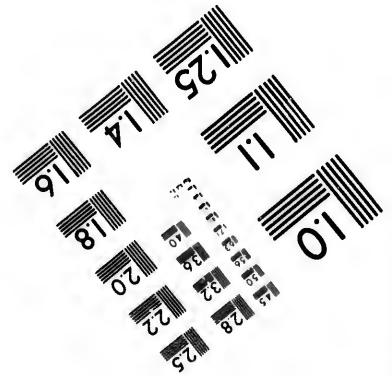
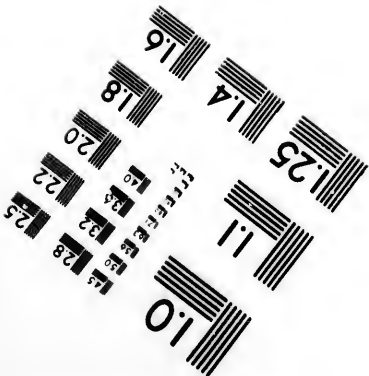
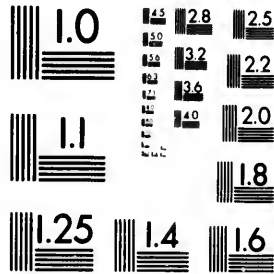


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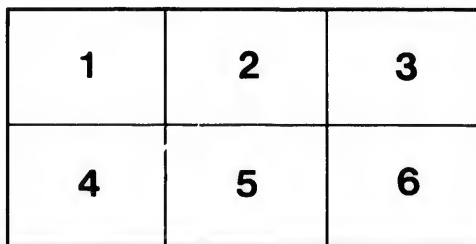
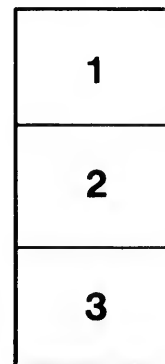
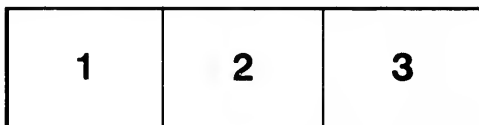
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DESIGN

AND

DARWINISM.

BY

REV. JAMES CARMICHAEL, M.A.,

(Rector of the Church of the Ascension, Hamilton).



Toronto :

HUNTER, ROSE & COMPANY.

1880.

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Bookseller,
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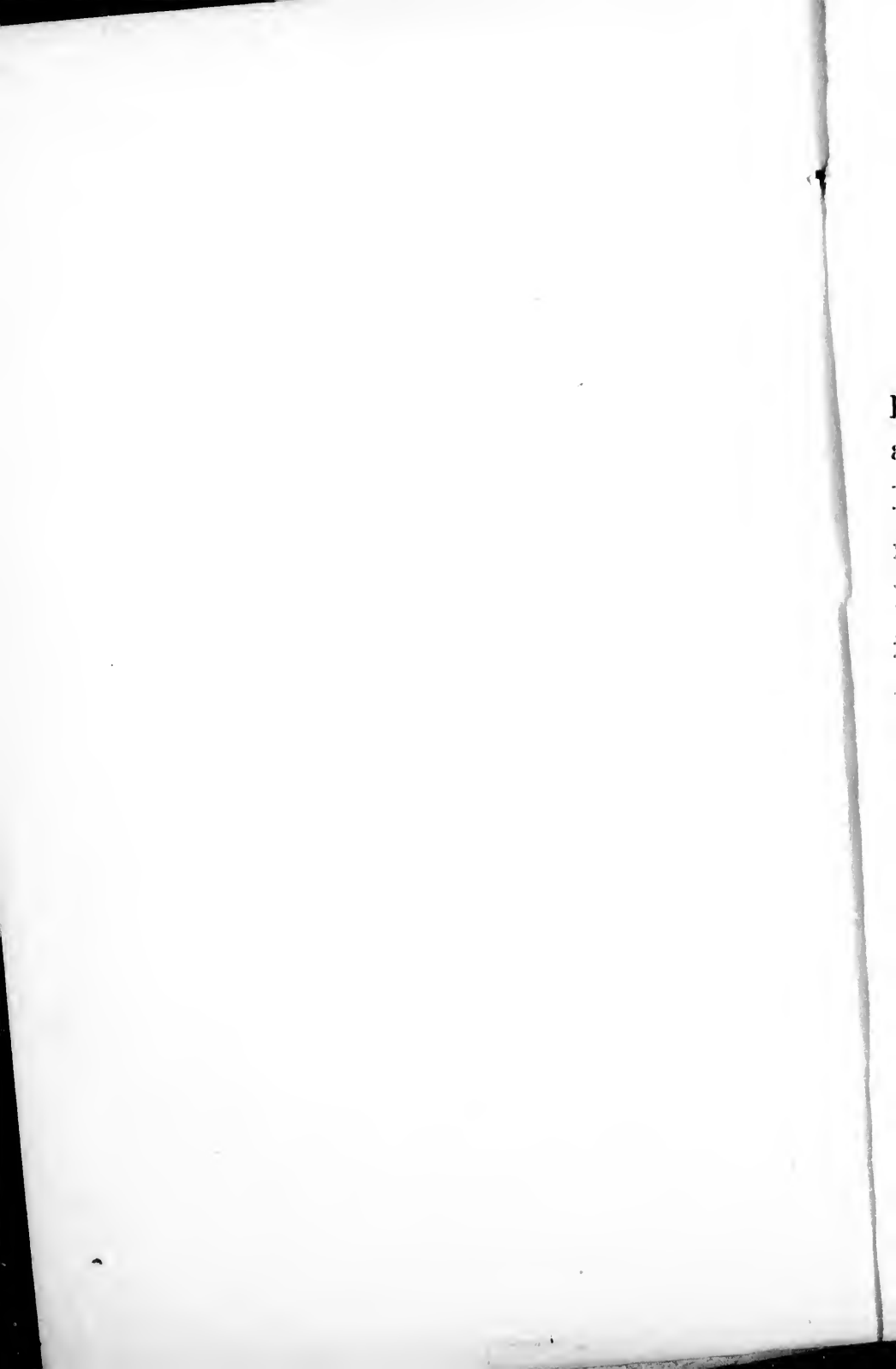
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PREFACE.

This treatise, containing the main matter preached in a course of sermons, is published in answer to a written congregational request. Knowing, how many there are in every community, who cannot believe, that the Darwinian hypothesis is a bold denial of Divine Design in Nature, I have endeavoured in these pages to make that assertion clear. There is little original in the treatise; but I can honestly say, that it is the legitimate offspring, of not a few years of patient study, spent over the leading writers on both sides of the question.

JAMES CARMICHAEL.

ASCENSION RECTORY,
Hamilton, 1st March, 1880.

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DESIGN AND DARWINISM.

“How do you know,” an Arab was once asked, “that there is a God?” “In the same way,” he replied, “that I know, on looking at the sand, when a man or beast has crossed the desert—by his footprints in the world around me.” * “The argument from design,” writes John Stuart Mill, “is an argument of a really scientific character which does not shrink from scientific tests.” † “It must always be the main strength of Natural Theism.” ‡

BIBLICAL RECORD.

And so, as if to carry out the views of the distant Arab and nearer Englishman, the great Bible, or Book, begins: “In the beginning—God.” There seems a natural stop at the sacred name which forms the key-note of the whole Revelation. “In the beginning, God created the heavens and the earth. And God saw everything that

* Elements of Religion—Liddon, 56.

† Theism—Mill, 38.

‡ 26.

He had made and behold it was very good." There is no jar, or discordant voice, in the whole of the record as to Design, as to the great God-mind working on the lines of a plan. It does admit a principle of development from lowly things to lofty—indeed it is based on one; and it is capable of admitting, if needs be, a principle of Divine selection; but it is the development and selection of a God-mind, not of hypothetical laws resulting in a series of unforeseen results, or accidents. It is the development of an architect's plan; not the unforeseen growth of a mighty building out of a pile of granite and a heap of mortar. In short, Genesis stakes everything on Divine Design, and it does this with one clear, distinct, unbroken voice, which is upheld by the great united chorus of every Biblical writer, down to the voice of St. John the Divine.

PALEY'S DEFINITION OF DESIGN.

Now what is the meaning of the word *Design*, which Mill states "is the main strength of Natural Religion?"

"If in crossing a heath," writes Paley, "I knocked my foot against a stone, and asked

'how did that come there?' I might answer 'that it was always there.' But if instead of knocking my foot against a stone, I knocked it against a watch, would it be reasonable to say that the watch was always there? Certainly not. I would only have to open it, to see that it was mechanically formed, and put together for a purpose—namely: to produce motion; that the motion might take note of time—in other words, that the watch was made with a design, and consequently must have had a designer—the Watchmaker.

"Now," writes Paley, "everything in Nature is like that watch—everything. In leaf and plant, and root, and stem; in wing, and bill, and claw, and feather; in eye, and ear, and hand, and heart; in rush of air, and ripple of water, and heat of fire; in blush of rose, and brown of heather, and green of moss—everything is like that watch. Everything shows design, and implies a designer—God."

IS PALEY'S ARGUMENT CAPABLE OF PROOF?

Is Paley right? Are there really forms of life, so exquisite in design, that, like Paley's watch they become vocal, and cry out "unforeseen con-

tingencies never made me : I am not the child of disguised accident, I am the legitimate offspring of an intelligent mind ?” For a defined and student-like answer we would refer to Paley’s “Natural Theology,” the Duke of Argyle’s “Reign of Law,” and, strange to say, the works of Mr. Wallace and Mr. Darwin. The latter gentleman whilst conscientiously endeavouring to destroy the theory of Divine design, as generally received, has really done more, unconsciously, to re-assert it and prove it, than any living writer.

THE TESTIMONY OF DARWIN’S ORCHIDS AS TO DESIGN.

Take, for instance, the following cases described by Mr. Darwin in his earnest and matchless language—the case of bees obtaining pollen from orchids.

It is an ascertained fact, that bees living amongst certain flowers carry from plant to plant, or convey within a plant, the mysterious pollen, which undoubtedly transmits plant life. This is peculiarly true of the contact of these insects with the Great Orchid Family—so remarkable for the structure and beauty of its flowers and their exquisite fragrance.

One branch of this great family (the Coryanthes) is formed, not unlike a drinking fountain. The upper part of the flower is composed of two exquisitely made horns, which secrete a sweet limpid fluid. This fluid drops into the lip of the flower; which is shaped like a bucket, and keeps drop, drop,—dropping; until the bucket is nearly full; but, lest it should overflow, there is a waste-pipe to carry off the overplus of the fluid. Now this is in itself a marvel of floral mechanism; but the main wonder has yet to come, “for the most ingenious man if he had not witnessed what takes place could never have imagined what purpose all these parts serve.” *

These orchids are choice morsels for bees to feed on, and they flock to them in thousands. As they crowd into the flowers to sip the liquid, or gnaw off the ridges above the bucket, they constantly tumble into it, and become thoroughly drenched. Unable to use its wings for flight, a bee will creep through the waste-pipe; and, as it does so, it comes in contact with the pollen, which adheres to its wet back, and is carried either to the same flower, or another, and becomes the channel of fertilization. Now the marvellous,

* Origin of Species, 155.

and almost miraculous wonder is, that fertilization depends on the bee creeping through the waste-pipe. "We must therefore believe," writes Mr. Darwin, "that the fluid is secreted and is collected in the bucket, for the sake of wetting the insects' wings, and thus compelling them, to creep through the passage."*

Take some other cases of Mr. Darwin's orchids.

The *Catasetum*, which is exclusively, a male flower, requires the transportation of the pollen to the female plant in order that seed may be produced. It is formed differently from the *Coryanthes*, for the pollen is not placed in such a position that it could adhere either to the back or wings of a bee visitor. How then is the pollen transferred to the bee? It appears that this plant is peculiarly sensitive to touch. As the bees feed on its luscious lip, some one bee is sure to touch two curved, tapering horns, which touch, transmits a vibration to a certain membrane, which, in turn, is instantly ruptured; thereby setting free a spring, by which the pollen mass is shot forth in an arrow-shaped form, which adheres by a blunt but excessively adhesive point, to the

* Fertilization of Orchids, 175-6.
Origin of Species, 154.

back of the bee. Then comes the marvel of all marvels. After the bee has finished its meal in the male flower, it, sooner or later, visits a female plant. Here it begins to feed afresh, and whilst "standing in the same position" in the female plant that it did in the male, the pollen-bearing end of the arrow is inserted into the opening (stigma) of the pistil, and the mass of pollen is left on its sticky surface.*

Mr. Darwin states, that after experimenting on fifteen flowers, of three species, he discovered that no moderate degree of violence, on any part of the flower except on the curved, tapering horns, caused the expulsion of the pollen. The bee, must touch the horns; to receive the pollen, but the slightest touch of the insect, given to the horns, ensures its reception. In one case, Mr. Darwin caused the shot to be fired, by touching the horns with a bristle; in five other specimens, the gentle touch of a fine needle was necessary. In one variety he discovered, that some horns were not very sensitive, and required a measure of force; but the reason was explained by the further discovery, that, that peculiar plant was

* Fertilization of Orchids, 179-180.
The Origin of Species, 155.

visited, by strong and powerful insects, whose slightest touch would be comparatively a violent one.*

In the genera, "Mormodes Ignea," we find an equally exquisite evidence of Design. The insect lights on the lip of the flower, and proceeds to gnaw or suck the bases of the petals swollen with sweet fluid. The weight and movements of the insect disturb the lip, and the bent underlying summit of the column; and the latter; pressing on a hinge, causes the ejection of the pollen, which infallibly strikes the head of the insect and adheres to it. Mr. Darwin placed his gloved finger on the summit of the lip, with the tip just projecting beyond the margin, and by moving his finger gently, he says "that it was really beautiful to see how instantly the pollen was projected upwards, and how accurately its sticky surface struck my finger and firmly adhered to it."†

A person lifting up Mr. Darwin's work on orchids, from a bookseller's counter, and running his eyes over it, might well fancy from its language, that it was written; to prove the doctrine of Divine Design in Nature. The object of the work, he says, is to show the *contrivances* by

* Fertilization of Orchids, 187.

† *Ibid*, 215.

which orchids are fertilized, and the book abounds with the following expressions: "Beautiful contrivances," "curious contrivances," "complex mechanism," "pretty adaptation," "perfection of contrivance," "numerous contrivances," "elaborate contrivances," "mechanism of the movement," and a host of like expressions. And yet, in spite of these, Mr. Darwin tells us in the preface, that one object of the work is to show "that trifling detail of structure" may be viewed otherwise than "as the result of direct interposition of the Creator," namely; as the result of "secondary laws,"* to which we shall see hereafter, the Creator had nothing to say. For a full exposure of this strange inconsistency between object and language, reference may be made to the Duke of Argyle's "Reign of Law."

Leaving Mr. Darwin's orchids, we will notice another beautiful instance of Design, mentioned by Paley,† and used by McCosh‡ and other writers.

In the early stages of telescope making, the makers were sorely puzzled because, work how

* Introduction to Fertilization of Orchids, 2.

† Natural Theology, cap. I.

‡ Christianity and Positivism, p. 9.

they would, the pencils of light, in passing through the glass lenses, were separated into different colours, tinging the edges of the object as if they were viewed through a prism. At last Dollond began his experiments, and arrived at the two following facts:—first. That light fell from heaven on the human eye, just as in the case of the telescope, with all this trouble of mixed colouring ; but, secondly, that as the light passed through the combined fluids of the eye the difficulty was remedied before it reached the bottom of the eye. “Now,” said Dollond, “if I can only imitate, in the telescope, these fluids, I will perfect what Sir Isaac Newton gave up in despair, and what Euler and Klingenstierna failed to accomplish,” and as a result, he made an object glass of crown and flint glasses, which, through their counter-active powers, took the place of the eye fluids, and perfected the telescope.

Now, here is a case where advanced science, as a designer, has been flung back on God as a designer, and the conclusion is irresistible. If the achromatic telescope of Dollond, bears on it the marks of a mind, working out a design (and who would dare deny it), none the less does the human eye, which was the parent of the telescope, bear

on it the marks of a mind carrying out a design also.

A careful study of this argument from Design, as to a working, active God, is well worth the time and attention of the young, thoughtful minds of the day. Such a study, ever increasing in its area, would show the earnest student that, design is only bounded by the bounds of life ; that from lowliest microscopic Algæ up to noblest plant ; from torpid Amœba, up to Man himself ; from beast and bird, and fish and fowl, and leaf and flower, goes forth one loud testimony to God, as the Creator : the testimony, eloquent, lasting and faithful, which throws itself into the shape of the old-fashioned words—

“ He made us, and not we ourselves.”

POPULAR MISCONCEPTIONS AS TO RECENT SCIENTIFIC
DISCOVERIES.

In spite, however, of all this, there seems to be a vague notion abroad, that, within the last few years, there have been some grand discoveries in the Science of Nature, as well as in other sciences, which, only for the effects of prejudice, would overthrow the very basis of Religion itself.*

* Dr. Alex. Johnson (McGill University), “ Science and Religion,” p. 7.

This vague notion would be dispelled to-morrow, if sensible men would only keep before them, the difference between a *supposition* and a *fact*. There have been no scientific discoveries made within the last few years, subversive of religion—not one ; but several presumptions, and suppositions, and speculations have been made public within the last few years, that if they could only be lifted out of the cloud-land of assumption and solidified into hard facts—if, in a word, they could be proved, would certainly be subversive of religion, as generally received. There is unquestionably an assault made on the doctrine of Design, by a series of hypothetical assumptions, which, sometimes speaking in the dogmatic language of ascertained fact, has boldly endeavoured to elevate the working of Disguised Accident into the position so long held by Divine Design.

DARWINISM ONLY A HYPOTHESIS.

And this is essentially true of what is popularly called Darwinism. There is a popular and wide-spread idea, that Mr. Darwin has made some wonderful scientific discoveries that it is impossible to contradict, and that these discoveries are steadily undermining all old notions, as to God's

work in connection with Design and Creation. Now, a careful study of Mr. Darwin's work, on the "Origin of Species," will prove to the student that Mr. Darwin never has claimed to be a discoverer. His great work, he tells us, is the result of *speculation* on that mystery of mysteries, the origin of the species.* He tells us that it is composed of some "general conclusions," drawn from speculations, and illustrated with "a few facts," and that "he is well aware" that scarcely a single fact is discussed in the volume, against which other facts cannot be adduced, often apparently leading to conclusions directly opposite to those at which he has arrived.† Throughout the whole book he never resigns the hypothetical idea, except where, in the ardour of describing his illustrative facts, he here, and there; seems to take for granted the reality of his hypothesis. But, as a rule, the deductions from his illustrations are put hypothetically. Thus, the female selection of beautiful male birds, he tells us; "*might*" produce a marked effect during thousands of generations,‡ and a structure even as perfect as an eagle's eye "*might*" have been formed through the power of Natural Selection.§ Hence Mr. Huxley,|| who

* P. 1. † P. 2. ‡ Origin of Species, 70. § P. 145. || Lay Sermons,

does his best to support Darwinism, says "that we have no right to call it even a theory, because a theory implies 'substantial speculation,'" whereas "Darwinism," he says, "has not advanced to the rank of a theory; it is a hypothesis," which means, a system formed on some principle, which has not yet been proved.

THE DARWINIAN HYPOTHESIS.

Mr. Darwin's hypothesis looks charming to the eye of the careless reader, and not a few who are more careful, study it with an under-current feeling, that, although it is novel, it is not wholly irreconcilable with the Divine record. But a more careful study, a due weighing of Mr. Darwin's own words, soon dissipates this desirable idea.

His great work is that on the "Origin of Species." Species, previous to Lamarck, were regarded by naturalists, as a succession of individuals, reproducing and perpetuating themselves. Lamarck, however, taught, that all species, including man, were descended from inferior organizations, stretching back to original forms; and it is this idea of Lamarck's that Mr. Darwin has made the basis of his hypothesis.

Mr. Darwin agrees with Lamarck as to the

variability of species, but has grafted on to the Lamarckian theory, the Darwinian hypothesis of Natural Selection. He distinctly teaches, that the Creator moulded one, or a few forms of life, and that, from so simple a beginning, endless forms, most beautiful and most wonderful, have been, and are being evolved.* The process of this evolution begins with what he calls "the struggle for existence." "Life," he says, "is so prolific that it has to be checked 'by destruction.'"[†] The agents of destruction in plant life, are overcrowding and insects; in animal life, want of food; the fierceness of preying animals, climatic changes and epidemic diseases.[‡] In this struggle, the stronger, or those who possess anything peculiarly favourable in their organization, must overcome the weaker; the weaker die out, and the stronger are preserved. "This preservation of favourable variations, and the destruction of unfavourable variations," Mr. Darwin calls Natural Selection.§

Now, how does this suppositious, Natural Selection, work? Mr. Darwin takes for granted that it is governed by a law, incessantly ready for action.|| Whenever this law sees a profitable

* Origin of Species, 429. † 52. ‡ 54. § Origin of Species, 63.

|| 49.

or useful variation‡ it preserves it in the struggle of life, and hands it on through generations.* The result of this Natural Selection is, that each creature, selected and preserved, tends to become more and more improved,† and this improvement inevitably leads, slowly, and at long intervals of time,‡ to the gradual advancement of the organization of the greater number of living beings throughout the world.§ In other words, the law of Natural Selection, working in and out of the deadly battle-field of life, has, at various periods, produced perfectly new species, to run their strong race of plant and animal being.

WHERE NATURAL SELECTION CLASHES WITH DESIGN.

Now there seems at first sight, nothing inconsistent with the general story of Creation, as recorded in Genesis, in this hypothesis; provided, that the author would admit, that the law of Natural Selection was a law ordained by God, and *directed* by Him in its general working. Mr. Darwin cannot consistently say, that as a scientific man, he does not care to deal with the supernatural aspect of this question; for he does deal with it, very

* 65.

† 63.

‡ 97.

§ 85.

|| 97.

boldly; throughout the whole of his work on species. It is then perfectly fair to ask, does Mr. Darwin, when he speaks of the law of Natural Selection, intend his readers to understand, that he is speaking of a law of God? A law *instituted, controlled* and *guided* by that same Creator, that, he tells us, breathed life into the original parental forms of all plant and animal being? Let Mr. Darwin himself answer in his own words.

In his work on *the Variation of Animals and Plants under Domestication*, he takes for granted, that no sensible person would believe, that God ordained the variations of the crop and tail feathers of the pigeon, or the variations of the frame, and mental qualities of the dog. "But," he says, "if we give up the principle in one case, no shadow of reason can be assigned for the belief, that variations, which have been the groundwork through Natural Selection of the most perfectly adapted animals in the world, man included, *were intentionally and specially guided.*"*

Again, speaking against the idea that the detail of structure was made for the good of its possessor, he says: "Some believe that many struc-

* Vol. ii. 515-516.

tures have been created for the sake of beauty, to delight men or the Creator, or for the sake of mere variety, *such doctrines, if true, would be absolutely fatal to my theory.*"*

Again. "Some authors maintain that organic beings have been formed in many ways for the sake of mere variety, almost like toys in a shop, *but such a view is incredible.*"†

Again. "Nothing at first can appear more difficult to believe, than that the more complex organs and instincts have been perfected, *not by means superior to*, though analogous with *human reason*, but by the accumulation of innumerable slight variations, each good for the individual possessor."‡

Again. "How inexplicable on the theory of Creation, is the occasional appearance of stripes on the shoulders and legs of the horse genus and their hybrids."§

Again. "*It is so easy to hide our ignorance under such expressions as "the plan of creation" "unity of design," &c.*"||

Again. "But do they (certain naturalists) believe that at innumerable periods in the earth's history, certain elemental atoms have been com-

* Origin of Species, 159,

† 154.

‡ 404.

§ 415,

|| 422.

manded suddenly to flash into living tissues? Do they believe that at each supposed act of creation, one individual or many were produced? ”*

Again. “Under a scientific point of view, but little advantage is gained by believing, that new forms are suddenly developed in an inexplicable manner from old and widely different forms, over the old belief in the creation of species from the dust of the earth.”†

Again. “Species are produced by slowly acting and still existing causes, and not by miraculous acts of creation.”‡

Now what conclusions; have we a fair right to arrive at, from these quotations?

1. That the widespread variations of animal and plant life, man included, are not the result of intention or guidance. They exist without intention or foresight, and are consequently *accidental*.§

2. That if it could be proved, that beauty, had been designedly called into being, it would destroy the theory of Natural Selection.

3. That the highest organs, and instincts; have not been perfected by a mind, superior to the human mind, but by repeated variations.

* Origin of Species, 423.

† 424.

‡ 427.

§ Accident—that which happens unforeseen, chance,

4. That the use of such expressions "*plan of creation,*" "*unity of design,*" are marks of ignorance.

5. That living tissues, or individuals were not called into being by creative acts.

6. That species are not the result of miraculous acts of creation.

Now it is easy for some advocates of Darwinism to say that the law of Natural Selection, as defined by Mr. Darwin, is in some sense, a God ordained law, and directed by Him in its general working ; but it is impossible to prove it, in the face of these assertions.

If God had called into active power, the law of selection, then that law would have been part of His "design," and a marked instrument in the "plan of creation." But Mr. Darwin tells us, that the use of the words "plan of creation" or "unity of design" are marks of ignorance. In other words, there is no "plan of creation," there is no "unity of design" in the Darwinian hypothesis. *The favourable point in the variation selected, is never a designed point.* It is favourable simply through chance, or luck, or fortune, or accident, and it is selected by the hypothetical law, because a lucky chance has made it what it is.

Thus the Darwinian hypothesis, as elaborated by Mr. Darwin, is a bold, earnest, yet surely a conscientious blow, aimed with closed hand, at the generally received view of divine design in creation. "Design" and "Natural Selection" are antagonistic principles that, according to Mr. Darwin, cannot be reconciled. If Natural Selection, as defined by Mr. Darwin, proves triumphant, it can only be so on, the ruins of Divine Design.

HUXLEY, VOGHT, BÜCHNER, ON THE ANTAGONISM.

And that this is the view of Mr. Darwin's leading disciples, is very apparent from their written words, words, that express conclusions; that the writer has never seen contradicted by Mr. Darwin.

Mr. Huxley in his "Lay Sermons," writes as follows: "When I first read Mr. Darwin's book, that which struck me most forcibly was, that Teleology (Design), as commonly understood, had received its death blow at Mr. Darwin's hands. For the teleological argument runs thus: 'An organ is fitted to perform a function or purpose, therefore it was specially constructed to perform that function.' This is precisely what Darwin

denies with regard to plants and animals. If we apprehend the spirit of the Origin of Species rightly, then nothing can be more entirely and absolutely opposed to Design in Nature than the Darwinian hypothesis."*

Mr. Haeckel in his latest work entitled "The Evolution of Man," states: "The gist of Darwin's theory is the simple idea: that the struggle for existence in Nature, evolves new species *without design*, just as the will of man produces new varieties in cultivation *with design*."†

Now if Mr. Darwin believed, that the law of Natural Selection was in any sense, directed and guided by God, and part of a divine plan; surely for the sake of his many readers, he ought to have answered these unmistakable criticisms, and asserted, or proved their injustice. But even in the latest edition of the work, thus reviewed by Mr. Huxley, the reader can find no denial of the truth of the criticism.

Neither can he find a denial of the awful words of Carl Voght "that Darwin's theory has turned the Creator out of doors; as it does not leave the slightest room for the agency of such a Being;"‡ or Büchner's; that it is an "atheistic theory" based

* Lay Sermons, 330. † Vol. 1, 95. ‡ Lectures on Man, Vol. ii, p. 260.

on "accidental operations,"* or Haeckelst† "that the service rendered to science by Darwin is, that he has been successful in teaching the mechanical (as opposed to designed) production of vegetable and animal organisms." The writer has before him the latest American edition of the sixth corrected English edition of "The Origin of Species," and Mr. Darwin remains silent through its pages, under, what to the ears of many must sound, these awful imputations. In the preface, he gives a table of thirty additions and corrections, and a short history of foreign editions, but not one word as to the fact, that his sentiments and expressions have been unfairly dealt with, by Huxley, Voght, or Büchner. Indeed, he speaks of Prof. Huxley, as "one of the highest authorities" and his consulting friend,‡ and in his preface to "The Descent of Man," he speaks in like laudatory strains of Voght and Büchner.§

THE MAIN OBSTACLES TO THE RECEPTION OF
DARWINISM.

1st. *Design.*

Mr. Darwin honestly admits, "that there is

* Lectures on Darwinism, Vol. i, 125.

† History of Creation, p. 20.

‡ Origin of Species 79.

§ Descent of Man, preface, 1, 4.

scarcely a single point that he has made, on which facts cannot be adduced, often apparently leading to conclusions directly opposite to those at which I have arrived.”* His foremost difficulty however, is unquestionably Design, which meets him everywhere.

Natural Selection, for instance, cannot reasonably account for Neuter Insects, *powerless to propagate their kind*, and consequently *unable to transmit acquired modifications of structure or instinct to their progeny*.† And yet, Neuter Ants bear on them the marks of elaborate design, are divided into well defined castes, and are invaluable as builders of the nest, providers of food, nurses and soldiers, because fitted and formed to carry out these functions.‡ Of course Mr. Darwin endeavours to open the mystery by his magical key of Natural Selection, but he freely confesses, “that it is only natural that people should think, that he has an overwhelming confidence in his hypothesis, when he does not admit; that such wonderful and well established facts at once annihilate his theory.”§

The same may be said on the subject of the structure of the Eye. “To suppose,” he says,

* Origin of Species, 2. † 229. ‡ Encycl. Brit., “Ant.” vol. ij. 95. § 231.

“that the eye, with all its inimitable contrivances, etc., could have been formed by Natural Selection, seems, I freely confess, *absurd in the highest degree.*”* He then enters into his speculation, which takes this shape :—He supposes that “a nerve once became sensitive to light ; that over this grew a thick layer of transparent tissues, with spaces filled with fluid, and that this layer kept continually changing in density, thickness, distance and form.” He further supposes that “Natural Selection (which he practically makes a sentient being), *intently watched*, and *carefully preserved*, each variation, and that this watching and preservation went on for millions of years, until at long last a perfect eye was formed.”†

Now, admitting this process, the question at once arises, were these tissues, and spaces, and layers put together to give perfect sight or not? Mr. Darwin distinctly teaches “No,” and Mr. Huxley, in commenting on the process of nerve development, states that “it works on the principle that the eye was not made to see.” ‡

How, then, does Mr. Darwin account for the marvellous eye of the Silurian Trilobite? Mr. Darwin states that “the Cambrian Trilobites are

* 143.

† Origin of Species, 144-46.

‡ 330.

descended from some one crustacean, which must have lived long before the Cambrian age." * But these Cambrian rocks are admitted by Mr. Darwin to be the most ancient of Palæozoic rocks ; † so that this "one" supposititious "crustacean" must have survived the wreck and ruin of the fiery Azoic Age : and, Adam-like, in company with his crustacean Eve, have started Trilobitic life on the barren sand of the Palæozoic time. But such a transfer of Azoic animal life to the Palæozoic time is opposed to the whole voice of geology. The only representative of animal being is Dr. Dawson's Protozoa, the Eozoon Canadense, found in the lower Laurentian of the Azoic age. ‡ The Azoic rocks are naturally barren of life, handing us on presumptive sea weeds and hypothetical animalculæ ; but, with the exception of Eozoon, contain no fossils. §

The Trilobite (*Paradoxides Harlani*), eighteen inches in length, appears suddenly, and fully formed in the primordial period of the Palæozoic age, and the species runs its mighty race to the close of the Carboniferous period. And, as it runs that race, it carries with it from its first appear-

* 286.

† Glossary, 431.

‡ Nature and Bible—Dawson, 120.

§ Dana's Geology, 76.

ance to its close the same exquisitely designed eye, one variety having four hundred facets, and another, renowned for its size, six thousand. Five hundred varieties of the Tribolite lived in the course of the Palæozoic time ;* and as far as the testimony of geology is concerned, the eye of the earliest, was as perfectly developed as the eye of the latest.

“Sight,” says John Stuart Mill, “being a fact, not previous but subsequent to the putting together of the organic structure of the eye, demands, that the antecedent idea of it, and not sight itself, must be the efficient cause. But this at once marks the origin as proceeding from an intelligent will.”†

It is little wonder, in the face of such natural antagonism to Mr. Darwin’s “nerve theory,” that he should have written these manly words : “To arrive at a just conclusion regarding the formation of the eye, with all its marvellous, yet not absolutely perfect characters, it is indispensable that the reason should conquer the imagination ; but I have felt the difficulty far too keenly to be surprised at others hesitating to extend the principle of Natural Selection to so startling a length.” ‡

* 252. † Three Essays on Religion—Mill, 172. ‡ Origin of Species, 146.

How far Mr. Darwin himself, has submitted his imagination to reason, in his nerve theory, is worth thinking over.

The same difficulty meets Mr. Darwin in the case of the electric organs of such fish as the Torpedo and Gymnotus. He tells us that "it is impossible to conceive by what graduated steps these wondrous organs have been produced.* Organs of such tremendous power that Faraday's experiments on a Gymnotus, forty inches in length, resulted in a calculation, that, at each medium discharge, the animal emitted as great a force as the highest charge of a Leyden battery of fifteen jars, exposing three thousand, five hundred square inches of coated surface." Under the law of Natural Selection one would expect that all these electric fishes would be specially related to each other; but this, Mr. Darwin states, "is far from the case, nor does geology at all lead to the belief that most fishes formerly possessed electric organs, which their modified descendants have now lost." * Hence, Mr. Darwin openly gives up any attempt to explain how these marvellously designed organs, plainly

* Origin of Species, 150.

† 151.

fitted for a special purpose, have been developed in each separate group of fishes.*

Now it is mainly, because of this deadly conflict between Divine Design and undesigned Natural Selection, or Accident, that Darwinism remains to-day, what it was at the beginning, an hypothesis. It is weak, and likely to remain weak, because it denies all design in nature, and through denying Design, makes the Being that Mr. Darwin allows created the first speck of living jelly, a God; not worthy of the name.

II.

THE OBSTACLE FROM THE STANDPOINT OF NATURAL SELECTION.

Mr. Darwin stakes the main work of the development of life on Natural Selection. "In effect," he says, "give me a struggle for existence; give me the weak and strong taking part in that struggle; give me the weak going to the wall, and I do not require Design to account for anything."

Now it is admitted that there is evil and sorrow, and a struggle in the world; and it is also

* 151.

admitted, that there is only one theory which attempts to account for it, namely, the Biblical theory. That theory teaches ; first, an original perfect Design, permeating everything ; secondly, the dislocation of that Design, and as a consequence, trouble, and sorrow, and struggling ; and thirdly, the gradual restoration of Design, and its future completion and perfection. But this theory teaches something more ; it teaches what we see worked out before our eyes every day ; that in the struggle for existence arising from dislocation, there is a power which might well be called "*the law of Natural Protection,*" which steps right into the struggle for existence, and instead of selecting the strong, constantly selects the weak, in order that it may preserve, and retain, and keep them alive.

In the brute creation, the weak are constantly, preserved by the instinct, bravery, and strength of a powerful parentage. You may easily steal the weak and sickly whelp of the tiger while the mother is absent ; but will you dare to steal it, with the raging form of the powerful beast crouching over it, and with the roar of the male tiger sounding through the jungle. It is not, in this and countless other cases, a question of the

strength or weakness of the cub, it is the question of the united physical power and instinct of parentage, combined against you through the whole of the brute creation, and determined to resist you to the very death, before they, the strong, will allow the weak to perish.

And even in the Adaptation of animals to their conditions of life, we see evidences of this law of Natural Protection over the weak, spite of all Mr. Wallace's efforts to explain it away.* In the tawny colour of the lion, that roams over sandy deserts; in the white bear, that lives amongst eternal snows; in the yellow leaf, that is made the home of the yellow insect; in the soft, green leaf, the home of the soft, green caterpillar; in the leaf so like a butterfly that you cannot tell, in passing, which is leaf and which is fly; in the brown, rusty, bare twig that has sticking to it the brown, rusty, living creature, that looks at you as you pass, and that, if it could, might laugh at you, for the success of its mimicry which preserves it from your touch.

And unquestionably the same rule as to the protection of the weak, must have been exercised over Man himself. If we adopt the theory of

* Wallace on Natural Selection.

evolutionists, the First Man becomes a trying puzzle. The law of evolution could not give us a perfect man, so mentally endowed, as to be able to gather around him those weapons of defence and means of protection, which would have made him strong to resist the physically stronger. He must have been a lonely, solitary creature, surrounded by deadly foes in the animal world, and with climate and opportunities of obtaining food, suited to his new conditions, all against him. Midst the remorseless fury of the battle for existence, and under the law of Natural Selection, which selects the strong and rejects the weak, he ought to have been literally crushed out against the wall. But he, weak amidst the strong, survived and peopled a world.

Explain it also how you will; as civilization and education advances, the hypothetical law of Natural Selection is driven out before them every where. Even in lowest life, the hungry cry of a starving child, gives energy to the foot of a strong made father in his hunt for food, and many a war path, has been tracked through lonely forests, as the strong came to the rescue of the weak, to win back a stolen child, or save unharmed a timid girl. The weak would always go the wall, save for the

law, which brings the strength of love, or the strength of muscle, or both combined to the rescue of the weak ; so that the weak is as the strong, the dwarf is in one sense a giant, and the defenceless, irresistible.

And this is still more apparent under the highest teaching of education and civilization. There is a mighty power in the world, ever increasing, which only lives to protect the weak. A power that tends the sick, and builds the hospital, and trains the nurse, furnishes the free medicine, and provides the ablest skill. A power, that lingers in tender ministrations over the poorest of the poor, the weakest of the weak, the most loathsome of the diseased. A power that teaches us that evil is to be remedied by love and gentleness and pity ; that the weak are not of necessity to die of weakness, or the poverty-stricken to die in a ditch, because of poverty, or climate, or want of food ; or through uncared for debility and wretchedness. You may call this power what you will ; Christianity, Morality—anything ; but it exists and works, and the wider its area and the stronger its strength, the less room remains for the workings of a presumptive—Natural Selection which only exists to crush out the weak, and enable the

hand of man to snatch from the hand of woman, the last crust, that fairly divided might preserve the lives of both.

III.

THE OBSTACLE OF CHANGELESS SPECIES.

Mr. Darwin admits that in microscopic life, the Rhizopods and Infusoria, "have remained for an enormous period in *nearly* their present state." * This seems to the writer to have been a slip of Mr. Darwin's pen, for the sentence would surely read more correctly if it ran "have remained for an enormous period *wholly unchanged*." Fossils of Rhizopods have been found in the Lower Silurian era, † possibly the magnesian limestone of the Potsdam period are formed out of their remains, and the chalk of the Cretaceous period is made mostly from their minute calcareous shell. ‡ The Hornstone of the Devonian period, is made up of microscopic organisms of the same families as exist to day, just as beautiful, perfect and finished in design, as the living objects that we behold in our microscopic studies. §

Mr. Darwin explains this crucial point by assuming that lowly forms have been preserved through

* Origin of Species, 99. † Dana, 85. ‡ Dana, 191. § Dana, 109.

inhabiting "confined stations" where they have been subject to "less severe competition," or, that in some cases, a high organization would be of no service, and that differences might never have arisen for natural selection to act on.* But surely, the ocean bottom, the great home of Rhizopod life can scarcely be described as "a confined station," and if the telegraphic plateau, between Ireland and Newfoundland, supports a continuous bed of stone, a thousand miles in breadth, formed out of Rhizopod remains, † it seems hardly fair to assume that Rhizopod life was subject to a "less severe competition" than larger organisms. Neither is the presumption just, that lower life, because it is minute, is devoid of a comparatively high organization. Mr. Darwin admits that the Eozoon, of the lower Laurentian, is a "highly organized" member of the group of Protozoa, ‡ whilst the Rotatoria or Rotifera, which Ehrenberg and Dujardin claim to be Infusoria, possess an organization of the highest order.

The history and existence of Diatomaceæ, are also hard points for Darwinism to explain. Rabenhorst enumerates four thousand of these exquisite

* Origin of Species, 99-100.

† Dana, 265.

‡ Origin of Species, 287 ; Dawson's "Nature and Bible," 120.

organisms of vegetable microscopic life, and Professor Smith states, that the progeny of a single frustule would amount to 1,000,000,000, in a single month; so that the generations of a diatom in a few months far exceed in number the generation of man, during the longest and wildest calculation of the existence of the race. Now fossil diatoms have been found in the clay slates of the lowest Silurian, by Mr. A. Bryson; they abound in the lower strata of the Tertiary formation, and the *fossil genera and species are in all respects to the most minute details identical with the numerous living representatives of their class.**

This changelessness of form Mr. Darwin would explain by the theory, that diatoms were not worth changing, or that differences never arose for Natural Selection to work on. But how then are we to account for the fact, of the wide spread variety of this form of life in geological ages, and of a like and identical variety at this present moment. In fact Mr. Darwin's idea of the changelessness of form arising from worthlessness or otherwise, in the history of Diatomaceæ, and

* Encycl. Brit. "Diatomaceæ," O'Meara, vol. 7, 171.
Dana's Geology, 210.
Microscopic Objects, Wood, 108.
The Microscope, Carpenter, 326-328.

above all in Rhizopodian history, places him in direct antagonism with his pupil Mr. Haeckel. For Haeckel begins his generations of life with a Rhizopod—the primordial Amœba; and his whole theory is based on the supposition that primordial Rhizopodian life has undergone development and selection, as distinctly as the higher grades of living organisms.* Thus Mr. Darwin teaches that Rhizopod life is practically worthless, consequently unchangeable, and Mr. Haeckel makes it the foundation of all change. There is another, and an older theory worth thinking over, that Rhizopods, Diatomaceæ, etc., are unchanged, because *God* designed they should be unchanged.

Mr. Darwin does not devote much thought to the renowned mollusk, the *Lingula*. He admits that the geological *Lingula* of the lower Silurian, “does not differ materially from living (existing) species,”† but he does not notice this antagonistic point as carefully as others. The fact is, that the *Lingula* of the lower Silurian is the unchanged *Lingula* of the Permian period, and the *Lingula* of both ages is practically the same *Lingula*, that to-day clings to the rocks of the Indian Archipelago.‡

* *Evolution of Man*, vol. 1, p. 141.

† *Origin of Species*, 286.

‡ Dana, 81; Figuer, 175.

The same may be said of the *Discina*, *Rhynchonella*, *Crania*, *Nautilus*. These genera of long lineage, reach through all time from the beginning of life, and furnish an irresistible argument against Natural Selection, through the changelessness of their organizations.

IV.

THE OBSTACLE OF GEOLOGY.

There is no question but that geology is inconsistently handled by evolutionists. Whenever it can be of use to Mr. Darwin he uses it as an authority. "Rarity, as geology tells us," he says, "is the precursor to extinction."* "How largely extinction has acted in the world's history, geology plainly declares."† "Nor does geology at all lead to the belief that most fishes formerly possessed electric organs."‡ On the other hand, where it comes down with the force of a sledge hammer on the absence of intermediate links between fossiliferous species, then geology is attacked all along the line. Mr. Darwin says, "for my part I look at the geological record as a history of the world, imperfectly kept, written in a changing

* *Origin of Species*, 85.

† 103.

‡ 151.

dialect ; of this history we possess the last volume alone, relating only to two or three countries. Of this volume, only here and there a short chapter has been preserved, and of each page, only here and there, a few lines."*

All that he has written, however, against the geologic record cannot explain reasonably the startling fact, that the universal loss is that of *links* between species. Given fossil A, and fossil C, presumed to be the result of fossil A's evolutionary power, where is fossil B, the intermediate link? Where are the ten thousand times ten thousand links that, if Natural Selection be true, must have united the lowlier parent and higher child? The supposed links are almost all lost, whilst the forms of life that they are presumed to have united, are found imbedded in the rocks, perfect as if carved by the hand of a cunning workman. Thus Palæontology is the avenger on the track of the evolutionist. Science, practical, with fossil in hand, contradicts science, hypothetical, with theories in head.

* Origin of Species, 289.

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V.

THE MAMMALIAN PERIOD OBSTACLE.

Mr. Darwin has written two singularly interesting chapters, on the dispersion of plants and animals during the Glacial period, or the Mammalian Age of the final geologic time. But he has failed to notice a fact connected with this age, which seems to tell with tremendous force against the whole hypothesis of development. Instead of the number of species and individuals having increased since that period, they have decreased.* Instead of the species developing into greater, stronger, nobler forms, they have decreased in size, and power, and stature. The existing elephant, rhinoceros, hippopotamus, ox, elk, tiger, lion, deer, horse, hyena, bear, are inferior in every way to their gigantic forefathers. Mammalian culmination was in the Post Tertiary period, and Mammalian degradation seems to have been the rule since then.

* Dana, 230.

VI.

OBSTACLE FROM CHAOS OF EVOLUTIONARY OPINION.

“You cannot stay the onward progress of the evolutionary theory,” is a common remark. We might ask, which theory? following our question with a concise list of such opinions.

Mr. Darwin believes in a Creator who created forms, out of which Natural Selection evolved everything.

Messrs. Haeckel, Büchner and Voght believe in “spontaneous generation,” as the Alpha; in natural selection, as the Omega of life.

Mr. Herbert Spencer believes in “an inscrutable, unintelligent, persistent Force,” which lies outside the region of thought.

Mr. Huxley denies indignantly that he is “a materialist;” but he writes so like one that it is very hard to refrain from classing him with Haeckel, etc., on the question of Natural Selection.

Mr. Wallace agrees with Mr. Darwin up to the creation of man, but teaches that the Creator came into action in the creation of man's *body*.

Mr. Mivart avails himself of Natural Selection, but teaches that God made man's *soul*.

Kolliker, though an evolutionist, teaches that the development of the human race from the animal kingdom, as read by Darwin and Haeckel, does not represent the truth.

Voght, formerly endorsed wholesale Darwin's "Origin of Species;" he now states that "it is impossible to prove an ancestral series of development further back than apes," and he assails Haeckel's theory, "that man is the grand result of Primitive Protozoa, developing into Primitive Gastrea, and Gastrea into Primitive Worms, and Worms into Radiates, Molluscs, Articulates and Vertebrates." The desertion of Voght from the Haecklian School is a sore blow to German evolutionism.

PRACTICAL CONCLUSIONS.

The object of the writer has been that of bringing before his readers the following facts.

1. The hypothetical character of Darwinism.
2. The palpable assault it makes on the doctrine of God's Design in the perfecting of species.
3. That judged as a hypothesis, it is open to grave objections from practical science, the experience of life, and from the contradictions of its highest apostles.

That these three points are well worth the careful consideration of those who give a general, though perhaps, not a student-like approval to Darwinism must be apparent to all. The roughly expressed opinion of the collegian, "that Darwin had knocked Moses as high as a kite" is the general opinion of hundreds whose study of the hypothesis has been very limited and altogether one-sided. But such is not the opinion of some of the ablest scientific writers of the day; and it is only honest, and fair, before men express opinions favourable to views, that boldly assail the Design and Providence of God's work, that they

should read both sides of such a tremendous question, fraught as it is with such awful consequences. That there are two scientific sides to the question is bravely admitted by Mr. Darwin, with his characteristic honesty, and bitterly admitted by Mr. Haeckel with his characteristic bluntness, as may be seen from the following quotations :

“I am well aware,” writes Mr. Darwin, “that *scarcely a single point* is discussed in this volume on which *facts* cannot be adduced, often apparently leading to conclusions *directly opposite* to those at which I have arrived.” (Darwin’s *Origin of Species*, page 2.)

“With a *few* illustrious exceptions,” writes Mr. Hackel, “*most* physiologists have paid very little attention to the theory of descent, and to this day some of their *most renowned leaders* look on this most important biological theory as ‘*an unproved and baseless hypothesis.*’” (Haeckel’s *Evolution of Man*, 3rd edition, 1876, Vol. i, page 166. Appleton, N. Y.)

Such are the confessions of the great evolutionary leaders. Confessions that are substantiated as “good confessions,” by the following quotations from two of Mr. Darwin’s earnest opponents : Dr. Dawson, Principal of McGill College,

Montreal; and Dr. Dana, Professor of Geology and Natural History in Yale College.

Dr. Dawson, whose name is mentioned by Mr. Darwin as an authority on the subject of Eozoon,* and whose reputation as a geologist is fast assuming the highest European recognition, thus speaks of the hypothetical laws of Darwinism. After showing how they dispense with the action of Divine Power; and conflict with Revelation on the subject of man, etc., he says: "But for these applications of it, the Darwinian hypothesis would be a harmless toy for philosophical biologists to play with.† It rests merely on analogy, and on its power to explain easily a great variety of phenomena, *provided its premises are granted.*"‡

The opinion of Professor Dana, to whom Mr. Darwin refers as "the highest authority"§ on Crustaceans, is well worth consideration.

"Geology affords no support to the hypothesis that species have been made from pre-existing species, and suggests no theory of development by natural causes."||

"It has no facts sustaining the notion that man was made through the gradual progress or im-

* Origin of Species, 287.

† Nature and Bible, 142. ‡ 144. § 338. || Dana's Geology, 258.

provement of some of the apes, and much less does it favour the hypothesis, that the whole system of animal life is nothing but a growth from one, two, or more original species, one changing into or evolving another through a method of development, as supposed in the development hypothesis."

"Geology testifies to the fact, that plants and animals have come into existence in a long succession of species. *It demonstrates the oneness in plan and purpose of all nature, and thereby the oneness of the Author.* It points to boundless wisdom in every step of progress, and with increasing distinctness as the era approaches when man should appear and receive the Divine command, "subdue and have dominion." *But it directs to no cause of the origin of species, but the Cause of causes,*

*THE INFINITE GOD.**

* Dana's Geology, 259.

