The Origin of Species.

It has been nearly impossible to take up a Review or Magazine for the past three or four months without meeting at the first glance with some notice of this subject, grounded upon the new volume issued by Prof. Charles Darwin of London, a man of 'long standing and well earned scientific eminence,' as even his most incredulous critics confess, who has just broached a theory, to quote from his title page, of 'the Origin of Species by means of Natural Selection; or the preservation of favored Races in the Struggle for Life.'

We by no means propose to enter upon any discussion of a question involving such profuse expenditure of language, especially in the midst of the Dog-days, but it seems almost due to our readers, that we should at least give them at least a hint of what all the learned world are just now, more than anything else, puzzling themselves about, and, in the present instance, we find the means of doing so prepared at our hand in a contribution to the American Journal of Science for the last month, by Prof Parsons of Cambridge.

The article is one that repays the perusal which its clear and attractive style will command. We can make but brief and scarcely satisfactory extracts, yet such we hope, as to satisfy in some measure the curiosity of the reader unacquainted with the discussion thus far carried on.

In the first of the following paragraphs Prof. P. refers to the novelty of Darwin's Theory, and hazards the opinion that it will at length in some measure be generally adopted; in the second he gives a concise but fair idea of the position Darwin has taken:

'It has frequently occurred in the history of science that some startling theory, which, when first announced, was regarded as the antagonist of received opinions, and became at once the subject of earnest hostility as well as unqualified approbation, has, after much discussion, been importantly qualified and modified, and thus reconciled with views which it seemed to contradict; and when thus shorn of its excess and moderated in its demands, has been generally adopted as an important addition to knowledge. It may yet be so with Mr. Darwin's views.

'His theory, stated very briefly, is that all organisms tend to reproduce themselves in a geometrical ratio, and with such exuberance of life, that each one would speedily fill the earth, if not repressed by constant and powerful causes of destruction. Hence but a very small proportion of seeds or ova which are impregnated are able to mature and reproduce. Therefore there must be competition, or as he phrases it, a 'struggle for life,' among all these impregnated germs of life; and if one in a hundred only lives there must be a reason why that one lives rather than the ninety and nine which perish. This reason must again be frequently, or at least sometimes, that it had some advantage in this 'struggle for life,' by a structural or functional difference. That is, it varied from its kindred in such wise that it was somewhat easier for it to live, to grow, to mature, and to reproduce, than for them.—This difference or variation it must, as a general rule, impart to its offspring. When it became established, the same law of struggle, of advantage, of life, and of death, would operate upon this new and improved variety, and would cause another and a farther improvement. As this law is universal, and must always have operated upon all organisms from the beginning, not only are varieties established in this way, but so likewise varieties become species, species become genera, and so also orders, classes, families are formed, and thus finally we may suppose that all the organisms of the earth, living and extinct, animal and vegetable, have proceeded from the simplest original form of life.'

On the other hand Agassiz can scarcely bring himself to argue Darwin's theory with patience. The same journal contains a long and powerful review of it, in which he controverts Mr. Darwin's facts, reasoning and conjectures. The following extract from Prof. A. will suffice as an example:

'The fallacy of Mr. Darwin's theory of the origin of species by means of natural selection, may be traced in the first few pages of his book, where he overlooks the difference between the voluntary and deliberate acts of selection applied methodically by man to the breeding of domesticated animals and the growing of cultivated plants, and the chance influences which may affect animals and plants in the state of nature. To call these influences 'natural selection,' is a misnomer which will not alter the conditions under which they may produce the desired results. Selection implies design; the powers to which Darwin refers the order of species, can design nothing. Selection is no doubt the essential principle on which the raising of breeds is founded, and the subject of breeds is presented in its true light by Mr. Darwin; but this process of raising breeds by the selection of favorable subjects, is in no way similar to that which regulates specific differences. Nothing is more remote from the truth than the attempted parallelism between the breeds of domesticated animals and the species of wild ones. Did there exist such a parellelism, as Darwin maintains, the difference among the domesticated breeds should be akin to the differences among wild species, and afford a clue to determine their relative degree of affinity by a comparison with the pedigrees of well known domesticated races. Again, if there were any such parellelism, the distinctive characteristics of different breeds should be akin to the differences which exist between fossil species of earlier periods and those of the same genera now living. Now let any one familiar with the fossil species of the genera Bos and Canis, compare them with the races of our cattle and of our dogs, and he will find no correspondence whatever between them; for the simple reason that they do not owe their existence to the same causes. It must therefore be distinctly stated that Mr. Darwin has failed to establish a connection between the mode of raising domesticated breeds, and the cause or causes to which wild animals owe their specific differences.'

Reverting once more to Prof. Parsons' article, we find him referring here to the system of Agassiz, and suggesting a means of reconciling views which at first seem diametrically opposite from each other:

'Take first his [Agassiz'] assertion that there must have been in each geological age many

new creatures; say, if you please, a hundred or a thousand, and consider this as proved and admitted. Still it leaves wholly untouched the question how these new creatures were created. And be the answer what it may, that answer so far as it is only an answer to this question, leaves the assertion of Agassiz untouched.—But if we bring to the question, how were these creatures created? the possibility of abberant variation of offspring in the direction of improvement, we bring to it one answer.—For example: suppose the time to have come when there is to be a new creation, and it is to be a dog, or rather two dogs, which will be the parents of all dogs. How shall they be created? We may say of this either of five things. One is, that we do not know, and never can know, and had better not inquire. This does not seem any answer. A second is, that they will be created 'by chance.' This also seems to me no answer, because chance is a word only, and not a thing. A third is, that they will be created at once and out of nothing, by the absolute will of a creator. This answer does not satisfy me much better. The fourth is, that they will be so created by absolute fiat, out of a proper quantity of earth and water, with the necessary chemical elements in due proportion, which had been summoned to meet together in a proper place by the will of the Creator for that purpose. But this answer does not recommend itself to my reason much more than the others. The fifth is, he will be created by some influence of variation acting upon the ovum (before or at conception, or during its uterine nutriment) of some animal nearest akin — a wolf, a fox, a hyena, or a jackal; and the brood will come forth puppies and grow up dogs to produce dogs. Now the question is not whether this last answer offers a probability *per se*, but whether it is not after all less improbable than either of the other suppositions; less unphilosophical than either of the other answers, and therefore to be accepted on that ground; and I may say in passing, that if the present favorite theory for accounting for the diversities of our domestic dogs, by referring them to four different origins, be adopted, we may then conjecture that each of the four animals above named brought forth its own puppies, to be the progenitors of their respective families.

Let this doctriee of the new creation of new species by generative development through variation be accepted, and we have Darwin's theory of the origin of species by successive generation; and instead of opposing the theory of Agassiz it confirms it; because it adopts and reasserts the principle of new creations, and offers some explanation of the way in which they were made.'

As to the religious bearings of the question, Prof. Parson's conclusion will be read with greater interest:

'The poet may say that the undevout astronomer is mad; but astronomy and every science cultivated among men, has those who are devoted to it with the most faithful assiduity, and who extend its borders and enlighten its dark places, and who are, nevertheless, utter unbelievers as to God and religion; and find in their science support for their unbelief. To minister to religion is the highest, the consummating work of science; but science cannot render this service where there is no religion to accept it. So will it be with the theory of the creation of all things by successive generative and variant production, if it be established in any form whatever.

This man will read it to whom the idea of God is an offense and a pain. His unbelief holds him in subjection; and when he reads any book, or studies any subject, he reads with clouded eye and mind all that favors religious truth, but brightens at once when he gets a fact or an argument for his unbelief, and dwells on that as a choice morsel. He will study this new theory, and find in it new evidence that God is a mere superfluity; and he will say exultingly, now we have proof that the laws of the world and their own necessity are all that a truly rational mind can ask. And he will deny, or forget, that there is no possible conception which so imperatively demands a lawgiver, as law; and none which so requires a cause to set it in action as an active necessity.

Another man who loves to believe that God forms and fills and *is* the universe, and that there is no other God, will find here abundant support for his opinion, and will rejoice in the evidence this theory affords of the universality of law and the connection of all things by gradation into unity. And he will forget, or will not know, that all this implies design, and purpose, and will, and therefore personality.

And a third man will see in this theory new proof of the eternal workings of the personal God in whom he believes. He will rejoice at the evidence it offers that God loves to bless every entity of his creation by using it as his own instrument and as the means for farther creation; that preservation is continual creation; and that he forever puts forth the same power, born of the same love and guided by the same wisdom, that in the beginning laid the foundation of the universe deep in that infinite which no plummet of human imagination can ever sound. To such a mind it will be a new proof, that from God's own nature, there came forth laws of order, in which, through which, and by which, he has ever worked, from a beginning which when we try to think of it recedes faster than thought can follow.'

[Country Gentleman.