the acids which are always generated during the decay of vegetable substances, whether in the intestines of animals or on the ground; and in this case it is probable that concretions of lime are formed by some of the glands, so that they may be carried down to the posterior parts of the intestine before they are dissolved. Claparède thought that these hard bodies were formed to act as millstones, and thus aid in the trituration of the food; but as worms swallow many small stones, which may generally be found in their gizzards, Darwin's theory is the more probable.

Worms have no eyes, but yet are able to appreciate light by means of their nervous system through their skins. If a strong light is turned on them suddenly they will sometimes dart back into their holes with great quickness. This is not always the case, however, for if the anterior portion of the body is shaded, an intense light may be thrown on the rest of the body without any notice being taken. A moderate light is after some time generally observed by them, and they will retire to their holes slowly and apparently hesitatingly. Darwin found that the colour of light made no difference in their appreciation of it, and that a moderate radiant heat, such as that from a hot poker being held near them, did not cause them so much emotion as a bright light. Worms being nocturnal in their habits, an appreciation of the difference between day and night is, of course, useful to them, and this they possess. The sensitiveness to light is less when a worm is engaged in eating or in dragging leaves into its burrow—a fact which Mr. Darwin is disposed to consider analogous to what in higher animals we know as the distracting influence of attention. It is a curious fact that worms kept in confinement keep quiet during the day, and only crawl about and work at night.

Although worms are deprived of vision and have no sense of hearing, their sense of touch is most highly developed. In observing them the greatest care must be taken not to jar the table or touch the jar in which they are, nor even to breathe on them, or they will instantly retire to their holes. In watching them out of doors it is necessary to tread very lightly or very little will be seen of their habits. A heavy footfall is sufficient to send home all the worms for many yards around. This is doubtless the reason why most of the birds which feed on worms are able to run and walk as well as hop.

With regard to the sense of smell Mr. Darwin arrived at the interesting conclusion that it was very feebly developed, and only at all for certain natural objects which were suited for food. Pieces of cabbage, onions, the leaves of parsnips, celery and many other plants were placed on the pots, and certain ones were always chosen and others left. Worms appear to be omnivorous, bits of meat and fat were always taken and eaten as well as enormous quantities of earth, out of which they extract any digestible matter, they will eat sugar, liquorice and almost any other substances which are given them. They are even cannibals, for they will eat the bodies of dead worms if they find them lying near their burrows. It would appear that the leaves which they draw into their holes are smeared with a fluid which is alkaline, and which acts on the starch and other contents of the plant cells and very much hastens their decay, "it thus resembles in nature the pancreatic secretion, and serves partly to digest the leaves before they are taken into the alimentary canal — so constituting the only case of extra-stomachal digestion hitherto recorded in an animal." In this way worms do good service by quickly decomposing the dead leaves and mixing them with the soil, nor is this the only way in which the surface soil is improved by these insignificant creatures, for Mr. Darwin has shown by most careful experiments that what gardeners complain of so bitterly, that the worms spoil the appearance of their carefully cut lawns by raising up all over them the unsightly mounds which we call worm-casts, they are of very great importance to the agriculturist. For not only do worms, by sinking their burrows deep into the earth, render it permeable by air and water, and so bring about its disintegration; but they are most powerful and active agents in adding depth to the soil and in covering up comparatively barren tracts with a layer of rich vegetable mould. Mr. Darwin began his investigations by remarking two most striking characters possessed by vegetable mould. These were, that it was of nearly a homogeneous nature throughout, although overlying different kinds of subsoil, and the uniform fineness of the particles. This is easily seen in a gravelly country where in ploughed fields there are many stones visible, while in an adjacent pasture there will be no stones within some inches of the