LITERARY NOTICES.

The Formation of Vegetable Mould through the action of Worms, with observations on their habits. By CHARLES DARWIN, LL.D., F.R.S. London: JOHN MURRAY, 1881.

This work is the outcome of 30 years' practical observation on the part of its eminent author, and is equal to his former works. It is an extension, in 300 pages, of Mr. Darwin's celebrated paper "On the Formation of Mould," read before the Geological Society in 1837 (see Transactions of Geological Society, volume 5, page 505). Regarding the worms, Mr. Darwin, quoting a paper on this subject from Mr. Fish, says "considering their weakness and their size, the work they are represented to have accomplished is stupendous." On Mr. Darwin's personal authority it appears that worms are nocturnal in their habits; and are both vegetable and animal feeders, and are semi-aquatic, living submerged in water for months; but are quickly killed by dry air. As regards smell, they readily find out pieces of cabbage leaf, onions, &c., when buried near them. And his experiments went to show that worms are totally deaf; but that they are extremely sensitive to the vibration of any solid object with which they may be brought in contact, such as the earth surrounding them. Worms are also destitute of sight; but they are nevertheless sensitive to light. But this sensitiveness is not so manifest when they are engaged in any active operation which attracts their attention. When not engaged in any active operation their sensitiveness to light is so considerable that when a worm is suddenly illuminated it darts like a rabbit into its burrow. Normally worms live in burrows, and commonly lie motionless near their mouths; but the habit of resting near the surface leads to their destruction in enormous numbers by birds. By looking into the holes the heads of the worms may be seen. They often coat the mouths of their burrows with leaves to keep their bodies from contact with the cold damp earth, and it is stated that they completely close their burrows during winter. They appear to have sufficient intelligence to adjust any object, such as a leaf, in the best way to draw it most quickly and easily into their burrows. During digestion they not only convert refuse materials into vegetable mould, but play an active part in the disintegration of various kinds of rocks. They thus form soil, and are of great value to all engaged in agriculture. To the archæologist they are especially serviceable, by the growth of mould obtained from their castings, in covering up early works of art, such as coins, gold ornaments, stone implements, Roman buildings and pavements. In some cases the thickness of the mould above such remains was found to be "twenty, thirty, and even forty inches." In one case the actual weight of worm-castings thrown up in one year was calculated to amount to 18·12 tons per acre. Worms burrow partly by swallowing the earth, and partly by pushing it out of their way. It was observed that a large worm was occupied three hours in swallowing his own bulk of ferruginous sand, in order that he might conceal himself from observation. In the author's own words "it was shown that small fragments of burnt marl, cinders, &c., which had been thickly strewed over the surface of several meadows, were found after a few years lying at a depth of some inches beneath the turf, but still forming a layer." "These castings are sooner or later spread out, and cover up any object left on the surface. I was thus led to conclude that all the vegetable mould over the whole country has passed many times through the intestinal canal of worms. Hence the term 'animal mould' would be more appropriate than that commonly used of 'vegetable mould.'" One remarkable instance is cited by Mr. Darwin of a field, called by his children many years ago "the stony field," having become so completely covered with mould from worm-castings that a horse could gallop across the field without striking his foot against a stone. Much more, had we space, could be quoted from this very interesting and instructive book, which all should study, seeing how important an agency in nature Mr. Darwin has shown the action of worms to be, so that, in his concluding words, "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."

THE PUBLIC HEALTH IN BERKSHI

In these days of extensive emigration, the Reg General's returns, each successive quarter, are partic acceptable to the thinking portion of the community. statistics made up for the months of April, June and last, and issued within the last few days, are espe interesting to our readers. They impart a vast an of instructive information, if carefully analysed digested. We have conned the mass of figures and elicited the following important results affe Berkshire.

We are told that the population of our county is 247 and in the second quarter of 1881 there were 282 marr celebrated as compared with an average of 301 i corresponding quarters of the three preceding y whilst 2,919 births are recorded against 1,960 ditto; 960 deaths against 1,088 ditto. No fewer than 156 in under one year old, and 348 persons, aged sixty and died during the quarter down to which the returns made, and there were five deaths from small-pox, from measles, 27 from scarlet fever, six from diphth nine from whooping cough, five from fever, 13 diarrhœa, 30 from violence, and 92 in public in tions (workhouses, hospitals, asylums, &c.), whilst number of inquest cases held was 50. Dividing these into registration sub-districts we find them stand the

READING DISTRICT.—St. Mary: Acreage, 1,846; p lation, 17,253; births, 137; deaths 74, as compared an average of 81 in the corresponding quarters of the ceding three years; deaths of infants 9, and of pe over sixty, 25; death from diptheria 1, from fever 1, in workhouse 18; inquests, 3. St. Lawrence: Acre 315; population, 4,674; births, 42; deaths 17, as pared with an average of 16 in the corresponding qua of the previous three years; deaths of infants 2, a persons over sixty, 5; death from scarlet fever 1, from violence 1; inquest, 1. St. Giles: Acreage, 2, population, 21,558; births, 206; deaths 70, as comp with an average of 99 in the corresponding quarters o prior three years; deaths of infants 13, and of pe over sixty, 14; death from small-pox 1, from scarlet 1, from fever 1, from diarrhœa 1, from violence 5, a hospital 14; inquests, 8.

NEWBURY DISTRICT.—Thatcham: acreage, 15, population, 7,939; births, 61; deaths 34, as comp with an average of 34 in the corresponding quarters o three previous years; deaths of infants, 4, and of pe over sixty, 7; deaths from diarrhœa 1, from violen inquest, 1. Newbury: acreage, 6,521; population, 7, births, 61; deaths, 34, as compared with an average in the corresponding quarters of the prior three y deaths of infants, 3, and of persons over sixty, 14; from fever 1, violence 1, and in workhouse 2; inque Speen: acreage, 21,108; population, 7,621; births, deaths 3, as compared with an average of 28 in the responding quarters of the preceding three years; de of infants 4, and of persons over sixty, 14; inquest,

HUNGERFORD DISTRICT.—Kintbury: acreage, 23 population, 3,880; births, 34; deaths, 13, as comp with an average of 14 in the corresponding quarters o previous three years; death of infants 4, and of pe over sixty, 5. Hungerford: acreage, 40,590; popula 8,908; births, 70; deaths, 32, as compared wit average of 42 in the corresponding quarters of the three years; deaths of infants 5, and of persons over 16; death from diarrhœa 1, from violence 2, and in w house, 4; inquests, 2. Lambourne: acreage, 33,964; p lation, 5,007; births, 32; deaths, 24, as compared an average of 22 in the corresponding quarters of the ceding three years; deaths of infants 6, and of pe over sixty, 11; death from whooping cough 1, diarrhœa 1, and from violence, 1.

FARINGDON DISTRICT.—Shrivenham: acreage, 21, population, 3,821; births, 22; deaths, 22, as comp with an average of 18 in the corresponding quarte the previous three years; death of persons over sixt and of infants, 1; deaths from scarlet fever (in the p of Coleshill) 9, from violence, 1; inquests, 3. Faring acreage, 18,440; population, 5,518; births, 43; de 35, as compared with an average of 26 in the corresp ing quarters of the three prior years; deaths from wh ing cough 2, from violence 2, and in workhouse, 7 quests, 2. Buckland: acreage, 22,768; population, births, 45; deaths 17, as compared with an average