Darwin enters into a most interesting, but unfortunately inconclusive consideration of the primitive colour of the horse; powerful, but not sufficient evidence being adduced in favour of dun, with a special stripe. Here, however, we trench on the ground allotted to Atavism or Reversion, which would lead us away from our present inquiry. This we may continue in noting the varieties of that profoundly interesting animal, the pig. No authority of any repute professes to trace our domestic pigs to more than two parent stocks, the common wild boar and the breed which is wrongly called *Sus Indica*, since no wild aboriginal inhabits India, the best-known domesticated breeds having been imported from Siam and China. We would refer the reader to portraits, at page 72 of the first volume, of the head of a wild boar, and that of "Golden Days," a pig of the Yorkshire breed, the latter portrait from a photograph. Two animals more dissimilar it would be impossible to conceive. Perhaps the public will be inclined to treat piggy with more reverence when they are informed by Mr. Darwin that "the modifications of the skull in the most highly cultivated races are wonderful;" and the newly induced form of the skull is common to all pigs when improved up to the same standard. It is a little disappointing, however, to read, a little further on, that this cranial change is due partly to man's breeding the pig for one sole purpose, namely, for the greatest amount of flesh and fat! Food, as might have been expected, plays a large part in producing modifications, but most people will probably be surprised to learn that, whilst the length of the intestines in proportion to that of the body is in the wild boar as 9 to 1, in common domestic pigs it is as 13·5 to 1, and in the Siam breed as 16 to 1. Many pages are dedicated to the consideration of changes effected in our domestic cattle. Mr. Darwin makes a pregnant remark whilst dealing with this branch of his subject. The ordinary breeder of Shorthorns or Herefords, Leicesters or Southdowns, never supposes that they have been derived from common progenitors. The ordinary naturalist, who knows nothing about breeding, feels no doubt but that they spring from one stock. But the latter, if asked to concede that closely allied species found in a state of nature are so sprung, refuses to make any such concession. The chapter on rabbits is peculiarly curious and interesting. The Himalayan breed are white, with the exception of the ears, nose, all four feet, and the upper side of the tail, which are all brownish black. They were only lately ranked as specifically distinct, and named *Lepus Nigripes*. Their origin is now well known; and Mr. Darwin is able to tell us how they were produced. He also gives some remarkable particulars about the *Porto Santo* rabbits, which have certainly originated since the year 1420, but which, if their history had not been known, would have been ranked as a distinct species. The osteological variations in rabbits are perfectly surprising. The common statement that only the crests of the bones which give attachment to muscles vary in shape, and that only parts of slight importance become modified under domestication, is completely upset by the drawings given in the chapter specially devoted to them. As Mr. Darwin says, surely nobody will pretend that the occipital foramen, or the atlas, or the third cervical vertebra, is a part of slight importance. Hardly anything can be more certain than that, if the vertebræ of the wild and of the lop-eared rabbits had been found fossil together, palæontologists would have attributed them to different species. Not to note other osteological results, domestication has induced the following changes in the rabbit. The third cervical vertebra has assumed characters proper to the fourth; and analogous changes have been caused in the eighth and ninth dorsal vertebræ. The skull has increased in length, and the terminal sternal bones have become highly variable; and even the position of the condyles of the lower jaw has been modified. But it is in his chapter on pigeons that Mr. Darwin is most convincing. It is impossible to deny that, if the pouter, the English carrier, the short-faced English tumbler, and others had been found wild, they would all have been ranked as distinct species. Yet the 150 different kinds of pigeons which have been separately named and which breed true are all descended from the *Columba Livia*, or rock-pigeon.

What do all these facts tend to show? That plasticity of organisation, submitted to changed conditions of life, to extra use or total disuse of certain organs, necessarily results in considerable variations. Then the principle of correlation steps in; so that, if one organ be affected, another will suffer change in consequence. Intercrossing, then, aids the progress of modification, and inheritance preserves the alterations effected. As long as we have under our eye specimens of all the successive modifications, we are guarded against supposing that we have got what we call a real new species. But, supposing that all the links could be lost, and that we saw for the first time nothing but the original parent stock, and the very last and furthest carried variation of all, our ideas on the subject would be very different, and free from that prejudice with which they are now unavoidably infected. That this occurs in nature in the struggle for existence is of the very essence of Mr. Darwin's theory, already sketched in the "Origin of Species," and to be dwelt upon still more fully in the promised works of which we have spoken. We must not anticipate their contents. We have preferred to give the reader some idea of what he will find in these volumes, though we ought to add that he will find much more than what could possibly be even alluded to in this brief notice. We also purposely abstain from noticing Mr. Darwin's theory of Pangenesis, introduced at the end of the second volume. Our real object is to drive more and more readers to his works. They will meet everything to interest and nothing whatsoever to shock or disquiet. For while we cannot at once adopt the theory of this most original and conscientious student of nature, it is simply impossible to deny that his inquiry and its results are valuable contributions towards that broader study of the creation which the most modern school of philosophers are only now commencing.

* "The Variations of Animals and Plants under Domestication." London: John Murray.

SHREWSBURY.—Last week an exceedingly handsome metal tablet was erected in Belmont-street Free Christian Church, at the expense of members of the congregation and other friends. The tablet bears the inscription:—"To the memory of Charles Robert Darwin, author of 'The Origin of Species,' born in Shrewsbury, Feb. 12, 1809, in early life a member of, and constant worshipper in, this Church, died April 19th, 1882." The inscription is artistically cut in white marble, with handsomely carved mouldings above and below, and surmounted with other carved work, as representing the special field of research to which the great naturalist devoted himself, namely, an orchid, fern, flower, beetle, earth worm, fly, and chrysalis, with a background of rockwork. The tablet was executed by Mr. G. L. Tenducci, of the Cemetery Works, in this town, and is exceedingly beautiful altogether, says the *Shrewsbury Guardian*. It is a most appropriate addition to the chapel, and will serve for years to come, to connect one of England's greatest scientists with his native town and the scene of his early life. On Sunday, sermons were preached by the minister, the Rev. E. Myers, F.G.S., on "The Work of Darwin, and its Relation to Religion," to large congregations.

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"WORMS!" The very word is repulsive; it calls up the hideous, creeping, slimy, objectionable creatures which haunt the under-world of our globe, and fills the ordinary mind with images of horror and disgust. A man is thought superhumanly humane if he refrains, like the poet COWPER, from setting his foot upon a worm. "What is the good of them?" must often have been asked, when the gardener turns up a spadeful of mould which is found full of these wriggling knots. Probably many people incline to believe that they were really created for the express purpose of being bait for anglers, and it is thought an exceptional proof of vivacity, when they are threaded on a hook, to remark "that even the worm will turn." To the horror and loathing, moreover, provoked by the unlovely appearance of the earth-worm is added a certain special dislike. This springs from the absurd and mistaken idea that the ungainly creatures have to do with the decomposition of buried corpses. People hate the obscure animal, popularly said to play undertaker to all flesh, although as a matter of fact worms seldom burrow deeper than a few inches, except to go to sleep. Suddenly, however, the gentle sunbeam of genius has shone into the dark region where these despised beings dwell and work. A great naturalist, to whose admirable instinct of inquiry nothing is "common or unclean," has brought out into full light the nature and function of earth-worms, with the result of proving that there is almost no creature to which man, as a civilised being, owes more than to this humble object. Dr. DARWIN has for many years past closely studied these among other neglected denizens of our common planet, and now gives us the fruits of his investigations in a little volume bearing the title of "Vegetable Mould and Earth-worms." At the touch of his transcendently patient intellect a new glory breaks over the degraded, writhing, offensive worm. Instead of being useless, or even harmful, it turns out that we could never do without these humble creatures. They, and they alone, in their countless millions, and by their ceaseless hidden toil, have made the globe what it is, fit for agriculture and the residence of man. The bulk of the humus or vegetable mould of his fields everywhere is mainly of their manufacture, and goes perpetually through and through their organs to be fitted and perfected for fertility. The most assiduous and wealthy farmer does not lavish half as much nourishment upon his crops as the earth-worms, which in many parts of the British Isles make and bring to the surface of each acre of land ten tons or more of rich fine mould yearly. All things considered, Dr. DARWIN inclines to rank the earth-worm higher in the scale of constructive agencies than the coral insect itself, though the last-named builds atolls, islands, and ocean-kingdoms. It is the worm which, by perpetually consuming decayed leaves and small particles of soil, disintegrates and renews all the face of our earth. Their castings, hardly noticed, alter invisibly the contour of a whole country. Brought up from below, they make stones and rocks gradually sink, covering these by the collapse of their tiny burrows, so that the surface grows smooth for our use by their shapeless help. Antiquarians owe to the earth-worm the preservation of almost every ancient pavement and foundation by the soft coat of mould with which they overlay these relics. They remove decaying leaves, facilitate the germination of seeds and the growth of plants, and create for us most of our wide, level, turf-covered expanses. Thus at one stroke our great natural philosopher has raised them to an honourable rank in the vast family of creation. The poor earth-worm is henceforward decorated with the blue ribbon of science. He has got his promotion after long ages of neglect. The concluding words with which the most famous of modern natural philosophers sums up this monograph are as follows: "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."

To appreciate the patience, the discernment, and the penetrating genius with which CHARLES DARWIN has thus transformed a repulsive into an attractive topic, his new work must be reverently studied. Ever since 1837 he has quietly applied searching and persistent experiments to the habits and the labours of earth-worms. He has, so to speak, domesticated them, with the result that he can now tell us what they do, why they do it, and how they do it. They are found almost everywhere. Their castings may be seen on the shoulder of lofty Schiehallon, in Perthshire, and on the top of the Nilgherri Mountains. Their numbers are prodigious. An average of fifty-three thousand seven hundred and sixty-seven are calculated to reside in a single acre. The earth-worm is nocturnal in its

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