## *ERASMUS DARWIN.**

To German industry, which is deterred by no difficulties, not even by a want of familiarity with local and personal particulars, we are indebted for what many will view in the light of a discovery. It may be news to the majority of the British public, but it has long been a household story in the midland counties. Mr. Charles Darwin is justly proud, not only to be the grandson of Dr. Erasmus Darwin, but to be also the heir of his high intellectual qualities, and, in a sense, of his opinions and theories. He can point to himself as a conspicuous example of heredity, progressive improvement, selection by rule of strength, and adaptation to favouring circumstances. In this way he represents a family, a school, and a position in the world of science. Accordingly, he has hastened to present to the English reader an account of the scientific works of Erasmus Darwin, by Ernst Krause, accompanying it with a very interesting preliminary notice. Erasmus Darwin lived at Lichfield from 1756 to 1781, during all which time the fact of his occupying ground dear to Dr. Johnson with opinions diametrically opposite must have added considerably to the great moralist's cup of sorrows. A romantic incident, proving at once Dr. Darwin's warmth of affection and high personal gifts, took him to Derby, where he fell on congenial soil, made a *nidus*, so to speak, and founded a school of thought. Within a few months of his arrival he had actually founded a Philosophical Society, following, but deviating from, the example of Spalding. Here he had round him younger men, afterwards of great note in their several ways, one of them the ingenious and public-spirited father of the present Lord Belper. There were men of letters in the town, and even a painter of great genius, whose portrait of Darwin appears in the frontispiece of this volume; but the prevailing tone of the place was mechanical, for people were making fortunes and families rising to sudden eminence by newly-invented machinery. For twenty years Dr. Darwin reigned without a rival in a Paradise of theories, inventions, projects, and reforms. Very early in his life, on the only occasion in which he had ever been entrapped into strong drink, after running a great distance and walking up to his neck through a river, he mounted a tub and harangued the population of Lichfield on sanitary improvement. The incident is a good pair to Dr. Johnson's self-imposed penance in Lichfield market-place; but there could henceforth be no doubt of the sincerity of Darwin's convictions. There was nothing for which Dr. Darwin did not invent a machine, more or less successful, and to this day worth a reviewal. Nobody was good for anything, he used to say, who had not tried an experiment. It was his definition of a fool. He tried to improve on the clumsy carriages of that day by placing the driver more over the horse, but he evidently had not taken enough into account the mitigation of centrifugal force obtained by putting the cart well behind the horse, for he was upset and lamed for life. For the benefit of the craven spirits who resign themselves to failure on the ground of personal defects, it may be observed that, besides limping, and besides great obesity, the doctor stammered very much and was deeply pitted with the smallpox. His extensive reading, his medical skill, and his great benevolence would have secured him ascendency even if he had not been a philosopher and a poet. His poems were wonderful works of art, and deserve being better known. But they did not rise to their model, and they fell on evil times. They had not the gloomy grandeur and deep yearnings of Lucretius. The French Revolution discredited all theories, and as Darwin's star was setting Coleridge and Wordsworth appeared over the horizon. It is often said that the truest test of a style is that it should admit of being well parodied, and by this test Darwin stands, for "The Loves of the Triangles" is the best thing ever written in its way. Darwin's contemporary critics, while they scouted his theories, admitted his marvellous versification, to the extent of ascribing to it a sort of diabolic perfection. Its real want was that of moral interest. The "Georgics" and the "Seasons" would hardly be read but for their episodes and bits of human life, and even with these few know how considerable a poet Thomson was.

But Dr. Darwin's philosophy is the point in question. It was simple enough; almost childlike. He invested everything that could be supposed living at all with real life, human life, the life of sensible enjoyment, sensible pain, love, hatred, hope, and fear. There was no form or stage of existence that did not live by him. As he sympathized readily and deeply with man and beast, with the very negro, with everybody, near or far, so also he had spare and abundant sympathy for every thing that moved, for plant, flower, leaf, blade, and root, even to every kind of insect scourge. The very mountains were to him the records of past happiness enjoyed by the minute creatures that make chalk or the coral reef. He looked not to the surface of the ocean, but its depths, where life and happiness abounded in infinite quantity, but infinitesimal forms. The universal impulse of pursuit, or of flight, the reachings of hunger, or thirst, or desire, and the instinctive love of sweet security had made, and were still making, the world and the universe. All this ran counter to the received doctrine, but, strange to say, it was much accepted, even without a thought. By the time Darwin began to look about him there had been a long run of what was called natural theology in general, specific, and very particular forms. Not only philosophers and poets, but divines had demonstrated the existence and attributes of the Deity, from the universe, from the earth, from man, from the beast, from birds, insects, flowers, down to the locust and to thunder and lightning, and to forest fires. English and German writers before them had worked the argument of design threadbare, it might be said. Everything had a design, obvious, all but speaking; and the design was the good of man and the glory of the Creator. Whatever was good must be true, or as good as true. Unfortunately, some of these writers fell into errors which were all the more serious considering the greatness of the stake. But one fault pervaded all. While they were labouring for one pious object, they left out everything that did not help towards it visibly and distinctly; and the consequence was a very partial view of science, and a warped view. Modesty might have suggested that we do not understand all creation, but these writers were emboldened by the greatness of their cause. This was the current that Darwin set himself to stem. His philosophy was a reaction. Oddly enough, while combating it he often fell into it. As it turned out, he wisely followed the Roman precedent, and tipped with honey the bowl of medicine he was presenting to the world. His verses did the business. These were as bright, and sharp, and unassailable as a row of penknife blades or surgical instruments in a cutler's shop window. But the public took the philosophy in one sense as a matter of course. Since every poet in those days invested everything with human passions, reason, and utterance, under a poetic licence, firm believers in the received theology swallowed Dr. Darwin's sober, matter-of-fact conviction that everything had life in itself and that this was the life of the world.

But after this comes the question of cosmogony, which Darwin had no wish to avoid. From the first he believed in one Maker, Upholder, and Blesser, but steadily and emphatically refused to admit any interference with the design once made, or any government, except by continuity of sound rules. He frequently referred with reverence to the precepts and example of the Great Teacher; he refused to take fees from the priest and lay vicars of Lichfield Cathedral, and it is not a little remarkable that his last words and last act were the strongest possible testimony to the observance of the duty founded on the sacred record of the Creation. "On the day of his death, in the early morning—it was about 7 a.m.—whilst writing a long and affectionate letter to Mr. Edgeworth, he was seized with a violent shivering fit, and went into the kitchen to warm himself before the fire. He there saw an old and faithful servant churning, and asked her why she did this on a Sunday morning. She answered that she had always done so, as he liked to have fresh butter every morning. He said, "Yes, I do; but never again churn on a Sunday." In two hours he was dead. Among many other matters in which he anticipated this century, he says in his "Phytologia," "There should be no burial-places in churches or churchyards, where the monuments of departed sinners shoulder God's altar, but proper burial-places should be consecrated out of town." Nothing could be more express than his faith in a Divine Creator. He published an ode on the folly of atheism that might almost be added to the "Hymns Ancient and Modern," and contrasted the selfish morality of Socrates with Christian benevolence. But there must continually arise the question of the bearing of the Creator's love on the great machine of the universe set in motion myriads of ages ago. How did the better prevail, as it was bound to do? By unchangeable rule, or by some interference. As for the latter, if the Almighty, to all appearances, does not interfere with the revolutions of mighty spheres on their axes, or in their orbits, was it likely, said Darwin, that He would in the fall of a die? No, the universe was planned to develop and improve itself by the resolution of forces, and the final, if not continual, triumph of the better and the stronger. Here comes the point in which the German writer conceives that Mr. Charles Darwin has been fully anticipated by his grandfather. That he has not been fully anticipated, however, is evident. The grandfather trusted the Divine beneficence with a continual improvement, effected in a multitude of ways by the mutual action of instinctive tendencies. He wrote and spoke with the greatest diffidence of theories, of which he had read enough, but thought that if they were ever so extravagant, they did good by directing observation to some new quarter. In his opening address to the Philosophical Society founded by him he spoke of man's imperfection and nature's infinity, leaving perpetually new things to be known and done, and new work for experimental philosophy. Upon everybody he urged study to the end of life, if only to avoid self-repeating. His view of nature, that is, of the great machine, was not of a first appearance favourable to the destructive process imagined by later theories. He trusted to the "immense munificence of Nature's hand" to make good the greatest losses. The grandson, treading in his steps, or, if the German writer would prefer so to put it, standing on his shoulders, has taken what he deems the most solid part of Erasmus Darwin's views and worked on that foundation. The elder Darwin trusted rather to the multiplicity of agencies and laws for mutual sustentation and progress. The younger looks on the work rather as a battle, in which the better and stronger ever survive the worse.

Yet no doubt out of the elder Darwin's wealth of matter and hypothesis there can be selected the materials for a system so like the younger Darwin's as to seem an anticipation of it. The German writer ascribes to Erasmus a complete system of the theory of evolution, at the same time deeming it necessary to adduce the evidence of it. Erasmus certainly thought it conceivable that the first created thing was an egg, or, more probably, one living filament moving in cosmic fluid; and he saw even in the lichen the first stage of organic being. The transformations of plants within their own kinds, of moths and butterflies, of tadpoles, and of common animals according to the season, the climate, or the time of life, tempted him to pursue the process of transformation infinitely further. He saw in some aquatic plants incipient gills and fins, and would have believed, if science permitted, that flies and bees were orchids that had got loose and taken wing. His observations generally had led him to realize the progressive and self-protective nature of living things; their strong internal cravings and impulses, their shells, their warm furs or hard skins, their prickles, guns, essential oils, rank odours, and poisons; but he was not satisfied with a mere equilibrium in nature, which would leave nature unchanged. He was not unwilling to believe that man himself had been originally hermaphrodite. He noticed, also, at least one internal arrangement in the human body which may be considered a defect in the erect posture, but is proper in a quadruped. Observing that male animals were moved and constructed to contend for the female—that is, either for the herd or for the favoured individual—and that the victory must generally end on the side of the strong, he recognized the general triumph of the stronger element in creation. The world, indeed the universe, he believed to have been generated rather than created, and a growth from strength to strength going on for ever. Full of wonder at the power of the human hand, and regarding it as the great physical difference between man and brute, he saw in the secret of this difference in the *adductor pollicis*, which made the thumb so powerful an instrument, and placed it in direct communication with the forefinger. Whatever the impulse, universal life was a struggle of existence. He was not content with the common parental theory of evolution modified by the circumstances affecting man from his birth. The *fœtus* itself was believed to be affected by the thoughts and feelings of the mother, and therefore probably, so he thought, by the course of human affairs refracted through the maternal medium. He did not recoil from the thought of an utterly self-destructive process, for it must be the way to a nobler resurrection of the evangelful Nature. He was the first, says the German writer, to propose and consistently carried out a well-grounded theory with regard to the development of the living world. For this theory, however, Darwin would have to accept a supposition which perhaps the German would not think necessary. It is that myriads of ages ago, yet after a previous eternity, the Deity created an egg or filament having the power of slowly developing itself into the created universe to which we belong, and that He then watched and still watches the development, without ever in the least interfering—without ever again exercising the power of creation, except according to the first physical laws. Erasmus Darwin having to ask whether all the buds on a tree are different trees combined in one organization, or may be said to have been contained in the original seed, observes incredulously on the infinite number of these potential trees, and their infinitesimal size. Yet this is the very problem of an egg or a filament to grow into the universe. While speaking of the non-appearance of the ammonite among living things, he suggests the possibility of one genus being replaced by another. He dwelt on the evidence in many living forms, even the human, of some former less developed or differently developed stage of existence. After the birth, he made imitation the universal teacher. Smiles, tears, frowns, cries, the play of the lips, the hands, and the feet, all he founded on development or early surroundings. With these and many other like expressions before us, it is impossible not to recognize a strong family resemblance between these two remarkable men. But if the resemblance be studied more closely, the difference will more appear, and the grandson will be found not a mere repetition of his grandfather—by his own creed an impossible thing.

* "Erasmus Darwin," by Ernst Krause, with a preliminary notice by Charles Darwin. London: John Murray, 1879.

## *HIDDEN BEAUTIES.*

TO THE EDITOR OF THE TIMES.

Sir,—The village of Compton, in Surrey (near Guildford, and lying south of the "Hog's Back"), deserves a visit from the tourist or archæologist who may happen to be in the neighbourhood, on account of its late Norman church. In this there is, among other interesting features, a screen or arcade surmounting the chancel arch and said to be one of the oldest pieces of woodwork in England. I was walking through Surrey the other day and arrived at Compton about 1.30 on Sunday, only to find the gate of the churchyard securely locked (I was informed that this was its normal condition save at actual hours of service), and the church itself obscured from view by a lofty wall and dwellings.

One is so accustomed to find country churches barred and bolted that we are, from the prevalence of the custom, not impressed with its full villainy; but to be denied inspection of even the exterior of God's House—and that at mid-day on Sunday—is a new, and by no means a pleasant, sensation to one who has walked over a great part of England.

The editor of Murray's "Handbook for Surrey" says of Compton Church that "some of its arrangements are perhaps unique." Let us hope that what I have mentioned above counts as one of them.

I am, Sir, yours faithfully,

T. W. LITTLETON HAY.

Balhousie, Southbrooke-road, Lee, Nov. 19.

OFFENCE UNDER THE BALLOT ACT.—At the Nottingham Town-hall, yesterday, William Lomas was charged with violating one of the provisions of the Ballot Act at the recent municipal elections in that town. The Town Clerk, who prosecuted, explained that the defendant who had been employed as a political agent, was about half-past 11 on the polling day to one of the polling booths and induced a sub-agent who was employed there to supply him with the names of several electors in the ward who could help him. The Town Clerk added that the defendant had hitherto borne a good character, and the Bench ordered him to be bound over in his own recognizances to appear before them when called upon.