death of the most despised object known to humanity.

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