



## ON VARIETY AS AN AIM IN NATURE.

IN No. 2, Vol. I. of the *Journal of Travel* there was an article by Mr. Wallace, applying the Darwinian theory of Natural Selection to the architecture of Birds, and professing to explain thereby the varieties and peculiarities in the structure of nests.

As that explanation appeared to me altogether fanciful and erroneous, I contributed to the same Journal\* a paper, in which the argument of Mr. Wallace was contested. In that paper the following passage occurs:—"I am more and more convinced that variety, mere variety, must be admitted to be an object and an aim in Nature; and that neither any reason of utility nor any physical cause can always be assigned for the variations of instinct."

Mr. Darwin, in the work just published upon the *Descent of Man*, quotes this passage, and makes upon it the following comment:—"I wish the Duke had explained what he here means by Nature. Is it meant that the Creator of the universe ordained diversified results for his own satisfaction, or for that of man? The former notion seems to me as much wanting in due reverence as the latter in probability. Capriciousness of taste in the birds themselves appears a more fitting explanation." †

I respond the more readily to the challenge of Mr. Darwin, because the question which he puts to me, and the objection which he makes, involve points of the highest interest in philosophy and in theology.

Let me say, then, at once, that I meant precisely that which

\* No. 5, Vol. I.

† Part II., p. 230.

appears to him irreverent; I meant that variety for its own sake—variety of form, of beauty, and of enjoyment—has been a purpose of the Creator in His creative work. The dislike which Mr. Darwin expresses to this belief is the more remarkable considering his own idea of the rank which the Law of Variation takes in the methods and in the history of creation. The inexhaustible variety of Nature has been indeed long observed. As a fact it stares us in the face in all the phenomena of the world. But it was reserved for Mr. Darwin to fix upon an innate, universal tendency in all species to vary, as the cardinal fact upon which turns the origin of Species, and the whole system on which Organic Life has been developed from the lowest to the highest forms. It is—according to him—out of the accidental variations which have been perpetually arising that certain varieties have been “selected,” because of these being the fittest to survive. But these variations must happen before they can be “selected.” And so, Mr. Darwin has been led to accumulate a mass of evidence to show that an inherent tendency to variation is a great general law of fundamental importance in the history of Life, and furnishes the only and the sufficient key to the rise and progress of all its complicated structures.

If this be so—if the Law of Variation be indeed of such primary importance in the work of creation—how can it be “irreverent” to hold that the establishment of this law has been an object and an aim of the Creator in the work which has been accomplished by it? The further back we push the idea of a Creator, and the more we conceive his “interference” to be limited to the ordaining of “laws,” the more certain it becomes that in these laws at least, if anywhere, we have the expression of His Mind and Will.

Into what, then, does the objection of Mr. Darwin really resolve itself?

There seems to me to be but one answer to this question. The objection of Mr. Darwin is founded on that disposition—so old in the history of Philosophy, and now so much revived—to dismiss as “Anthropomorphic,” every conception of the Divine character and attributes which brings them into conceivable relation with even the highest character and attributes of Man. This is part of the philosophy of Nescience, and this is the point to which I wish to direct myself in the present paper.

I am under no necessity of arguing with Mr. Darwin on the existence of a Creator. I have never thought that his special theories on the methods of creation are inconsistent with Theism. He himself repudiates such antagonism. “The birth both of species and of the individual are equally parts of that grand sequence of events which our minds refuse to accept as the result of blind chance. The

understanding revolts at such a conclusion."\* In the passage also on which I am now commenting, Mr. Darwin assumes the existence of a Creator, and assumes, moreover, that there is some standard by which we may judge what it is reverent and irreverent to think concerning Him.

What is this standard? Mr. Darwin has asked me one question which I have answered plainly. May I ask him to be good enough to answer that other question which I have now put, and to follow me for a short time in certain considerations which bear upon the reply?

If there be a Creator, there seems to be only two possible sources of information from which we can derive any knowledge of His character—one source is to be found in the nature and character of His works; the other source is to be found in direct revelations from Himself, if such exist.

Looking then to the creation as the Creator's work, the first thing to be observed is that the highest thing in it is the mind of Man. If therefore there be any work in Nature which reflects any image of the Creator, the human mind is that work. Nor is there any difficulty in conceiving how such an image may be true and yet be faint—how it may be real and yet be distant. For nothing in the human mind is more wonderful than this, that it is conscious of its own limitations. The bars which we feel so much, and against which we so often beat in vain, are bars which would not be felt at all unless there were something in us against which they press. It is as if these bars were a limit of Opportunity rather than a boundary of Power. It is as if we might understand immensely more than we can discover—if only some one would explain it to us! There is hardly one of the higher powers or faculties of our mind in respect of which we do not feel daily that we are tied and bound by the weight of our infirmities. Therefore we can have no difficulty in conceiving all our own powers exalted to an indefinite degree. And thus it is that although all goodness, and power, and knowledge, must be conceived of as we know them in ourselves, it does not follow that they must be conceived of according to the measure which we ourselves supply.

These considerations show, first, that as the human mind is the highest created thing of which we have any knowledge, its conceptions of what is greatest in the highest degree must be founded on what it knows to be greatest and highest in itself. And, secondly, that we have no difficulty in understanding how this Image of the Highest may and must be faint, without being at all unreal or untrue.

And if this conclusion is forced upon us by the very nature of our own mind, it is a conclusion abundantly confirmed by the relation

\* "Descent of Man," Part II., p. 396.

in which our mind stands to the rest of Nature—that is, to the other works of creation. Every hope we cherish, and every success which we attain in physical investigation, depends upon the fact that we can succeed, within certain limits, in discovering and in understanding the order of Nature—which fact has no other meaning than this, that the laws of Nature are so related to our faculties as to be recognisable and intelligible in the light which they supply. And the highest light which these faculties do supply is that by which the mind recognises in Nature the working of a spirit like its own. Hence it is that the question “what?” is ever instinctively followed up by the question “how?” and this again by the final question “why?” In whatever degree and measure this last question can be answered, in that degree only do we reach an explanation. Hence the perpetual recurrence in the descriptions of naturalists of those forms of expression which bring the phenomena they describe within the conception of Purpose, and translate the facts of fitness and adaptation into the familiar language of Design. I have already pointed out\* how largely Mr. Darwin has drawn on this language as the fittest, if not the only language, by which the facts can be described.

Mr. Mivart has, indeed, lately remarked, in a very able work,† that this teleological language is, when used by Mr. Darwin, purely metaphorical. But for what purpose are metaphors used? Is it not as a means of making plain to our own understandings the principle of things, and of tracing, amid the varieties of phenomena, the essential unities of Nature? In this sense, all language is full of metaphor, that is to say, of words which transfer and apply ideas gained in one sphere of investigation to another, because there also the same ideas are seen to be expressed in some other form. When Mr. Darwin uses metaphorically the language of contrivance and design, he must use it as a help to the understanding of the facts. When, for example, he tells us of the traps and triggers which are set in Orchids; that they are constructed and set “in order that” they may catch the probosces of Moths or the backs of Bees, he does not mean that the plan and scheme of vegetable physiology have been explained to him by the Creator. He means only that the traps and triggers are, as a matter of fact, so set that they do catch the probosces of Moths,—that these do again convey the pollen to other flowers, by which they are fertilized; and that all this elaborate mechanism is “as if” it had been arranged “in order that” these things might happen. Exactly so; that is to say, the facts of Nature are best brought home to, and explained to,

\* “Reign of Law,” fifth ed., p. 39.

† “Genesis of Species,” by St. George Mivart, pp. 14, 15.

the understanding by stating them in terms of the relation which they obviously bear to the familiar operation of the mind and spirit.

And this is the invariable result of all physical inquiry. In this sense Nature is essentially Anthropomorphic. Man sees his own mind reflected in it—his own not in quantity but in quality—his own fundamental attributes of intellect—and, to a wonderful degree, even his own methods of operation. In particular, mechanical contrivance, which he knows so well, and in which he takes so much delight, is one universal character of creation. It is as if the Creator had first laid down a few simple laws, that is to say, had evolved a few simple elementary forces, and had then worked from these with boundless resources of constructive skill.

I do not know that the discoveries of modern science, great as they have been, and much as they are vaunted, have contributed anything towards the solution of the final problems of all human speculation. These, in so far as mere speculation is capable of dealing with them, seem to remain very much where the great intellects of the ancient world found them and left them. But, short of these final problems, there are two impressions which the progress of discovery has largely tended to teach and to confirm. One is the universal prevalence of mechanism in Nature; and the other is the substantial truthfulness of the knowledge we derive from that most wondrous of all mechanisms—the mechanism of the senses. And this last is a matter of immense importance. For all that we know of Matter is so different from all that we are conscious of in Mind, that the whole relations between the two are really inconceivable to us. Hence they constitute a region of darkness in which we may easily be lost in an abyss of utter scepticism. What proof have we—it has been often asked—that the mental impressions we derive from objects are in any way like the truth? We know only the phenomena, not the reality, of things—we are conversant with things as they appear, not with things as they are “in themselves.” What proof have we that these phenomena give us any real knowledge of the truth? How indeed is it possible that knowledge so “relative” and so “conditioned,” relative to a mind so limited, and “conditioned” by senses which tell of nothing but sensations—how can such knowledge be accepted as substantial? Is it not plain that our conceptions of creation and of the Creator are all mere “Anthropomorphism”? Is it not our own shadow that we are always chasing? Is it not a mere bigger image of ourselves to which we are always bowing down? I know of nothing in philosophy better calculated to disperse these morbid dreams, than to breathe the healthy air of physical investigation and discovery. Although here, also, the limitations of our knowledge continually haunt us, we gain nevertheless a triumphant

sense of its certainty and its truthfulness. Corroboration follows on corroboration, to assure us that we have a hold on truth.

It is impossible to place too high a value on the work which science is doing in this direction. It is a service which has not yet, I think, been sufficiently noticed or appreciated. Let us take an example. Up to a very recent period, Light and Sound were known as sensations only. That is to say, they were known in terms of the mental impression they produce, and in no other terms whatever. They were not known "in themselves." There was no proof that in the sensations we had any knowledge of the unknown reality which produced them. But now all this is changed. Science has not, indeed, bridged the gulf which separates Mind from Matter; it has not explained to us, and it never will, what is the method of contact between the Mind and the Organism through which the Mind is informed; but it has discovered what these two agencies of Light and Sound are "in themselves;" that is to say, it has defined them under aspects which are totally distinct from seeing or hearing, and is able to describe them in terms addressed to wholly different faculties of conception. That which we call Light is a series of undulations in some ethereal elastic medium, to which undulations, or rather to a certain portion of them, the retina is "attuned," and which, when they reach that organ, are "translated" into the sensation which we know. These are the words used by Professor Tyndall to describe the facts. They are "metaphors" only in the sense in which the highest expressions of Truth are always metaphorical. We know that Light is, as it were, a translation from one language to another. And now it appears that the facts, as described to us in this language of sensation, are the true equivalent of the facts as described in the very different language of intellectual analysis. The eye is an apparatus for enabling the mind instantaneously to appreciate differences of motion which are of almost inconceivable minuteness. The pleasure we derive from the harmonies of colour and of sound, although mere sensations, do correctly represent the movement of undulations in a definite order; whilst those other sensations which we know as discords represent the actual clashing and disorder of interfering waves. Thus the mental impressions which our organs have been constructed to convey, are a true interpretation of external facts. The mirror into which we look is a true mirror, reflecting accurately, and with infinite fineness, the realities of Nature.

And this great lesson is being repeated in every new discovery, and in every new application of an old one. Every triumph of modern science is a refutation of the bad metaphysics out of which the sickly fancies of Nescience have arisen. Every reduction of phenomena to ascertained measures of force,—every application of mathematical

proof to theoretical conceptions,—every detection of identical operations in diverse departments of Nature,—every subjection of material agencies to the service of mankind,—every confirmation of knowledge acquired through one sense by the evidence of another,—every one of these operations adds to the verifications of science, confirms our reasonable trust in the faculties we possess, and assures us that the knowledge we acquire by the careful use of these, is a substantial knowledge of the truth.

Such considerations may well inspire us with some confidence that the impressions which we derive from Nature of the Creator's character are not untrue because they are necessarily conceived in the terms of human thought. Doubtless, they are imperfect and incomplete; for this, indeed, our own faculties tell us they are and must be. But all reason and analogy assure us that they contain some real and solid representation of the truth. Let us not be scared, then, by this terror of Anthropomorphism, which, under the aspect of humility in respect to ourselves, is, when we come to analyse it, really based on utter distrust of the truthfulness of God. If we cannot believe in the relations which He has established between the mind of Man and the rest of His creation, we can believe in nothing. We are ourselves "magnetic mockeries" in a world of lies.

And well may we reject this fear of Anthropomorphism when we recollect the result of all past endeavours to construct an idea of God which should be, as far as possible, removed from the image of Man. The pale, impassive Deities of the Lucretian Olympus are I suppose the only alternative conception we can form. They are far enough removed assuredly from the Creation, as we see and know it—a Creation so full of movement and of effort, of designs conceived, and of difficulties overcome.

. . . . "The Gods, who haunt  
The lucid interspace of world and world,  
Where never creeps a cloud, or moves a wind,  
Nor ever falls the least white star of snow,  
Nor ever lowest roll of thunder moans,  
Nor sound of human sorrow mounts to mar  
Their sacred everlasting calm!" \*

I need not say that such conceptions as these of the Divine Nature do not escape from Anthropomorphism. The only difference is that they take as their pattern a maimed and morbid humanity instead of the humanity which Nature actually presents.

I have no right to assume that all whom I address in this paper will admit that there is any appeal from the evidence of Nature on these subjects—to the evidence of any special revelation on the character of the Creator. But at least I may assume that if there be

\* "Lucretius," by Tennyson.

such a revelation, it is to be found in the Hebrew and in the Christian Scriptures. No higher conception of the Divine Nature than the conception which they present has been, or can be, formed. At least, if there be such a conception I do not know where to find it. We must be satisfied with what has been written in the Prophets and in the Psalms concerning Him. I cannot find any standard of reverence, whether new or old, better than the standard which they supply. They reflect both those aspects of the truth which are so striking in nature. On the one hand they assert the unsearchableness of God. On the other hand they assert, as strongly, the intelligible relation which He bears to the human spirit. And in their language, whether in the Old or in the New Testament, I find no fear of such representations of the Creator in reference to His works as I ventured to use in the passage which has been condemned by Mr. Darwin. There, at least, it is not considered irreverent to speak of God as taking pleasure in the works of His own hands. "For Thy pleasure they are and were created." Variety is one of the most notable facts in Nature. I repeat, therefore, once more my belief that this variety—variety of form, of beauty, and of enjoyment—appears to have been an object and an aim in the creative Mind.

I cannot conclude this paper without an expression of respect for the rare candour with which Mr. Darwin confesses that in his work on the Origin of Species he under-estimated the number and variety of organic structures which have no positive utility, and cannot, therefore, have been either originated or preserved through the influences of "natural selection." For these structures—subservient mainly the purposes of ornament—he now accounts by what he calls "sexual selection." I have no leisure now to state all the facts and arguments which appear to me to disprove this theory. Many of them are stated with admirable force in Mr. Mivart's work. But I may simply observe that, as Mr. Darwin himself confesses,\* the propagation of organic forms takes place throughout extensive provinces of Nature under conditions which exclude altogether the element of choice on the part of either male or female. When we consider that these conditions apply to the whole Vegetable Kingdom, and to extensive subdivisions of the Animal Kingdom also, and when we consider how enormous in these is the development of forms which are splendidly ornamented, we have some measure of the utter inadequacy (to say the least) of the explanation which Mr. Darwin has suggested. It would seem to be an elementary principle in reasoning on such subjects that phenomena cannot be ascribed to a particular cause which is not co-extensive with its assumed effects.

ARGYLL.

\* "Descent of Man," Part II., p. 396.