immediately after their landing, the first detachment of the English forces was attacked at night by a considerable number of volunteers and militia, who not only fought with extraordinary courage, but with very great effect. The darkness and confusion put discipline and regular formations very much out of the question, and the consequence was that the troops were not only greatly harassed, but severe loss was inflicted on them, and their advance was checked. Indeed, though the main incident of the campaign appears to be pretty generally exaggerated or misunderstood, its whole history proves conclusively that brave men, armed with deadly weapons, acquainted with their use, and determined to defend their country to the utmost, can always find means to make themselves truly formidable to an invading force, even though they may not be regular soldiers.

PROFESSOR OWEN ON THE ORIGIN OF SPECIES.*

A SUMMARY of the present state of knowledge in regard to an important branch of natural science, coming from the pen of its greatest living authority, can require no fiat of contemporary criticism to secure the attention of the students of science, and that of the much larger number who desire, with the least possible trouble, to keep themselves informed as to its main results. The latter class are especially indebted to Professor Owen for having consented to condense and compress into a single volume his vast store of knowledge, and the fruits of the assiduous application of his powerful intellect, to widening the range of our acquaintance with the inhabitants of the earth during the past epochs of geological time. The student may, perhaps, regret that, for the attainment of that object, the author has found it necessary to compress important branches of his subject within such narrow limits that not more than ninety pages are devoted to all the classes of invertebrate animals; but this merely amounts to the wish that he had written a complete treatise instead of a summary. It may, perhaps, be surmised that our great comparative anatomist reserves for the termination of his scientific labours the completion of a new *Animal Kingdom*, wherein the constantly increasing results of discovery and study in enlarging and completing the edifice constructed by his illustrious predecessor may be finally reduced to order and shape by the living successor of George Cuvier.

Be this as it may, the present volume will be read as well by the many who are content to accept with submission the dicta of the master as by the few who are not afraid to question his judgment upon particular points. The portions of the work that will most excite the interest of readers are naturally those in which the need of abridgment has been least felt by the writer; and he has allowed himself to develope with some completeness the facts and reasonings that have given to our knowledge of the structure and habits of many extinct animals—known only by portions of their bony skeleton—a character of certainty scarcely inferior to that of our acquaintance with the species that are kept in zoological gardens. The parts of the volume devoted to the Reptiles and Mammalia contain many pages that cannot fail to interest deeply the most cursory reader who has learned enough of the glossary of comparative anatomy to understand the terms used to distinguish the several parts of the skeleton; but those parts of the work which contain a mere summary of the author's views are unavoidably dry reading to those who have not already a pretty full acquaintance with the subject.

Quite irrespective of the solid matter that gives a permanent value to the present work, there is an additional consideration that will attract many readers. The controversy excited by the appearance of Darwin's remarkable work on the *Origin of Species* has passed beyond the bounds of the study and lecture-room into the drawing-room and the public street. Those who have been persuaded by the arguments and the skill with which Mr. Darwin presented his theory, or who have been simply led away by the novelty of his views, and those who shrink from them with aversion, because of the dangerous consequences towards which they seem to point, have equally sought for confirmation of their own opinions in the judgments of the few who are really competent to form an independent judgment on the subject.

The few pages towards the close of his volume in which Professor Owen refers to the various hypotheses relating to the origin of species have, doubtless, been read with eagerness by very many who have not attempted to digest the entire work. Whether because a fuller discussion would have unduly swelled the dimensions of his book, or because the subject threatened to lead towards personal controversy—undesirable in such a work—the oracle is unusually reserved, and scarcely anything is said that might not have been inferred from its former utterances. Enough, indeed, there is to show the direction towards which the writer's opinions tend, but it seems as though he had imposed upon himself the rule which, as he says elsewhere, nature follows in her teachings—they are whispered rather than outspoken. It is plain that he does not believe that the last hypothesis, any more than its predecessors, has solved the mystery of the ultimate problem of zoology; but it is equally evident that he does not regard as satisfactory the opinion that the first formation of each new species is due to a separate and intermittent exertion of the will of the Creator, and that he looks forward to the future discovery of a secondary law by which the appearance of new forms of animated nature has been regulated.

Those who may have been disappointed in their desire for a fuller statement of the opinions of so eminent an authority on the chief scientific controversy of the day had not to wait very long for the satisfaction of their curiosity. In the *Edinburgh Review* of last month there is an article which certainly cannot be charged with any undue reticence, either in criticising the works of others or in expressing the views of the anonymous writer. We will not attempt to decide whether he has sat at the feet, or stood in the very shoes, of the author of *Palæontology*, but it is perfectly clear that the reviewer has done no more than develope and expand the ideas which are implicitly contained in the last few pages of the work, whose publication very shortly preceded that of the *Review*. He has used the same arguments and the same materials; and we may therefore not unfairly conclude that he represents the deliberate opinions of the eminent Professor, leaving those who are curious in such inquiries to investigate for themselves the question of identity.

There is no denying that, with those who regulate their opinions by the judgment of others, the decided opposition of the foremost living comparative anatomist will go far to neutralize the advantage which the new theory has obtained by the adhesion of several scarcely less distinguished names. The small number of those who—not sufficiently conspicuous to have become parties in the controversy—are striving with due patience and caution to form an independent judgment upon the subject of this deeply interesting discussion, may probably differ in their estimate of the real importance of the attack to which the theory of natural selection is subjected by the *Edinburgh* reviewer. It seems beyond question that neither Mr. Darwin nor some of the other writers engaged have sufficiently taken account of that great reserve of undiscovered truth which biology, even more than other branches of science, has hitherto kept concealed from the student of nature. Forgetting how much still remains for future discovery and speculation, they have argued as if there were no option between the acceptance of natural selection as the one preponderating, if not exclusive, agency by which new forms of organized life have appeared on our earth, and the utter denial of any secondary law of the creation of species. It is pretty certain that, if Professor Owen had not hitherto thought it unwise to give definite expression to the ideas which he has from time to time hinted at, neither Mr. Darwin nor any other competent naturalist would have overlooked his opinions or failed to give them the consideration to which they are necessarily entitled. He has deliberately refrained from the enunciation of any hypothesis; perhaps he has not allowed himself even to form any clear conception of the relation which the phenomena of vegetative repetition—of relation to, and progressive departure from, an archetype—of parthenogenesis—may bear to each other in that ultimate theory of the Origin of Species of which *Palæontology* gives foreboding, but which is more distinctly presaged by the *Edinburgh* reviewer. No one surely will blame the prudent reserve that has restrained Professor Owen—as it has restrained many of the greatest scientific inquirers—from advancing a single step upon the uncertain ground of speculation, and kept them rigidly confined to the firm footway of inductive reasoning; but neither can we agree with the reviewer who would proscribe every attempt to strike out a new path, and who denies that such attempts have contributed to the progress of science. The field to be occupied is so vast and the obstacles to progress so numerous that Science can find suitable service for all who enrol themselves under her banner. She admits recruits of the most opposite faculties and tempers—nay, more true it is, that she cannot well dispense with them. If Wellington had been once led away by the spirit of adventure, he never would have carried the British arms from Torres Vedras to the Bidassoa, nor achieved the day of Waterloo; if Victor Emmanuel had not thrown himself amongst the Austrian bayonets at Palestro, he would probably not now rule over Florence, Parma, Modena, and Bologna, and certainly not hold his present place in the esteem and the affections of his countrymen. Not to name other branches of science, we may fairly ask whether geology, of which palæontology is the chief handmaid and guide, would ever have attained to its present comparatively mature condition if its founders had rigidly abstained from every hypothesis that was not sustainable by complete inductive demonstration? Did the Wernerian and Huttonian theories contribute in no degree to our knowledge of the earth's past history? Have not the speculations of Agassiz and Charpentier helped to lead us to a far more complete knowledge of its condition during the period immediately preceding the present order of things? The progress of science has indeed been cumbered by the accumulation of vast piles of worthless speculation—worthless, not because it went beyond the limits of demonstration, but because it did not start from the basis of truth and nature. The man whose genius or fortune enables him to discern a link in the mechanism of nature hitherto overlooked is almost certain to be dazzled by the light of his own discovery, and to over-estimate the extent and the efficacy of its operation. Such has been the case in each of the instances above cited—it is the tribute which even superior minds pay to the common infirmity of our nature—and in our opinion it has been the case with Mr. Darwin.

Natural selection will, we are persuaded, be henceforward recognised as a *vera causa* which has operated both in modifying

* *Palæontology; or, a Systematic Summary of Extinct Animals and their Geological Relations.* By Richard Owen, F.R.S., &c. &c. Edinburgh: Black.

animal and vegetable forms and in extinguishing those that have ceased to be fully adapted to the surrounding conditions of existence; but we are equally persuaded that, taken by itself, it is inadequate to explain the entire past history of vital phenomena as developed in our planet. If we endeavour to apply the hypothesis in its absolute form, and to trace the derivation of all organized beings from a single original, we are met, amongst a host of minor difficulties, by that most startling one—the utter disappearance of whole tribes and classes of animals and plants that must have once existed if the chain of organized life were in truth a continuous one, yet have left no relics in the contemporaneous formations. Defective as the geological record may be, every class and almost every order of existing aquatic animals is represented by fossils extracted from the Silurian strata. If the Palæozoic fishes descended from a common ancestor with their contemporary Crustaceans and Cephalopods, where are the remains of those classes and orders that must have intervened in the line of descent? The longer the genealogy, the greater the probability of finding some of the family records.

It may be supposed that some such difficulty as this induced Mr. Darwin to hesitate at carrying out his theory to its utmost length, and to lean to the supposition that the beginnings of organized existence may have been, not a single one, but four or five primitive types of animals, and an equal number of plants. The consequences of this modification of the theory have scarcely been sufficiently noticed either by hostile or by friendly critics. No competent zoologist has studied the organization of the cuttle-fish without being struck by the analogies presented by the structure of that singular animal with each one of the great divisions of the animal kingdom. The tribe to which it belongs made its appearance comparatively late in the world's history. Let us suppose, in accordance with Mr. Darwin's theory, that this most highly organized of mollusks had been gradually improved by natural selection from a low primitive type. Whence are derived the analogies that connect this descendant of the original mollusk with the offspring of the first radiate, the first articulate, and the first vertebrate animal? Do they not give distinct intimation of the presence of another law of structure, another *vera causa* regulating the forms of the animated world, besides that natural selection whose agency Mr. Darwin has been the first clearly to bring to light? Is it not more philosophical to search patiently for the true nature of the cause that lies behind, recognised, though not seen, when we use the word "analogy" as applicable to the relations of all organized beings, than to disregard the obvious indications of its presence, and fill up the broad chasm of our ignorance by assumptions that may be admitted to be within the range of bare possibility, but which are certainly not sustained by the only available evidence?

Many of those who may be disposed to agree more nearly with the opinions of the *Edinburgh* reviewer than with those of Mr. Darwin, will, nevertheless, regret some passages wherein the former writer seems to have been led, in the ardour of controversy, to forget somewhat of the mutual respect which all earnest seekers for truth owe to each other. Independently of the amply sufficient evidence given by his own assertion of the fact, there appears nothing improbable in Mr. Darwin's statement that his ideas as to the origin of species were first suggested by reflection on the relations between the present and the past inhabitants of South America. The prolonged existence of certain peculiar types of structure amongst animals specifically, and even generically distinct, inhabiting a geographically isolated region, is a fact which, so far as it goes, points towards the supposition that such animals might have been derived from a common ancestor. In another portion of the same review the writer attacks in vehement terms another distinguished contemporary, on account of a lecture delivered at the Royal Institution, for the purpose of explaining and illustrating Mr. Darwin's views. Professor Huxley has not always treated received opinions and established reputations with much tenderness; but we are bound to say that the lecture in question did not appear to many of the hearers to deserve the censures with which it has been visited by the reviewer, who, if he had been present, would scarcely have regarded the parallel drawn between the series of varieties produced by selection, and the supposed relation existing between four existing genera of ungulate quadrupeds, as one adopted and defended by the lecturer, instead of being simply an illustration of the theory he was seeking to explain. The reviewer suggests a parallel between the varieties of the horse and those of the pigeon. It may be more applicable and more true than that given at the Royal Institution, but it would be no illustration of the Darwinian theory. That theory rests on the assumption, that if a sufficient lapse of time and other favourable conditions be allowed, the progeny of a common ancestor may be modified through natural selection until they differ as widely as the horse, the tapir, the rhinoceros, and the hyrax. It is quite true that the tapir is more nearly allied to the extinct *Lophiodon* than to the *Palæotherium*; but if we are not greatly mistaken, the freshwater beds of Languedoc that have yielded the remains of *Lophiodon* are of miocene age, while the more ancient *Palæotherium* comes from the upper eocene of France and England. It is at least possible that Mr. Darwin may regard the newer quadruped as the modified descendant of the older one, and the existing tapirs as modern representatives of the same branch of the family.

With the charge of heterodoxy, which is rather freely urged against the reviewer's opponents, we prefer not to meddle. The writer must know that similar charges have been launched in succession against all those whose labours have most contributed to establish geology on its present basis. Sedgwick, Buckland, Lyell, and Owen have each in turn been denounced as subverters of established religious truth. Men of science at least should be sparing in the use of such arms. It is their part to maintain the doctrine that physical truth, attained by the legitimate use of observation and reasoning, cannot possibly contradict the teachings of true religion. Those who believe that the testimony of nature, as pronounced in the geologic record, is opposed to the new theory, may be content to try the issue upon that ground alone. To appeal to an external authority seems to imply a doubt of the soundness of their own case.

LORD MAIDSTONE ON THE BOOK OF JOB.*

LORD MAIDSTONE'S name is not unknown to the Muses, though it has hitherto been in connexion with subjects of a more purely secular interest. If our memory does no injustice to the fertility of his pen, a pasquinade on the election of 1852 was his last contribution to the poetry of his country. But his elevation to the Peerage has naturally been accompanied by a corresponding elevation in his style. His lampoon, if we remember right, was very harmless, and in no way calculated to hurt anybody's feelings; and we can conscientiously accord the same praise to the present production, always assuming that Job and his three friends are by this time inaccessible to the pangs of translated authorship. It is impossible not to appreciate the uncontrollable industry to which it is evidently due. In fact, it is like those angular roses and whitybrown lilies which young matrons are fond of producing upon canvas, with such infinite labour to themselves, and such imperceptible results to the drawing-room furniture. Without taking into consideration the personal position of the producer, the aim and object of the production might remain a hopeless mystery. But Dr. Watts' monitory couplet, with reference to "idle hands," applies probably as much to earls as to more plebeian clay; and no doubt verse-making is a more healthful and intellectual labour than playing at legislation by taking part in the afternoon gossip of the House of Lords. Moreover, Lord Maidstone has an hereditary character for piety to maintain, and a personal character for ability to resuscitate; and perhaps he thinks that, for the purposes of future political invective, a close study of Job's replies to his three friends may furnish him with a loftier model than he has hitherto been accustomed to follow. At the same time, we must admit that the idea of rendering the Book of Job into the metre of *John Gilpin* implies an originality of conception to which the mind becomes accustomed with difficulty. Yet, if we take into consideration the object of his labours indicated in his preface—

> The work is truly colossal; and yet it scarcely seems to have reached the popularity which it merits. I attribute this chiefly to the absence of rhythm and cadence in the translation, without which every poem must appear bald and unsatisfactory; and it has been my object in the following pages to remedy this defect at the smallest possible sacrifice of fidelity to the original—

there can be no question of the judgment with which he has selected his pattern. Whether *John Gilpin* be a colossal work or not, it has undoubtedly reached all the popularity it merits.

If any book in the Bible is a fit subject for metrical translation it is the Book of Psalms; and Mr. Keble, who from his tone of mind and the genuine popularity of the poems he has published, is an unimpeachable judge in such a case, has pronounced, after himself making the attempt, that the task, if it is to be done well, is a hopeless one. What is true of the Psalms is still more true of the *Book of Job*. Anyhow, the person who attempts it has need to be a consummate master of versification. Metrical translation is in truth a very difficult species of verbal packing. A given set of ideas have to be packed in a set of verbal cases which they were not originally made to fit, and which they probably resemble but little either in shape or size. The packer's resource in such a difficulty is to fill up the interstices with paper or hay. The translator imitates this expedient by the use of what used at school to be called "botches," or more delicately, expletives; and the less skilful he is in his craft, the more freely does he recur to this resource. Metrical translations affecting to be faithful are never very satisfactory performances. If they are well done, they are stiff—if they are ill done, they degenerate into a washy doggrel. Byron's translation of the *Morgante Maggiore* is, for minute fidelity, one of the most wonderful *tours de force* of this kind ever performed; and yet even that has an awkward and ungainly ring. We can hardly attribute to Lord Maidstone any portion of Byron's marvellous facility of versification. Fearless dilution saves his verse from being ungainly, but at the sacrifice of all the grandeur which in a poetical point of view is the Book of Job's chief recommendation. A specimen, however, will best enable our readers to judge of the Book of Job John Gilpinized. It is taken from the scene in heaven:—

> Now upon a day, the sons of God
> Came service meet to do,
> Before the presence of the Lord—
> And Satan, he came too.

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* *The Poem of the Book of Job done into English Verse.* By the Earl of Winchilsea (late Viscount Maidstone). London: Smith and Elder. 1860.