

LONDON, SATURDAY, NOVEMBER 16, 1880.

LITERATURE

On the Origin of Species by Means of Natural Selection; or, the Preservation of Favoured Races in the Struggle for Life. By Charles Darwin. (Murray.)

MAN is born into a world in which he beholds abundant results, but is eye-witness of few processes. To be content with results is the mark of a benighted, or corrupt, state of society; to inquire into processes is the province of Science, and all the advancements of Science are at best but a truer cognizance of natural processes. Ignorance has often assumed the appearance of Knowledge by pronouncing this or that process to be the operation of a Law of Nature; and thus Law, instead of being regarded as merely a line of action, or a measure of creative activity, has been most unphilosophically confounded with that activity itself. Men have postured Deity and deified Law. They have propounded systems which, by laying hold upon Fancy, have lived a flattering, brief existence, and then perished like the airy fabrics of a dream. Others, on the contrary, from excellent motives but mistaken views, have, in effect, excluded Law, and attributed every operation in nature to direct and continual interposition of Divine energy; thus debasing means and dislocating order. Like the Athenians of old, they have been "too superstitious" without, after all, being reasonably religious; and they have only erected an altar to an "unknown God," while they viewed themselves as the valorous vindicators of the homage due to the common Father of all who breathe.

Lady Constance Lawleigh, in Disraeli's brilliant tale, inclines to "believe that she descends from the monkeys." This pleasant idea, hinted in the 'Vestiges,' is wrought into something like a creed by Mr. Darwin. Man, in his view, was born yesterday—he will perish to-morrow. In place of being immortal, we are only temporary, and, as it were, incidental.

Naturalists of the highest eminence are thoroughly satisfied that each species of animal—all that flies, and walks, and creeps, and wades—has been independently created; and the majority of naturalists have agreed with Linnaeus in supposing that all the individuals propagated from one stock have certain distinguishing characters in common, which will never vary, and which have remained the same since the creation of each species. Mr. Darwin, on the contrary, believes that "the innumerable species, genera, and families of organic beings with which this world is peopled, have all descended, each within its own class or group, from common parents, and have all been modified in the course of descent." To his mind, "it accords better with what we know of the laws impressed on matter by the Creator that the production and extinction of the past and present inhabitants of the world should have been due to secondary causes, like those which determine the birth and death of the individual." When he views "all beings not as special creations, but as the lineal descendants of some few beings which lived long before the first bed of the Silurian system was deposited, they seem to him to become ennobled." We confess some doubt and some uneasiness here. "Judging from the past, we may safely infer that not one living species will transmit its unaltered likeness to a distant futurity. And of the species now living very few will transmit progeny of any kind to a far distant futurity; for the manner in which all organic beings are grouped shows that the

greater number of species of each genus, and all the species of many genera, have left no descendants, but have become utterly extinct. We can so far take a prophetic glance into futurity as to foretell that it will be the common and widely-spread species, belonging to the larger and dominant groups, which will ultimately prevail and procreate new and dominant species." We cannot say that this is easy doctrine.

To support these bold views the volume is devoted. The world of animals is contemplated as engaged in one vast unceasing struggle for existence. All organic beings are exposed to severe competition. The face of Nature, it is true, is bright with gladness, and her garner-houses are stored with an abundance of food. Birds sing, insects hum, beasts prowl about in ease and take no thought for the morrow; but the morrow measured by seasons and years has not always a superabundance of food for them. Individuality of distinct species, or with the physical conditions of life. Here we have the doctrine of Malthus applied, with augmented force, to the whole animal and vegetable kingdoms, wherein there can be no artificial increase of food, and no prudential restraints from marriage! There being no exception to the rule that every organic being naturally increases at so high a rate that the earth would soon be covered with the progeny of a single individual, even slow-breeding man doubling his numbers in twenty-five years,—it follows that destruction must check reproduction, and, if new species are to appear, extinction must be busy among the old.

The principle of a struggle for existence must be deeply engraved on the memory, in order to advance further into theory. So to engrave it, a striking picture might be drawn of the actual contest going on in the natural world. When an American forest is cut down, a very different vegetation springs up on the same spot. What a struggle has been in force there during long centuries between the several kinds of trees, each annually scattering its seeds by thousands, what warfare between insect and insect, between insects, snails and other animals, with birds and hosts of prey, between a crowd of combatants, all striving to increase, all feeding on each other, or on the trees, or on their seed and seedlings, or on other plants which first clothed the ground, and thus checked the growth of trees! What, then, must have been the continual action and reaction of the innumerable plants and animals which, in the course of centuries, have determined the proportional numbers and kinds of trees now growing on old Indian ruins! How do our cherished poetical dreams melt away, when we sing of the peacefulness and repose and harmlessness of animated nature, while the whole fields and forest are but one wide theatre of war!

Now, how does the struggle for existence operate with respect to Variation? Man can produce varieties in animals by the practice of selection. What he has already done by this means in pigeons, the poultry-yard, the dog, and the garden display. Is there anything analogous to this in the course of Nature? The author contends that there is, and he names it Natural Selection. This principle, whatever

others may think of it, and whether they admit its operations or not, in Mr. Darwin's book plays the prominent part. It may be plainly defined, and appears to be briefly this. Under domestication it may be truly said that the whole animal organization becomes in some degree plastic. As variations useful to man have undoubtedly occurred, is it not to be expected that other variations, useful in some way to each being in the great and complex battle of life, should sometimes occur in the course of thousands of generations? If such do occur, then, remembering the struggle for existence, individuals possessing any advantage over others would have the best chance of surviving and of procreating their kind, while injurious variations would be rigidly destroyed. Such a continual preservation of favourable, and rejection of injurious variations, is the principle of Natural Selection. It is illustrated, amplified, and confirmed by abundant examples through many pages. It is the author's pet principle, and is not exclusively his, nevertheless is lauded like a loved infant of unquestioned paternity, and nourished with appropriate aliment. It grows fast as we turn over the pages, and by the time we have arrived at the last, it walks by itself, it gratifies its father by its sturdy progress, it brings smiles to his face so "sicklied over with the pale cast of thought," and you listen with wonder to the glorious future which he predicts for his hopeful progeny. Why for this rather than other theories? Surely in obedience to the impulse of Natural Selection. It is most natural that a father should supremely love his own offspring, most natural that he should select it from all others as the favoured of the future, as the successful competitor in the struggle for existence.

Certainly there is something poetical in the conception of a succession of created beings, daily and hourly making the wisest election amidst all variations and divergencies; carefully rejecting what is bad, and preserving and accumulating all that is good; operating silently and insensibly, whenever and wherever opportunity offers, towards the improvement of every organized existence in relation to its organic and inorganic condition of life. There is, too, a certain simplicity in the theory of descent with modification through natural selection from a few vastly remote progenitors. "I believe," says Mr. Darwin, "that animals have descended from at most only four or five progenitors, and plants from an equal or lesser number. Analogy would lead us one step further—namely, to the belief that all animals and plants have had but one prototype." A cabbage may have been the parent plant, a fish the parent animal. It may have been a whale.

A man of imaginative power might most attractively depict the grand yet simple and direct issues of such a theory. Here are a vast variety of forms of life, most wonderfully co-adapted, most closely connected, most richly adorned, yet they are all "the lineal descendants of those which lived before the Silurian epoch; and one may feel certain that the ordinary succession by generation has never once been broken, and that no cataclysm has desolated the whole world. Hence, we may look with some confidence to a secure future of equally inappreciable length. And as Natural Selection works solely by and for the good of each being, all corporeal and mental endowments tend to progress towards perfection. Yes, an unbroken, sure, though slow, living progress towards animal perfectibility is a delightful vision; natural and gradual optimism is a welcome fancy. What need of

distinct creation? If a monkey has become a man—that may not be a man, but it is a monkey.

Let the past history of organic life speak. From the thirteen miles in thickness of British strata (exclusive of igneous rocks) comes there no testimony? Paleontology is summoned into court, and is closely interrogated by Mr. Darwin. This proves but a hesitating and reluctant witness; yet counsel for the new theory detects and exposes its imperfections where its testimony is not favourable. We might fairly expect to find in the fossiliferous rocks not a few proofs of the former existence of the numerous intermediate links between distinct specific forms if the proposed theory be true. We do not find them, many will allege, because they never existed. Not so, says our theorist,—but because they were never preserved. Paleontology, however, has not yet revealed any such finely graduated organic scale, and it is not logical to assume that it ever will. When a record is flatly against you, it is quite allowable for you to display its imperfection, but that being proved, you have only established a negative, and have acquired no confirmation. Grant imperfection, enormous lapse of time, poverty of paleontological collections, and comparative restriction of research, and other such postulates, and then the theory stands just as it stood before, uncorroborated by geology.

There is positively hostile testimony from the rocks to be confronted. Whole groups of species suddenly and abruptly appear in certain formations, and seem at once to contradict any theory of transmutation of species. Either that fact or the theory must be overturned. Of course, Mr. Darwin accepts the former alternative, and strives to show how liable we are to error in supposing that whole groups of species have been suddenly produced. But another and an allied objection may be started, derived from the manner in which numbers of species of the same group suddenly appear in the lowest known fossiliferous rocks. To meet this and uphold the new theory, it must be sustained by another, viz.,—that before the lowest Silurian stratum was deposited, immensely protracted periods elapsed, at least as long as any subsequent periods, and that during these vast extensions of time the world swarmed with living creatures. Several of the most eminent geologists, including Murchison, will refuse to admit this presumption. Mr. Darwin's geology is more singular than we had thought. "For instance," says he, "I cannot doubt that all Silurian trilobites have descended from some one crustacean which must have lived long before the Silurian age, and which probably differed greatly from any known animal." Extend, and multiply such assumptions, and the theories may take on a form very pleasant.

We cannot pretend to follow our author in his wanderings through the whole series of phenomena associated with his subject. He omits nothing and he fears nothing. He does not shun objections, nor does he materially understate them; but he disposes of them all more or less confidently. Geographical distribution supplies strong arguments against him, but he considers them, and with evident self-satisfaction assures us that, "if we make due allowance for our ignorance of the changes of climate and of the level of the land, which have certainly occurred within the recent period, and for other similar changes which may have occurred within the same period,—if we remember how profoundly ignorant we are with respect to the many and curious means of occasional transport; if we bear in mind how often a species may have ranged continuously over a wide area, and then have become extinct in the

intermediate tracts, the difficulties in believing that all the individuals of the same species, whenever located, have descended from the same parents are not insuperable." But might not the same style of reasoning, or rather of accommodation, be made use of with equal effect to support opposite views? Still onward, through other departments of research, the argument proceeds, and out of classification and embryology the author contrives to extract plain proofs that "the innumerable species, genera and families of organic beings, with which this world is peopled, have all descended, each within its own class or group, from common parents, and have been modified in the course of 'descent.'" Such is the object of every chapter, such the purport of the entire argument. The simple outline is sometimes lost sight of, in the crowd of manifold illustrations and considerations, but it is merely this throughout.

After all, this book is but an abstract:—it is the pilot balloon to a greater machine. Probably it is designed to show which way the wind blows. The larger work is nearly finished, but it will demand two or three more years for completion. Health, labour, and observations are wanting for awhile, but in due season we hope to see the work "with references and authorities for the several statements." We should offer remarks on some important topics but that our author says, "A fair result can be obtained only by fully stating and balancing the facts and arguments on both sides of the question; and this cannot possibly be here done."

Meanwhile Mr. Darwin anticipates small favour from many of the older and more eminent naturalists; his hopes chiefly rest on the young. Herdier and Richter, a few naturalists "he observes," "endowed with such flexibility of mind, who have already begun to doubt on the immutability of species, may be influenced by this volume; but I look with confidence to the future, to young and rising naturalists who will be able to view both sides of the question with impartiality." It is enough for us to add that neither book, author, nor subject is of merely ordinary character. The work deserves attention, and will, we have no doubt, meet with it. Scientific naturalists will take up the author upon his own peculiar ground; and there will we imagine be a severe struggle for at least theoretical existence. Theologians will say—and they have a right to be heard—Why construct another elaborate theory to exclude Deity from renewed acts of creation? Why not at once admit that new species were introduced by the Creative energy of the Omnipotent? Why not accept direct interference, rather than evolutions of law, and needlessly indirect or remote action? Having introduced the author of his work, we must leave them to the mercies of the Divinity Hall, the College, the Lecture Room, and the Museum.

Schiller's Life and Works. By Emil Palleke.

Translated by Lady Wallace. 2 vols. (Longman & Co.)

How far the English public will consider the ecstasies in which Lady Wallace writes of the Biography now presented by her in our language warranted by the book itself admits of some doubt, as she herself says, we must leave them to the mercies of the Divinity Hall, the College, the Lecture Room, and the Museum. —but neither in spirit nor style is it very acceptable. A spirit of partizanship has mingled a little bile with think, and the pen is not wholly without *stiletto* humour in it. It is partizan,—which possibly the Life of no great poet should be. We wrangle about the motives of a political leader,—we work out the energy or the

empiricism of a great projector; but there is something wearisome and unjust in the idea of the grave of a kingly and true man being made not so much an altar as a shooting academy. This lunatic grows in Germany. If a choice must be made between two great men, England's sympathies would readily, as regards the majority, be for Schiller as preferable to Goethe,—because of his fire, his wondrously picturesque imagination, his direct and intelligible style, in which the half-meanings are few, and the indications of something within, which never can be wholly seen, are fewer.—But English taste will long, we hope, be revolted at the fancy of extolling one hero by degrading another. We do not write lives of Shakespeare in order to prove that Ben Jonson was an academic pedant, crammed with conceit and that luxurious fancy which implies an insincere heart. Once in a quarter of a century, it is true, we may find a poet, and a real poet, who, as in the case of the author of 'Philip van Artevelde,' thinks it necessary to defend his own ware, by sitting in judgment on men who have gone before him; but the drama is accepted: the Preface forgiven. With our cousins it seems different. To raise one man, they must knock down some other. The notorious and helpful friendliness of Goethe with Schiller—the sublime words spoken by the former at the death of the younger man—the lines in the garden-window at Ilmenau—should, for all Germans at least who revere their own great men, be better recollected than seems to be now the German fashion. The late London festival was wrong, in this respect, Herr Palleke disposes of every person whose name or fame could interfere with his hero.

Herdier and Richter, no small names in the German Pantheon, are censured with having set up a "mutual-admiration society" of two, Tieck, a smaller and less distinct genius—and still how charming, how dreamy, how elegant—is in other pages dismissed with condescending toleration.—Is this needful? Till lately we have fancied such devices expedients resorted to by venial authors. Southey's hates and preferences have been referred by his antagonists in his butt of sack as Laureate. But a book like the one under hand shows no less distinctly that antipathy and imputation are in every word of pen and ink. They should not, however, come into play when the subject is the life and works of so real and noble a poet as Schiller.

Lady Wallace is enchanted with the "philosophical and metaphysical subtleties which pervade the work, running through every chapter like the scarlet threads on the canvas of the British fleet." These we cannot wholly accord, so far as we understand them. In tracing Schiller's life, his relations with women (to name but one subtlety) could not so coarse be overlooked by Herr Palleke. These were curious, complicated, and impassioned. A train of high-souled maids, wives, and widows, in different stages and states of mental and moral disintegration and wretchedness, during a large part of his manhood, followed his genius in adoring procession. Herr Palleke is diffuse in defending this triumph of sentimentality, and subtle in laying down the law of liberty, which "the wild women of Germany" (as they have been not unjustly called) laid upon themselves, to their own ultimate wretchedness. But we English have not yet arrived at the sublime point from which self-control and duty seem specks beneath notice. Our poets have some of them been like all poets—lawless in cravings for sympathy,—and their biographers have again and again attempted to promulgate the genius-theory which admits of a sliding scale

