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ORDINARY MEETING, FEBRUARY 7, 1887.

PROFESSOR G. G. STOKES, M.A., D.C.L., P.R.S., PRESIDENT,
IN THE CHAIR.

The Minutes of the last Meeting were read, and confirmed, and the following Elections were announced :—

ASSOCIATES :—Rev. J. Hodgson, M.A., F.S.A., F.G.S., Stourbridge ; Rev. W. F. Stokes, M.A., Ireland.

The following Paper was then read by the Author :—

ON THE BEAUTY OF NATURE. By the Right Hon.
EDMUND LORD GRIMTHORPE, LL.D. Q.C. F.R.A.S.

HAVING been asked to contribute a paper to your Transactions this year, I have looked over your subjects since the one I wrote in 1884, entitled, “How did the World Make Itself?” and I find that I shall be repeating nothing that has been written since, if I extend the few remarks I then made respecting the beauty of nature as a general phenomenon, wholly unexplained by any of the spontaneous evolution theories; whether Darwin’s, which started from a few unknown primary living creatures; or Mr. Spencer’s, which starts still farther back with what he calls Persistent Force as the origin of all things; as to which I will only refer to my former paper, and the simultaneous Edinburgh Review of “Spencerian philosophy” in January 1884: to neither of which have I seen any answer, except some insignificant verbal criticism, which signified that the writers could give no real answer.

When I say that the beauty of nature is wholly unaccounted for by those theories, and every materialistic theory, I use those words in the strictly scientific sense. It is too often forgotten, and always suppressed or ignored by the writers of that school, that no scientific theory can be true which is clearly incapable of explaining all the phenomena which must have the same primary cause, though it appears to explain some, and even many, of them; and no theory of automatic cosmogony does even that. In my little S.P.C.K.

book on the "Origin of the Laws of Nature," I noticed the very few phenomena of beauty in the world for which any evolutionary theory at all has been invented, and I will say a few words on them presently. If they were ten times as many as they are, and if the evolutionists' explanation of them were ten times more certain than it is, the automatic theory would be no more proved than it is, so long as any considerable number of phenomena obstinately stand out inexplicable by it. In every branch of real science—though apparently not in this sham science that pretends to go behind all others—that rule of reasoning is undisputed, and is recognised universally. Here are two well-known specimens of its recognition. The motions of Uranus, for some years after its discovery by Herschel, were so abnormal as to make some astronomers doubt whether the law of gravity was really as universal at all distances as had been supposed ever since its establishment by Newton for all the solar system known to him. And if no cause consistent with the universality of that law had been discovered for the irregularity, that conclusion would have had to be adopted, by reason of that one obstinate exception. We know that a cause was afterwards discovered which confirmed the theory of the universality of the law of gravity instead of shaking it—viz., the existence of a still more distant and disturbing planet; but that does not affect the former proposition. Take a case the other way. The Newtonian or corpuscular theory of light, making it an emission of some physical particles or vapour, as smells are, accounted for all, or nearly all, the phenomena then known. Gradually some occurred which no doctoring of the emission theory would explain; and so by degrees the undulatory theory was established, which does explain them all.

It seems, however, that when we try to investigate the ultimate cause of all phenomena, we are at once ordered to accept a new form of logic and the dogmas of a new philosophy, that some cause which may serve to explain a few phenomena is therefore to be taken for granted as a sufficient explanation of them all, though it is clearly impossible for some of them. Take their favourite instance with reference to beauty. Bees frequent and fertilise some pretty-coloured flowers, though some of their favourite flowers are still the most colourless. Therefore we are to take for granted that the beauty of all flowers, both in form and colour, has been produced by insects admiring and frequenting them. Then for the next step in this new-fangled logic: flowers are vegetables; therefore, the beauty of all vegetables, up to the oak and the Wellingtonia gigantea and the big trees of Columbia,

has been produced by insects ; and so toadstools have risen into oaks. At least we have never had any other theory of their beauty propounded by evolutionists. Again, some animals perhaps choose their mates by their beauty (of which there is very little proof) ; and therefore all do ; and therefore beauty has been constantly increasing, from oysters, octopuses, and gorillas, up to whatever creatures you think the most beautiful, by spontaneous generation and mutual admiration ; and the beauty of the human race has been steadily on the increase from the ancient Greeks through all stages of civilisation and improvement up to the modern Irishman. That kind of logic is queer enough when applied to living or reproducing things. But it is still queerer to say that because all these advances have taken place through "natural selection," or some other process or phrase, therefore we must take another leap in the dark and believe that all the beauties of entirely inanimate nature have developed themselves by some yet unnamed process without any assistance from any more intelligent or personal First Cause than Mr. Herbert Spencer's "Parent of all, Persistent Force," in no particular direction, gradually subdividing itself into innumerable streams of peculiar forces, and spontaneously converting a homogeneous nebula of universally dispersed matter into all the present varieties, by what he calls "unfathomable mysteries."

By way of introduction to further reasoning on the subject, I cannot do better than quote again the same words of Dr. Mozley's sermon on "Nature," which I did in the chapter on it in my own little book above named. He says :— "Nature is beautiful by the selfsame materials and laws that it is useful. Take a gorgeous sunset. What is the substance of it? Only a combination of atmospheric laws of light and heat; the same laws by which we live and see and breathe. . . . Who could have told beforehand that these physical laws which fed us, clothed us, gave us breath and motion, the use of our organs, and all the means of life, would also create a picture?" If any one should say that mere habit and custom have produced our admiration of what we call beautiful sunsets, let us substitute another phenomenon of light, so rare that many persons never see one in their lives, and yet so beautiful that those who see it for the first time are amazed at its magnificence, especially if it happens to be such a brilliant specimen as that which appeared here in October 1870 : I mean the aurora borealis.

I do not know that the evolutionists have really made that or any other answer to that argument of Mozley's; and yet

that cannot be because they are ignorant of either it or him : he was far too great a writer for that. Moreover, they occasionally show themselves ready enough to swoop down on writers of far less theological celebrity than Mozley, who has been called "the modern Butler," when they see a chance of making capital out of it by exposing some real mistake.

Perhaps you might not unreasonably say to me, " Why need you trouble yourself to prove an undefended case ? The Darwins, Spencers, Huxleys, Tyndalls, Hæckels, *et id genus omne*, have practically confessed the beauty of nature to be too much for them, by leaving it to explain itself, with a few insignificant illustrations about insects and flowers. It will be time enough to reply to them when they have answered Mozley and your former remarks." In one sense that is all true. But leaving alone does not propagate truth. If one side is left to go on preaching its own dogmas and keeping discreet silence about objections which they cannot answer, and if the objectors keep silence too, the objections will be forgotten, or assumed to have been silenced, though nobody undertakes to say how, or when, or by whom. Therefore, in short, it does not answer to abstain from repeating the objections to bad theories merely because the theorists abstain from noticing them, as most of this class of theorists do when it suits them ; or coolly say that their theory is getting universally accepted.

I have not only looked at the most likely books, but I have asked greater readers than myself, including some with an inclination rather against than in favour of my views, whether they could tell me of any automatic theory of general beauty beyond those oft-repeated ones about flowers and animals, and I have asked in vain.

Let us consider then some specimens—for they can only be specimens—out of an innumerable multitude of natural beauties, which it is impossible to account for by any theory except the simple one that they were designed by some mind which had also the power to produce them, whatever means it worked by. We may be quite ignorant of the means, but quite certain that some means were intelligently used: as certain as we are that the most inexplicable conjuring-tricks are contrived by more intelligence in that matter than we possess ourselves; indeed, the less we can guess at the means of performing them the more we think of the cleverness of their inventors. The only answer that I have ever been able to obtain privately to questions of this kind is the one I alluded to before, and which is worth further notice because the person who gave it me was as capable as any in the world

of giving the best answer that any such question admits of, being one of the most eminent philosophical writers of the age, and not a mere inventor of phrases intended to pass for philosophy with half-educated people who pronounce them "greater than Newton," and their periodicals print such rubbish for them. Probably they could not answer a single question out of Newton in an examination. The answer I got was this : that beauty is merely a question of habit and fashion, and that there is no such thing as absolute beauty, and therefore nature has done nothing for it. That is only another specimen of the common fallacy of that school in these matters, of generalising from a very small or special set of instances, which is directly contrary to the great law of scientific induction. We can afford to admit that our ideas of artificial beauty, such as we try to make for ourselves, are very much matters of transitory fashion, though even that requires some qualification. I need only utter the word "dress," to bring to your minds the very idea of mutability rather than of beauty ; and you will need no reminder that we are considering the beauty of nature, and that dress is not natural. Nor is any artificial adornment of the person, or the cultivation of any particular kind of figure, in which one nation, or the people of one age, may admire just the contrary of another, and call that a beauty which some other nation pronounces a monstrosity.

But, setting aside mere dress as an ornament, in which change (with some regard to use and convenience) has long been regarded more than abstract beauty in all the modern nations, I do not think it is true that the taste of civilised nations about the cultivation of what is comprehensively called figure has materially varied in any known period, and still less about beauty of face, which admits less of artificial cultivation. We need not consider purely barbarian tastes, which sometimes extend to absolute mutilation, as of Chinese ladies' feet, and the production of hideous deformities of face and figure by still more barbarous and unprogressive nations.

Most young men and women now would accept it as the highest compliment to be told that they resemble some famous Greek or Roman bust in face, and even in their hair, of which the style for women is necessarily, in some degree, artificial, and therefore variable. If some of the old Roman hair-dressing is not copied by modern ladies and their "artists" in that line, it is certainly not because it is not beautiful, but either from ignorance how to do it, or from the vile modern habit of allowing French *hetairæ* to invent their fashions, and perhaps from a bold desire of advanced female thinkers to display their contempt for St. Paul's and other antiquated

prejudices in favour of long hair over "touzled fringes," or an imitation of boys, or some of the other ugly vagaries which come into fashion for a little while and then die out and never revive; which is probably the best test to apply to any doubtful fashion as a matter of real beauty.

The same cannot be said of the constant admiration of what has always been understood by the common phrase, "a good figure," or "a fine shape," as it used to be called in the novels of the last century, and its consequent cultivation by various exercises and still more artificial means. Those who have occasionally seen the controversial articles and letters in sundry periodicals in favour and in derision of the Rational Dress-Reformers (we must take care to put the hyphen in the right place) will have read, or may know independently, that the very same kind of epithets and descriptions were applied to the figures of female beauties and their cultivation by the oldest Greek and Roman poets and other writers, and by the mediæval and later ones, and by satirists and philosophers of the "rational dress" order, for nearly 1000 years up to the present day, and that the fashions they denounce have only varied in intensity from time to time. Notwithstanding such variations, and in spite of both satirists and philosophers in all ages, I suppose one could not find in all literature any admiration expressed of what everybody now understands by the common phrase "a bad figure." It matters nothing for this purpose whether those who denounce or those who advocate artificial means of improving it are right. Some of the strongest denouncers avow themselves admirers of the very same result when they believe it to be natural; and others lament that their scolding produces no effect beyond apparently intensifying the fashion they revile by evoking contradictions said to be grounded on experience as to health, however contrary to theory and *à priori* probabilities.

All this goes to prove that there has been no material variation in the estimate of beauty of either face or figure in the civilised nations of the world in any known period, and that when people talk of the proverbial mutability of taste and fashion, it really means taste and fashion in purely artificial things, like dress and furniture, and not in those which are chiefly made for us by nature; and it is the beauty of nature that we are talking of throughout.

Therefore it is hardly necessary to consider also the variety of tastes in building, which again is purely artificial. Yet even in that we may trace more uniformity in taste in the long run than some people imagine. It does not follow that because only one style used generally to be in fashion in one

age and nation, all those old ones are not more or less beautiful. Most likely all the styles which are possible within the laws of mechanics and geometry have been exhausted, except mere monstrosities. And what is the consequence? Why, that we now recognise the beauty of them all, and do our best to imitate them, some persons preferring one and some another, either for different purposes or the same. A man would now be thought a fool who built a dwelling-house to imitate a Greek temple, as they did in all the Georgian period; and yet an equal fool to pronounce Greek temples ugly. Two centuries ago, and less, writers who knew no better wrote of all the great mediæval styles, which are collectively called Gothic, as "obsolete" and "modern" and contemptible, just because the renaissance of the classical styles was then in fashion. But the natural instincts of mankind returned upon them, and before the end of the last century they began to see that mere ignorance had led those writers to condemn what they only did not understand. Moreover, religious prejudices had much to do with it. In all northern Europe, though not in Italy, where the classic St. Peter's had been built with the "indulgences" which caused the Reformation, the style of the old abbeys was associated with Popery against Protestantism. By degrees that delusion vanished, and then people began to see that both the great styles of architecture have peculiar beauties of their own, against which all that can be said is that they refuse to mix. At least, all the attempts of architects a few years ago to make an eclectic style out of classical and Gothic were miserable failures, though all the five Gothic styles mix well enough, as nearly every cathedral tells us. It is much like the case of animals which will not breed outside of their own species, but will freely within it.

I have said more than I need to answer the only attempt that I have ever been able to meet with from any of the deniers of design in nature to account for the enormous preponderance of beauty over ugliness that prevails throughout nature, and even in things that are partly, if not wholly, artificial. It is plain that there are permanent or continually reviving instinctive tastes for beauty, which no argument can prove to be either right or wrong, but no temporary craze of fashion can get rid of or prevent from returning. Moreover, some of our tastes for beauty may be called latent, and ready to start into action whenever the proper object is presented to them by some law of nature which has never before had the opportunity of acting, so far as we can tell, but does act, the moment it is wanted, as promptly as gravity, which never sleeps, as the old saying is. I have already mentioned the

aurora borealis as a perfectly new phenomenon to many people, and indeed always new the first time they see it, and much too rare to admit of the explanation that admiration of it is an inherited taste.

Another not so grand, but a still newer, phenomenon is the beautiful coloured spectra of electrical discharges through a tube almost vacuous, or filled with certain rare gases. Nobody in the world had seen that, or anything at all like it, until it appeared of itself as soon as the requisite conditions took place a few years ago ; and yet nobody in the world would pronounce it anything but beautiful. So are many of the phenomena of polarised light, which are also quite modern, and are yet as unknown to the common run of men as those electrical discharges are. Not only those occasional exhibitions, but some constant ones, are equally surprises to those who see them for the first time, and had never been seen by the civilised world till quite lately. Such are, or rather were, those magnificent terraces in New Zealand, which were destroyed by an earthquake almost as soon as they had been introduced to general notice by Mr. Froude's "Oceana." In short, if the theory of beauty being only what we have learnt by long habit to think so were true, we should admire nothing that is very different from what we are used to. Some people indeed are stupid enough to think *a priori* that they never will ; but very few indeed are so stupid as to withhold their admiration when they see a really beautiful object, entirely different from anything they have seen or imagined before. It is old tastes that are depraved by fashion and prejudices, not new ones ; and the power of appreciating any real beauty that we have never seen before is latent and as ready to start into action the moment a proper object is presented to it as a needle is to jump up to a magnet, though it may never have been within miles of one before, and to turn towards a particular spot on the earth, thousands of miles away, the moment it has been stroked with a magnet and set free.

The same remarks apply to an infinite number of non-living objects which the most audacious theory-monger cannot pretend to have been modified by any non-creative agency. Such are natural water in all its forms—stormy or still seas, in sunshine and under clouds, waterfalls, rivers, brooks and lakes in the bottom of a valley, and the valley itself; mountains and hills, and all the green things upon earth ; dews and frosts, ice and snow, and what are called frost-ferns on glass windows ; "iridescent films" of very thin plates ; polished marbles and fine woods, of which the beauty is latent till it is so brought out, and then it appears in endless variety.

And how came that endless variety? It is hard enough for us to invent a little that is beautiful every now and then, and very seldom without some great defect or mistake. What we call Nature makes no mistakes, and yet is always producing novelties, and never by any accident repeats anything exactly. It is idle, and for scientific men absurd, to talk about chance doing these things, for science knows that there is no such thing; and the more it talks about the immutable uniformity of laws of nature, the more it declares that what we call chance is only the result of some of those very laws, of which perhaps we know nothing. Set the cleverest artist to draw a thousand of the most varied patterns he can of the leaves of any tree, or indeed of any other thing, and you will soon be sick of their monotony. Yet his, according to the "persistent force" and evolutionary philosophers, is the highest intelligence in the universe, and "nature's" artistic work is only the result of laws of absolute uniformity. Which *ought to be* the most full of variety and "life" on their theory? And which is?

I might logically stop here, and say to the evolutionist, "Your theory, your only theory, that pretends to explain the beauty of nature by explaining it away and calling it conventional, is done for, even if you had far more evidence than you have of natural selection, or any of your other inventions, to account for the beauty of living or reproducing objects." For, after all the complicated and portentous definitions of natural life, I think a capacity for reproduction is practically the best, though we can easily imagine once-produced creatures that might exhibit all the usual phenomena of life except that, and except mortality too, theoretically. I mean generically, not individually—such as mules, or other barren individuals of a species.

But I will not shrink from facing the automatic philosophers on the ground where they are a little stronger than they are with reference to non-living objects, and from inquiring how far their selection and survival theories can carry them towards accounting for the immense preponderance of beauty over ugliness in the world. One very large and immeasurable class of living objects—viz., trees of all kinds—we may sweep off at once with the remark that the evolutionists do not even pretend to have invented any theory to explain why all trees should not be as ugly as toadstools. And we must add that it is by no means an even chance whether things should be ugly or beautiful, though those are as opposite words as yes and no, or black and white. For everybody who has ever tried to produce anything beautiful, even in his own opinion, or has watched the attempts of other people, knows how difficult it

is, and that there can be no greater delusion than to fancy that you can produce beauty by merely making something opposite in all its features to something else which you know to be ugly. The useful or the strong can be produced by scientific invention and adequate knowledge of the laws of nature. No knowledge and no rules of science or art have ever been able to produce the beautiful, if they are able to keep designers from very gross defects or blunders.

If that is so, it follows that even if beauty did not so vastly preponderate over ugliness in nature, yet any considerable quantity of it would be a phenomenon requiring explanation. No talking about the laws of chance would do anything for it, even if chance can be admitted as a scientific cause of any phenomenon. The once-popular toy called the kaleidoscope, which was invented by Sir David Brewster, a great optical philosopher, presents an infinite number of pretty figures as you turn it round, which are made only by a good many coloured bits of glass or stones tumbled about promiscuously, and so you might call them all beautiful pictures produced by chance. But until design and contrivance were brought in, and the machine made what it was by a pair of reflecting glasses set at the proper angle, there was no beauty at all. It was the glasses that produced the pretty radiating and symmetrical figures out of each confused little heap formed by chance. Chance very seldom produces beauty without the intervention of something that lifts the arrangement above that of chance. Mere heaps of stones which have been broken and thrown together by some natural convulsion have no beauty; as, for instance, at Ilkley, in Wharfedale. That is just the converse or opposite of the composition of stones and marbles and crystals and vegetables, by what we may call the constructive laws of nature as opposed to destruction. The former almost always produce beauty; the latter very seldom do.

In like manner decaying substances are generally ugly and nasty, until some reconstructive process has set in which is going to produce new life. I know that the living creatures which are often the first products of decay are generally nasty enough looking things too, and so are some of the fungi, but they never last long. Moreover, I by no means say that beauty is universal, even among things which have ample merits of their own, such as oysters, to whom unknown ages of natural selection and admiration by man have been unable to impart anything that their greatest admirers can call beauty externally. What I do say is that the enormous quantity of natural beauty in the world is wholly inexplicable by any

theory except that of a designing power, able first to design what is beautiful (which we can very seldom and very little), and then able to produce it in such profusion that it looks spontaneous, and far more natural than ugliness, because it is so common, and in quite infinite variety.

I have said all that I need about the universal beauty and unlimited variety in trees of all kinds, for which the evolutionists have never yet pretended to invent an explanation. And I have said all that need be said of coloured flowers. If anybody likes to consider the insect theory sufficient to account for them, let him. They are so small a portion of creation that they are not worth arguing about. If that theory is right, and adequate to account for the infinity of beautiful shapes as well as colours in flowers, it wants another theory to explain how the insectal taste for floral beauty came to agree so well with human. Perhaps we and the flies had a common ancestor, and inherit our taste for beauty from him, whoever he may have been. Nor is the insectal theory much helped by the fact that bees of all kinds cultivate flowers of a multitude of kinds and colours, including some with the very minimum of colour, such as mignonette, and have not yet been able to impart any more of it to them. If it is said that the insects are attracted by nice smells, I reply that the vast preponderance of nice smells over nasty ones in nature, and of nasty smells over nice ones in art, is an additional difficulty for the automatic creationists.

Leaving that small section of creation then, with that small attempt of the evolutionists to account for it on automatic principles, I will say a few words on another kind of life, for the usual beauty of which their explanation is more plausible, but yet very far from sufficient—viz., that of animals. The effects of judicious selection in breeding are undeniable when that selection is made by some agent with adequate intelligence and experience. And so we can breed new varieties of flowers and improve fruits, whether insects do or not, beyond what is ordained for them by their instincts or their experience, which depends upon the laws of their creation. So it is not unnatural to conclude, but it is very difficult to prove, that animals select their mates according to their beauty. According to their strength, there is evidence enough that they do, and in fact must, whenever there is a superfluity in whichever is the stronger sex (which is not quite always the male sex). And, so far as strength and beauty go together, the result will be that the beauties get the best of it. Very likely also, the beauties of the weaker sex, on the whole, get the best of it. But they do so less than one would expect,

even among the human animals, in which we recognise far greater differences of beauty than we do among beasts and birds. Indeed, so little does this prevail that it is very difficult to say that it has improved the beauty of mankind in any known period. It is true that civilised men and women are, on the average, much handsomer than savages; but it is a great deal too uncertain that the civilised and handsome races have risen from savages, and ugly ones, to build any conclusion on that as a fact. All our experience is that savages die out when they come in contact with the superior races; and, I believe, absolutely none that they improve. The experience of all the known history of mankind, including the supposed oldest skeletons, exhibits very much less than one would expect in the way of improvement in beauty by natural selection or survival of the best, seeing how quickly careful breeding does produce its effects in animals. In some respects there is no longer any doubt that both we and the French have reached and passed our climax physically, and I suspect, intellectually too; for learning is not genius, which is becoming rarer in every direction. Yet our circumstances, and condition, and means of cultivating beauty had certainly increased, until a few years ago, at any rate, before universal poverty set in among the classes most likely to do the best for themselves in breeding.

This absence of evidence of general improvement in human beauty within the longest known period is still more awkward, because men are evidently more likely than beasts to avail themselves of opportunities for judicious selection. And again I say of them, as of the flower theory, that if the evidence were a hundred times better than it is, it would do absolutely nothing towards accounting for the infinity of beauty of everything with no life as high as that of locomotive animals; for locomotion is evidently a necessary element in selection, and some low animals are not locomotive. Another awkward fact is that the beasts most like us are, nevertheless, by general consent the ugliest. If, on the other hand, it is contended that apes have a standard of beauty of their own, and choose their mates accordingly, as savages probably have, then it follows that we must dismiss all animals from this discussion, and of course insects with them, and treat each species as having its own taste. And then I am afraid we shall be driven to ask how it is that an undoubted majority of every nation with our known taste is rather ugly than handsome? In any case it is an odd result of the theory of improvement by natural selection, that our nearest neighbours, the apes, and ourselves present the largest

proportion of ugliness of any known creatures above the rank of oysters. A few kinds of dogs, who rank about with monkeys in intelligence, are certainly ugly enough too ; and elephants, who make the third family of the most knowing beasts, can hardly be called beautiful. On the other hand, what product of life is as beautiful as many shells ? A collection of them, such as Dr. Percy has, is quite amazing for its beauty and variety. How does any evolutionary or selection theory profess to account for them ? Or do you suppose that oysters occasionally make pearls for their own private contemplation or ornament ? Or that even peacocks know how to make the spines of their feathers grow so to compose "eyes"?

So it seems we are driven to these odd-looking conclusions :—1. Though the human race in its best form is the most perfect and beautiful of all animals (though not if we take the gorgeous colours of some birds into account), nevertheless the great majority of human individuals must be called ugly, and vastly inferior in beauty to many of the commonest and smallest, and almost the lowest creatures, who must be very superior to us in good taste if we are to judge either from their productions or their progeny, which, we are told, is the result of their selection in breeding ; and therefore that theory of beauty breaks down in the very place where it ought to be the strongest and the most successful.

2. When we get below locomotive life, the only attempt to account for any vegetable beauty—viz., that of flowers—is so inadequately supported, and goes such a little way in accounting for their whole beauty, that it is worth nothing as a general theory ; leaving beautiful but stinking poppies, and tulips which have no smell, and almost colourless but very sweet mignonette, to reconcile themselves as they can, and also to explain as they can what primarily made the connexion which does exist between insects and flowers.

3. Beyond that very limited attempt to account for floral beauty, the evolutionists have absolutely nothing to say for trees, and *à fortiori* nothing for inanimate nature.

4. Our general impotence in producing beauty, even to please our own taste, is a no less striking fact when we are considering how its prevalence in the world is to be explained.

Is it necessary to draw any further inference from these facts ? Or can there be any inference but one as to the prime cause of all the beauty of the universe ? Beauty differs from usefulness or necessity in this obvious way : If the world was to exist at all it must contain all the necessary adaptations ; though it is still true that that would not make one of them. As I said elsewhere, the fact that children cannot be reared

without milk would not produce either milk or children. Living creatures must either be immortal, or must cease, or be reproductive; but that would not take them a single step towards reproduction, or perform the seeming miracle and the yet inexplicable mystery involved in it; for its universality leaves it no less wonderful than the first time it happened.

But these things must have been done somehow, if there was to be a living world at all. Beauty need not. It is altogether a gratuitous exhibition of perfection. Look at the hideous things we make for all purposes, and continually more and more hideous as we advance in science. Why does not nature make its necessary works hideous, too? Why are teeth, and eyes, and hair, and feathers, more beautiful than coffee-mills, and telescopes, and ropes, and the paddles of steamboats, or than our own bones and entrails or body without skin? A single blotch on a face ruins its beauty. How came most young faces to have the beautifully-arranged colours that belong to them in health? Except the arts of painting, sculpture, and building for a few centuries, we can hardly make anything that gives any lasting pleasure, even to ourselves, and except when we call in nature to help us, which is always ready, as when we "make" gardens, as we say—though we do not really make them, but only invite nature in a certain way. Where then is the real factory from which all this infinity of never-failing and never-blundering art is being continually turned out, and who is the artist that invents it all? When the Spencers and Huxleys, and their fraternity, have tried their answers to these questions (which they never do), we may consider whether our side of the case needs arguing further. At present it does not. The factory of the beauty of the world is not chance, for chance is infinitely against it. It is not ourselves, for it is all prior to ourselves, and we can make hardly any when we try. It is some person with evidently unlimited mental resources and power to make every atom behave as he chooses, both for use and beauty.

People who call themselves "thinkers" write sententious and pretentious nonsense about the impossibility of mind influencing matter, merely because they do not know the *modus operandi*. But something or other has influenced matter to make it assume beautiful forms, chiefly for our delight, as far as we can see, and very likely to show us how vastly inferior our own conceptions of perfection are to those of the Divine mind. For if this is not to be called Mind, what is it? If any one is prepared to argue that self-existing force in no particular direction has resolved itself sponta-

neously into an endless variety of beauty-making forces as well as others, let him begin and show us how he thinks the first step was taken without the aid of anything that can be called a mind, or a designing power intending to produce the results that are apparent everywhere. The antirecreationists take care never to attempt anything of the kind, and therefore they cut their own throats as inventors of a cosmogony.

I have only one more point to deal with, very shortly. These people may ask us how we account for such a designing power as we assert to be the only possible producer of all the beauty of the world leaving anything ugly. The proper answer is that we cannot tell, beyond this: He has Himself told us that He did not mean to make this world perfect, either morally or physically. He has not told us why, and all the guessing in the world will never be any more than guessing, quite incapable of proof. It is only another guess, that an omnipotent creator would not make an imperfect world, to be hereafter changed into a perfect one, and a guess worth nothing in the face of all the facts, including this—which the evolutionists themselves insist on more than anybody—that the world has, on the whole, improved immensely. The dictum that an omnipotent creator would have made it perfect at once means nothing more than that we think we should if we had had the making of the world, and that we do not know the reasons why it has been made otherwise. But, as a matter of fact, it has, and with an amount of contrivance which is still quite beyond our understanding in many essential points, even in the fundamental constitution of all matter, and in the nature of the primary forces of gravity, electricity, heat, and nearly every physiological operation of nature.

Of those in general I have not been speaking in this paper, but only of the special laws and forces of nature which in some quite unknown way produce the unnecessary but delightful results that we call beauty. We are ready to attend to any theory of creation which professes to account for *all* of it. Theories to account for little bits alone are not worth attending to in any science, and, *à fortiori*, not in the science of cosmogony. Our theory accounts for it all; and therefore by all scientific rules it is good until it can be supplanted by a better, of which there is no symptom yet. And therefore it is scientifically indisputable, that beauty, like “every good gift and every perfect gift, is from above, and cometh down from the Father of lights, with whom is no variableness nor shadow of turning.”

THE PRESIDENT having conveyed the thanks of the meeting to the author,

Mr. A. C. RANYARD said if they defined beauty as that which caused enjoyment of perception, he thought they could understand the enjoyment of the perception of sunset colours, and of the beautiful things which were revealed to man by the microscope directly their beautiful polish and variety of colour was perceived. The impression of beauty might arise from the vivid sensation, accompanied by a mental action too rapid to analyse, as the mind perceived the exquisite finish or repetition of form or tint.

Mr. D. McLAREN said he was sure they must all have been gratified at having expression given to conceptions which every one of them must have been conscious of now and again in their ordinary observation. He remembered not many weeks ago being very much struck with the exceeding beauty of the fern-like forms produced on the pavement by the frost; and he had often wondered that photographers did not take advantage of the opportunity they had of getting pictures of the most exquisite tracery. The idea suggested itself, why should this product of the frost be of such a shape as to commend itself at once to their highest ideas of beauty of form. He remembered on a previous evening when a paper was read upon the evidences of design in Nature, that those evidences mostly turned upon the evidently useful purpose in the design. But mention was also made of the symmetrical marking of butterflies' wings; the four wings exactly corresponding—the two on the one side with the two on the other; also the wonderful beauty not only of the colour, but of the shapes of the spots. Take the common tortoiseshell butterfly, or the Admiral, as examples. Let any one look on these and ask how it came about that those animals were marked in such a way as to call forth our sense of beauty.

Mr. W. ST. C. BOSCAWEN, F.R. Hist. Soc., said that the paper was a very interesting one. It was important to see how the beauties of Nature had appealed to the early races of the world. One could hardly turn to any of the old religious books of the East without seeing how Nature was the magazine of symbolism to which the writers turned. The very sunset had provided some of the most beautiful pictures in the Vedic hymns. It was the sunset and the radiant dawn that were the bases of those beautiful old poems of which we are the heirs. It was the same with the hymns of the ancient Chaldeans and Assyrians—just the same perception of the power of Nature, and of the adaptation of the beauty of Nature, and their impressions—expressed in grand and beautiful symbols—which made those hymns and poems so valuable to the student of mythology. There was another point in the paper to which he would refer. If man had been developed or evolved from this wonderful oyster father, it was a very curious thing that in the human race only we found any attempts to give graphic expression, and to reproduce that which we regarded as beautiful. They knew the cave dwellers in France gave the only drawings in existence of the Mammoth, so accurate that it could be recognised.

when one was found in the ice of Siberia. Then if in Egypt we turned to the tombs of the kings of the third and fourth dynasty, and took the inscriptions of the Egyptians, there we would find various objects in Nature produced with marvellous accuracy which the Egyptians of the present day would be utterly incapable of producing ; so the effect of Nature upon these men must have been very great. If the high development of mind, and that high appreciation of all that was beautiful, was the result of a gradual development, he was afraid they must go back to most extraordinary antiquity to find the dawn of the sense of the beautiful. Indeed, he was convinced of two things—that the two great bars to the theory of evolution as applied to man were the existence of systematised articulate language, and the presence of the graphic instinct. There was no animal that could draw, and no animal that attempted to reproduce objects. Were it not for language, and the existence of a language, human beings would not have been enabled to communicate thoughts from one to another, and were it not for the existence of the graphic instinct which called into existence the art of writing, then culture would have died out as individuals die out. It was the desire to reproduce objects around that formed the basis, and was one of the greatest powers of civilisation, namely, the art of writing. So from that point of view the subject Lord Grimthorpe had touched upon was one of considerable interest. There was another point, and that was the fact that when one turned to the very early monuments one saw how the lowest objects which had been spoken of were admired for their beauty. It was now pretty conclusively proved that one of those curious spiral ornaments on the whorls from Troy and from the islands of the Mediterranean were derived from the marking of shells, and the forms of the limbs of the cuttle-fish. So when we turned to the Assyrian and Babylonian monuments, we found the earliest decorations derived from the leaves of the palm tree. He had lately examined a monument bearing date 2,500 years before the Christian era, in which a frieze of birds formed the chief decoration. The lion was also frequently used upon Assyrian bowls, and there was also adapted to the handles of artistic objects a figure of the gazelle, one of the most beautiful animals in existence. The paper to his mind seemed to offer another strong barrier to the theory which, as regards mankind, he certainly had never been able to accept ; and the more he studied the monuments of the past, and the more he studied history, and saw what great and infinite mental power was called into force, both in written and spoken language, the more difficulty he found in adopting the evolutionary theory.

Mr. H. BIGNOLD said that many of the objects that were reverenced among the Egyptians appeared to us now not to represent at all the objects of beauty ; but on the contrary, looking at some of their Gods, they had always appeared to him not so much calculated to evoke a sense of reverence as objects directly suggestive of hidden laws of beauty.

Rev. PREBENDARY WACE, D.D., said one point had been raised in the discussion to which he wished to refer. The speaker who endeavoured to explain our enjoyment of the beauty of a sunset must have forgotten

that our faculties of perception were sometimes exercised in the observation of ugliness. If the mere exercise of our faculties produced a sense of pleasure, there would be no such thing as a difference between a sense of beauty and a sense of ugliness. It appeared to him that the main importance of the question turned on the inquiry, whether beauty was really an ideal or not ; whether it was a varying function which differed with different opinions and different sets of times, or whether there was such a thing as an ideal of beauty just as there were first principles of truth and goodness. That was a question which had been debated from the earliest dawn of serious thought among mankind. The great question raised in the time of Socrates was whether there was absolute goodness, absolute truth, and absolute beauty. It had been decided by the general verdict of the most earnest thought in the world that there was an absolute ideal in all those subjects. Precisely similar objections to those which Lord Grimthorpe had told them had been raised by his friend, had been raised by Plato's contemporaries, and were raised now, but the only argument which could be produced against his views was the existence of lower standards of right and wrong. When they looked at the matter from the point of view of right and wrong, they all saw the absurdity of the argument. The fact that in certain nations there was an imperfect moral standard proved nothing against the existence of a perfect standard. It only proved that those nations were in a state of degradation. He remembered being struck by the statement of a missionary on this subject : he was asked whether, in spite of the moral degradation he came in contact with, he had ever met any nation that rejected the morality of the Ten Commandments when they came to understand them, and he said he never had. Custom might maintain a lower standard, but all men recognised the true standard of right and wrong when it was explained to them. What was possible in respect to man's conscience was similarly possible in respect to beauty. In proportion as the faculties of men developed, they appreciated the one uniform and ideal standard of beauty. It was from this point of view only that the full force of Lord Grimthorpe's argument could be discerned. What we had to consider was that there was by common consent of mankind, or the increasing consent of intelligent mankind, an absolute standard of beauty, and they found that throughout Nature there was a continual approximation to, and in the great majority of cases absolute attainment of, that standard of beauty, no matter what the work might be to which Nature put her hand. His lordship asked the question, how it came that Nature in all its forms and circumstances was continually approximating to this beauty ; and it certainly was a most extraordinary and amazing circumstance. There was only one point in his lordship's paper to which he would venture to take exception, and that was an observation he threw out once or twice that this beauty is not necessary. He should be rather inclined to think that that was an *obiter dictum* which weakened his case ; because it might turn out to be, and it would be, a very strong argument, pointing to the conclusion he is aiming at, if it were proved that

beauty is an indispensable concomitant of the highest perfection in other respects. Just as in mathematics, the law of action proved to be the law of least action ; that which at first appeared to be an arbitrary law, turned out, when it was fully investigated, to be the very means of doing the work with the least possible expenditure of force. So it might be here, and beauty may be necessarily associated with the simplest and best of all contrivances. But if that was so, it added force to the argument, because it compelled them to ask the question, "How comes it that all these extraordinary qualities, accuracy, strength, usefulness, beauty, capacity for moral action, are all found bound up together so indissolubly that they could not separate one from the other?" The more we knew of Nature, the more we found these qualities united. Human Nature was of such a character, that the highest forms of morality were inseparable from it. The question was, what united them ? and when the question was put in that form, new force seemed added to the argument which Lord Grimthorpe had put before them in a manner for which they were much indebted to him ; for there was one explanation which accounted for it all, namely, that the whole framework of Nature was designed by One mind, in which all ideals were so united that He could not do one good thing without doing all good things at the same time. But if they once lost sight of this central influence in the mass of conflicting forces, the whole manifestation became inexplicable.

MR. J. HASSELL said that Lord Grimthorpe made a statement which should never be forgotten, namely, that "If one side is left to go on preaching its own dogmas and keeping discreet silence about objections which they cannot answer, and if the objectors kept silence too, the objections will be forgotten, or assumed to have been silenced, though nobody undertakes to say how, or when, or by whom." That should be kept in mind. They who were standing up in these days, and had to bear much ridicule, should not be backward in bringing before their young people all the evidences they could upon these matters. Let nothing prevent them from repeating those grand ideas of God's order and God's perfection, as seen in His works.

LORD GRIMTHORPE, in reply, thanked Dr. Wace for saving him the trouble of answering his friend, Mr. Ranyard. Some of them might remember that Sydney Smith, in some of his letters against America, talked about a "larcenous lake and swindling swamp." He did not know whether people had any idea of that as a thing of beauty. The latter remarks of Dr. Wace were certainly very significant indeed, and he had no doubt they would turn out some day to be right, but he (Lord Grimthorpe), being a lawyer, could not venture to assume it. He could not venture to assume that beauty was a necessary concomitant of every kind of perfection, and he was never in the habit of assuming for the purpose of argument what he could not prove. He quite agreed with him that it did enforce the argument very materially. Mr. Boscowen's remarks were interesting all through. It would be found that a good many people

who were on Darwin's side were beginning very seriously to question Darwin's own doctrines, and no doubt the longer they went on the more that would be the case. He did not think there were any other remarks which required any observations from him.

The Meeting was then adjourned.

REMARKS UPON THE FOREGOING PAPER

BY

THE REVEREND W. ARTHUR.

LORD GRIMTHORPE does good service in pressing the argument from beauty to design indicated in his vigorous work on the Origin of the Laws of Nature. That argument is one that will grow of itself, and will be found to have broad bases and manifold connexions.

Particular attention should be given to the answer which Lord Grimthorpe reports as that made to him by "one of the most eminent philosophical writers of the age." This philosopher says : "Beauty is merely a question of habit and fashion ; there is no such thing as absolute beauty, and therefore Nature has done nothing for it." The conclusion, namely, that Nature has done nothing for beauty is so absurd that it could not be drawn from any properly formulated premises, or even tacked on to them. With that conclusion the assertion which in the apparent premises stands immediately before it has nothing to do. It may be quite true that there is no absolute beauty, and yet all relative beauty may be directly due to Nature ; just as it may be true that there is no absolute motion, and yet all relative motion is due to Nature. The other assertion in the premises, that beauty is merely a question of habit and fashion, is itself merely a begging of the question. It is not true ; beauty is more than a question of habit and fashion. But even if it were true, it would not prove that Nature had "done nothing for it." Dress is clearly a matter of habit and fashion, yet Nature has done something for it by giving, on the one hand, wool, cotton, silk, and hides, and on the other hand the desire and ability to make clothes, joined with the twofold appreciation of utility and beauty.

In respect of dress, however, social considerations outweigh those of beauty ; that is, fashion overrules taste, and dictates either permanent or transient habit—the usage of the caste in India fixing for ages the form of dress which will be most respectable, as the *flat* of some milliner in Paris fixes for a season what will be most in vogue. But it is equally vain to look for the approved pattern in nose-jewels, or in crinoline, apart from a mind to design, or a power to mould. But to regard beauty in dress, or in any production of man, as if it were the whole of beauty is the philosophy of the workshop.

This remark includes furniture and architecture, for in all departments of these we are in a region of what man frames out of Nature—not of what he finds and admires in it. In painting and sculpture we are in a complex region—one, it is true, of what man produces, but of what he produces more or less in imitation of what he finds in Nature and admires in it. The reason why we so seldom see beauty in implements or machinery is because that in them natural forms are so seldom reproduced, the product required being one of which Nature has not given the mould. The assertion that science has done nothing for beauty would be absurd, but not so absurd as the assertion that Nature has done nothing for it. What science has done for it was subsequent to what Nature had done, and totally dependent upon it, whereas what Nature did for it was done ere science began to be.

In any sense of the word "beauty," to which even the lowest philosophical value can be attached, it must mean not anything either in the object taken alone, or in the subject taken alone; not merely some quality in an object without us which prompts us to say "Beautiful," and not merely some faculty within us which recognises that quality, and feels admiration of it. Beauty no more means either of these apart, than rainbow means water, air, or sunlight, apart from one another. It is the synthesis of all that makes rainbow, and it is the synthesis of certain qualities of body external to us, and certain faculties of mind internal to us, which creates that state of delight which utters itself in the word beauty. All the stars in the sky would never give origin to the idea of beauty if they shone only upon wood and stone. No more would they give origin to the *human* idea of beauty if they shone only into the eyes of toads. But they shine into no human eyes without giving rise to that idea—an idea which gathers to itself intellectual, emotional, and active associations according to the grade of the mind in which it is awakened. In contrast with these natural objects, all the slag heaps in the Black Country by day, and all the furnaces by night, never gave rise to the idea and emotion of beauty, whether they addressed themselves to the eyes of an Englishman or of a Japanese, of an artist or of a cowboy.

Into certain objects Nature has put something calculated to excite in man a pleasure which makes him say "Beautiful"; into man Nature has put the capacity of recognising this quality in the object, of feeling the pleasure, of naming it, and of uttering the name. But the object and the man may be billions of miles distant one from the other, and till they are brought into communication, into presence, by some connecting medium between them,

neither the radiance of a body nor the susceptibility of a mind gives origin to the sense of beauty. When by the action of a medium they are so brought together, then arises what before was not, an idea of beauty, an emotion of beauty, an exclamation "Beautiful," upon which follow trains of thought, feeling, and it may be action, graduated, as I said before, according to the mental and moral character of the percipient. The steps whereby is done the work of bringing object and subject into presence are always manifold, and often reach over tracts never yet measured. Those steps imply means of utterance on the part of the object, means of receiving what it utters on the part of the subject, and a vehicle of conveyance to carry the utterance over the inch or the practical infinity which may separate between the two. Could a star or a rose, a wave or a field of corn throw off nothing from them, and could a man not take in what they do throw off in any other way than he takes it in on the palm of his hand, they would never be known to him. Therefore the offices of an eye in him, and of a reflecting or emitting impulse in them, are called for. These given, a vehicle to carry the impulse from the surface of the star to the interior of the eye must be found. This being supplied, as we believe by ether, what Sirius emits and what the moon or the rose reflects is borne both to the hand and the eye, but to the hand it is as if it were not, while to the eye it brings tidings of a fair object without. Now the eye has not evolved either the ether or the star, not even the motion in ether which travelled from the star. No more has the star evolved the eye. All of them together have not evolved the mind which can say "Beautiful," can ask "Who made it?" can speculate on its distance, can determine to try and measure that distance, and can bring others to enjoy the sight. Yet all this synthesis is to be accounted for without any Mind planning and perfecting the whole, accounted for by a few phrases and a few trifling facts which to the phenomenon are not more than the emery dust is to the diamond.

In the passage quoted by Lord Grimthorpe from Mozley, it is said that no one could have anticipated that the same physical laws which feed us, clothe us, and give us breath and motion, would also create a picture. Of themselves the light, heat, water, air, do not create any picture. All the trees and flowers which glow in a beautiful sunset see no picture. The animals see a glory and a beauty, but the inward picture never leads to an attempt to reproduce itself. This is for the human mind only. Just as such inward picture of the sunset as man enjoys is born of the soul in union with Nature, so such external picture as he may paint to

perpetuate the memory of his delight, and to impart some portion of it to others, is born of that soul. When that external picture is on the canvas it is not philosophical to show how pigments are composed, how they coalesce with canvas, how given motions must result in given forms, the pigments being what they are, and then to dispense with Turner, as well as with his conception and performance of the whole. Just as surely as that picture on canvas came of man, who could make and manipulate canvas, so surely did the inward picture on mind which gave birth to it come from One who had made and could act upon mind.

The picture of light in the mind of Milton, and that of the starry sky in the mind of Kant, were as much real events in the history of our planet as our sunshiny showers or phosphorescence at sea. Those two inward pictures belonged to a world in which wood or stone have no part—to a world as much above the orbit of animals as the path of the eagle is above that of the waggoner. They not only left behind all power of animals to attain to them, but all human power to embody them in any painting. Words go further here than forms and colours, because they more directly admit mind to the views of mind, suggesting the beauties as they shone inwardly, not as they were built up outwardly. If to the two cases named we add Newton's contemplations of light, and then consider how much effect on human thought and feeling, consequently upon human pursuits and action, has been produced by the allurement to scientific research which the charm of light brought to bear on Newton, by the intellectual stimulus to lofty speculation it gave to Kant, by the sublime emotion wherewith it inspired Milton, we have some slight hint of the potency of beauty as a practical force in human affairs. We have also some idea of the grossness of that conception of it which sees in it only a matter of habit and fashion. The two supreme beauties known to earth, that of the light of day and the lights of night, with all of human delight and elevation to which they have given birth, flash exposure on the school which would reduce beauty to a thing of habit and fashion. It would not be more unscientific to say that light itself is a matter of tallow chandling.

In the commerce of mind with body, the place held by beauty, when bodies present themselves to mind through the eye, is analogous to that held by pleasures special to each of the other senses when they are the channels of communication. Taste brings us sweetness, touch the pleasures of genial warmth, and many others, smell those of perfumes, and hearing those of music, whether that of speech, of song, or of the woods. All these may be viewed as

beauty reaching us in various guises. But in beauty proper, that of forms and colours, there is a special feature. It serves no pressing physical need. Taste has its direct utility, it is our alimentary sense ; so without touch we could not guide our motions ; it is our mechanical sense ; without smell we could not keep our homes or cities pure, it is our sanitary sense ; without hearing we could not hold fellowship with our kindred minds, it is our social sense. In each of these, over and above the purpose of bare utility which possibly might have been served without any attached pleasure, there is a system of direct contribution to mental delight through physical channels ; yet in all pleasure is manifestly enlisted in the service of utility ; a beneficent end dignifying every arrangement. The beauty of flowers, of woods and fields, of flocks, herds, and birds, of hill and sea, of morn and eve, of noonday and of night, is not needed to make us feed, or to keep us right when we walk, or to warn us of fever in the pool, or to call us out into communion with our fellow men. That beauty is over and above the purposes of physical existence, of survival in that existence, a sheer surplus of delights, and of delights tending to lift us up above bodily wants into a region where things are prized for their own sake, where joy is known above mere animal satisfaction. And those delights allure our thoughts, our researches away to other worlds, and in so doing marvellously enlarge the range of our intellects, as well as guide the practical sciences and the course of commerce and manufacturing—all this ministry of the senses to our happiness, both in direct enjoyments, and in resulting benefits involving, as it does, the co-ordinated action of more worlds than one, of forces, motions and agents incalculably numerous and complex, is no matter of habit or fashion alone, but is a system of conduits through which flows the goodness of a great Creator.

One remark more ; from the beauties which mothers see in the faces of their babes, to those found in the gardens, the fields, or the skies, not one depends on this world alone. Independently of other worlds earth can make nothing beautiful. In a pitch dark night the child's eye has no expression, neither is the rose red nor the lily fair, nor yet on land or sea is there aught lovely to behold. All physical beauty depends directly on light from Heaven.

This is the cardinal fact in the matter, and for ever settles the question whether beauty is or is not a mere question of habit, and whether it is or is not automatic. In fact, when looked into, the term "automatic beauty" will be found absolutely unmeaning, contemplating, as it must do, beauty as something with a single base, and evolving itself from that base alone. That light which is our sole

fountain of beauty leads us by scientific consequence farther than habit and fashion : as far as the sun—farther than that, as far as the stars—farther than that, as far as the all-surrounding ether. But for ether to give light it must be moved. In any substance, motion is not a somewhat evolved in it, but a somewhat imparted to it. Motion, vibration in ether is the last physical fact to which we are conducted by light, the exclusive source of physical beauty. That fact compels us to think of a Mover and that Mover must be One whose touch can simultaneously thrill the substance encompassing all worlds, and pervading their inmost recesses.