

is this earth which forms the so-called vegetable mould. Add to this, that worm-burrows very probably aid materially in the drainage of the soil, allow the air to penetrate deeply into the ground, and facilitate the downward passage of roots. Seeds, moreover, often owe their germination to having been covered by castings, and others are buried until they are accidentally uncovered at some future time, and then germinate. Not the least striking passage in the book is the following paragraph, with which Mr. Darwin concludes it :

“When we behold a wide, turf-covered expanse, we should remember that its smoothness, 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, every few years through the bodies of worms. The plough is one of the most ancient and most 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 organized creatures. Some other animals, however, still more lowly organized—namely, corals—have done far more conspicuous work in having constructed innumerable reefs and islands in the great oceans : but these are almost confined to the tropical zones.”

Such are the main results of this mature and masterly contribution to Natural History. It will be seen that its excellence and its value consist not merely in the sagacity and genius with which a most unexpected and, as some thought, far-fetched idea has been worked out, but in the patience and persistency with which the idea has been verified by incontestable experiments and observations. Mr. Darwin is here on the strongest ground of his genius. He tells us not merely, as in some other of his writings, what he can conceive may be done by forces of which he can partially follow the operation, but what, beyond question, actually is done. There can no longer be any doubt that the insignificant creatures, which have been proverbially quoted as types of worthlessness and degradation, have rendered, and are still rendering, incalculable services to the human race, and to the development of the surface of the earth and of the history of the world. The perpetual emblem of mortality