
THE WORK THAT WORMS DO.

MR. DARWIN'S latest work is "The Formation of Vegetable Mould through the Action of Worms." The author has made the subject an occasional study for more than 50 years. He has watched the habits of worms for days and nights with unremitting vigilance, trying experiments in various simple ways, with marked success in the result. Nearly half-a-century ago he wrote a paper on the subject, which was much criticised; it being asserted that, having regard to the weakness and small size of the earth-worm, the work it was alleged to accomplish was stupendous. On this point Mr Darwin now observes that it is the inability to sum up the effect of a continually recurrent cause which has mainly retarded the acceptance of scientific theories. He states, for example, that in many parts England a weight of more than 10 tons of dry earth passes through the bodies of worms, and is brought to the surface, on each acre of land within the year. This action is very beneficial to the growth of all fibrous-rooted plants. For by it the soil is shifted and its constituents mingled together, after the fashion in which a gardener prepares soil for his choicest plants. The finest turf-covered expanses are, it appears, due to the good offices of this seemingly useless creature. "Its smoothness," he tells us, "on which so much of its beauty depends, is mainly due to all the inequalities having been slowly levelled by worms. It is a marvellous reflection that the

whole of the superficial mould, over any such expanse, has passed, and will again pass, though the bodies of worms. The plough is one of the most ancient and valuable of man's inventions; but long before he existed the land was, in fact, regularly ploughed and still continues to be ploughed, by earth-worms. It may be doubted whether there are many other animals which have played so important a part in the history of the world as have these lowly-organised creatures." In this process the worms do not swallow earth solely for the purpose of extracting nutriment from it, but in order to make their burrows. Many other interesting facts are brought to light. Worms, it seems, like raw meat and certain vegetables, especially celery, and often indulge in cannibalism. Without the outward organs of sight, they shrink from light; sense of smell is small; of touch marvellously fine. They are timid, amorous, and possibly have social feeling, as they sometimes lie in contact, and are not disturbed by one of their kind crawling over another. The book is a marvellous example of the insight of natural life in its lowest workings to be obtained by the patient investigator.