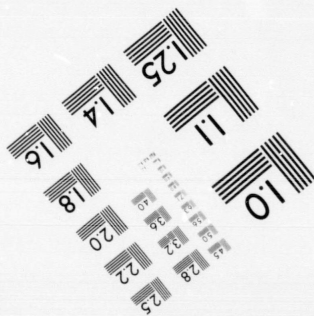
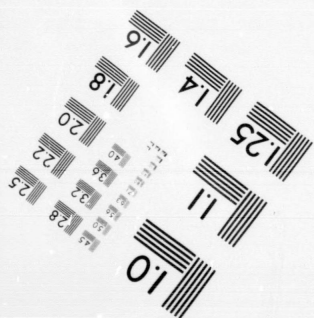
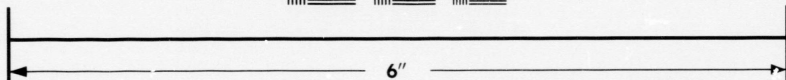
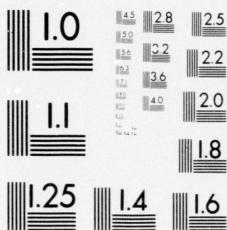


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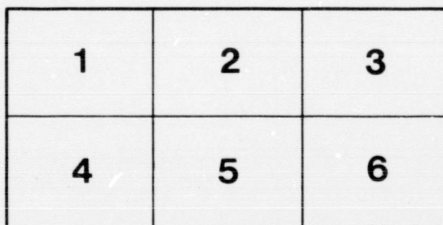
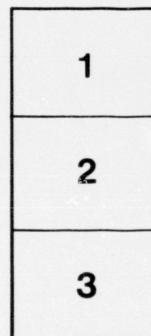
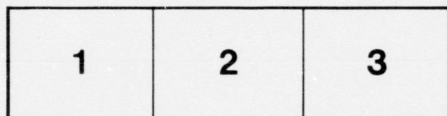
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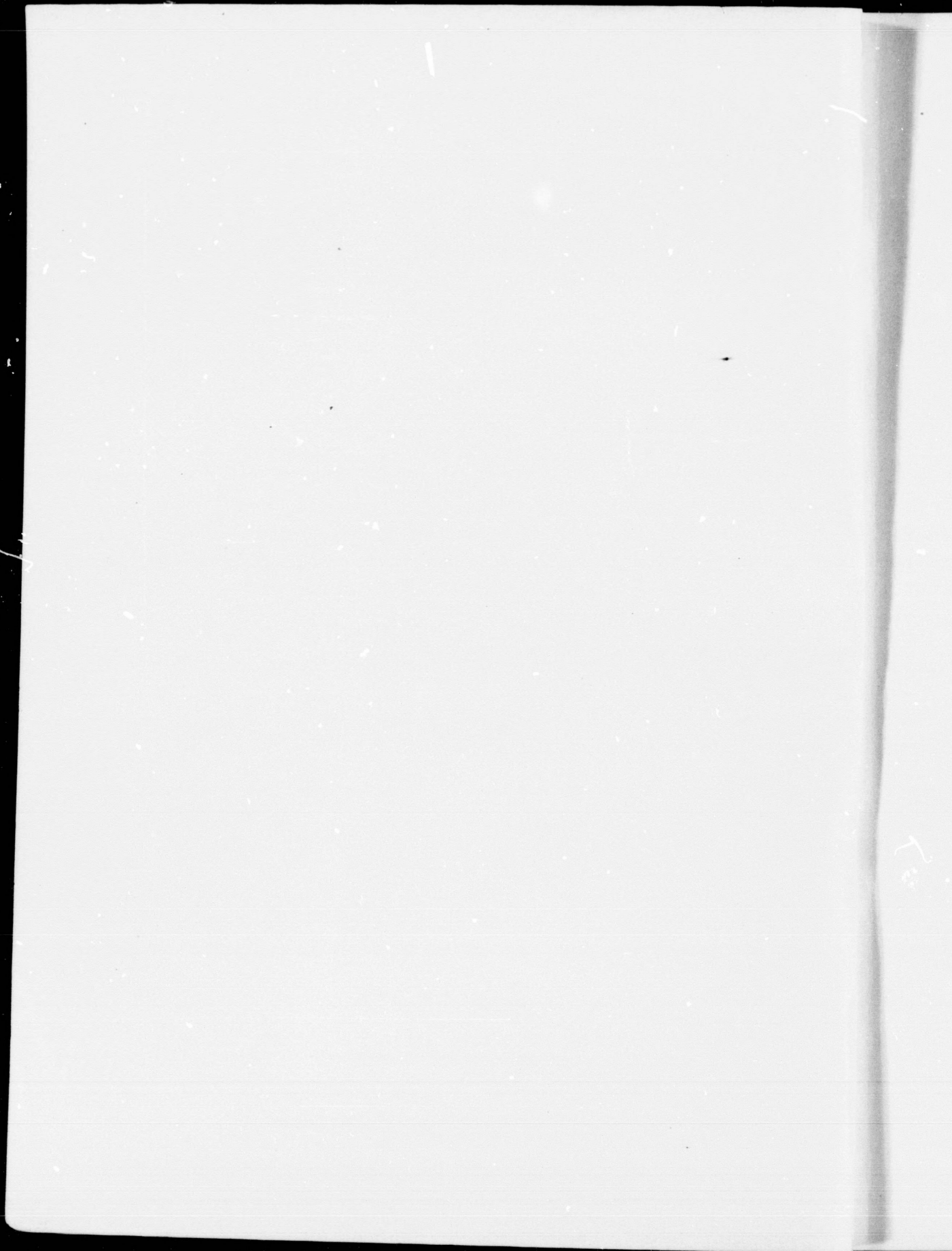
THE

HYPOTHESIS OF EVOLUTION

A PLEA FOR DIVINE INTENTION IN CREATION.

By JAMES CARMICHAEL,
Dean of Montreal.

MONTREAL:
PRINTED BY THE GAZETTE PRINTING COMPANY.
1898



THIS pamphlet is not meant as an exegesis of the account of creation given in the first chapter of the Book of Genesis, although the principles contained in that account have been ever present in the mind of the author as he wrote. For, apart wholly from the descriptive language of Genesis, there are great principles in its account of creation that cannot easily be explained away, and that should not be ignored. These principles are as follows: First. The Divine Mind lies behind each great creative act; nothing moves until the command is given "Let there be." Second. Forms of life, vegetable or animal, appear according to their respective "kinds," their permanence and reproduction being provided for in the organization of each primary form. Third. Man is described as a special creation, and as such appears on the scene, physically and mentally a complete personality, able to receive and understand commands as a responsible being. Fourth. There is not one word said as to how God "created" and "made," the record only giving us results. Consequently, a fair and wide field of reverent


speculation lies open to scientific minds as to the Divine institution of natural laws, as to the Divine use of such laws in acts of creation, and as to the creation of primary specific forms existing under such laws, and capable of producing varied sub-forms within the limits of each specific kind—grass producing varied forms of its kind, and winged fowl varied forms after their kind. But all such reverential speculation must, if it logically desires to link God with creation, do so in connection with the willing acknowledgment that the “endless forms, most beautiful and most wonderful,” with which nature abounds are the offspring of the Divine will and not of the unintentional and unguided working of blind and mindless laws.

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A PLEA FOR DIVINE INTENTION IN CREATION.

BY JAMES CARMICHAEL,

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THE ORIGIN OF THE SPECIES BY MEANS OF
NATURAL SELECTION.

The Darwinian hypothesis of Natural Selection 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.¹ The process of this evolution begins with what is called "the struggle for existence," "life being 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 favorable in their organization, must overcome the weaker; the

¹ Origin of Species, p. 429.

weaker die out, and the stronger are preserved. "This preservation of favorable variations, and the destruction of unfavorable variations," Mr. Darwin calls Natural Selection.

Now, how does this supposititious Natural Selection work? Mr. Darwin takes for granted that it is governed by a law, incessantly ready for action, called the law of Natural Selection, which works as follows: Each profitable variation is for the benefit of the form possessing it, giving it an advantage over its fellows in the struggle for existence, as it is less likely to perish than those who do not possess it, and as a rule it seems as if it were selected to live, and preserved to live. The result of this 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 animal itself; so that in time through almost imperceptible changes a new species of animal life may be produced. In other words, the law of Natural Selection, working in and through the battle-field of life, is ever tending to produce new forms of life, and has produced all the forms that have existed in the past and exist to-day.

This hypothesis has been worked out genealogically by Haeckel in his "History of Creation."¹

¹ Vol. ii., 278.

He divides life into twenty-two stages, beginning with a formless morsel of living albuminous matter styled a Monera, and ending with Man. The lower forms through Natural Selection produce worms, worms fishes, fishes newts, frogs and other Amphibia, Amphibia primary mammals, primary mammals apes, apes ape-like men, and ape-like men, men. This genealogical table is a singularly ingenious piece of workmanship, but it has to be borne in mind that it is purely imaginary, as eighteen out of the twenty-two links are acknowledged by the genealogist to be necessary assumptions.

The method whereby Haeckel claims that Natural Selection works in producing new species is very clearly stated. He cites the case of a number of plants of the same species growing together in a very dry soil. In this case the hairs on the leaves of the plants are useful for receiving moisture from the air, and, as a consequence, the less hairy leaves perish, and the more heavy will be propagated, and their descendants will be distinguished by stronger and thicker hairs than the individuals of the first generation. If this process is continued for several generations in one and the same locality, there will arise at last an entirely new species; for the increase of hairs on the leaves cannot go on without at the same time producing changes in other parts of the plant.¹

¹ Vol. i., 165.

Now, there is nothing necessarily antagonistic between a method such as this for creating varieties of any one species, and the idea of Divine Intelligence ordering and working through such a method, except the tremendous fact that advocates of evolution, as it is generally advocated and taught, will not admit the idea of Intention into their hypothesis. Darwin, writing against the idea that detail of structure was made for the good of its possessor, says: "Some believe that many structures 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."¹ 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."²

Haeckel declares that "the much talked of purpose in nature" has really no existence except for superficial minds." He also says: "Whilst we emphatically oppose the vital view of animate creation which presents animal and vegetable forms as the production of a kind Creator acting for a

¹ Origin of Species, p. 159.

² P. 404.

definite purpose, or of a creative natural force acting for a definite purpose, we must, on the other hand, decidedly adopt that view of the universe which is called the mechanical or causal."¹

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, 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."²

Hence apparent acknowledgments of the Divine Being and the use of the word "Creator," in the face of statements such as these really amount to very little, and have been always regarded by continental evolutionists as a weakness in their English contemporaries. Thus Carl Voght states "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,"³ and Buchner "that

¹ Vol. i., pp. 9-20.

² Lay Sermons, 330.

³ Lectures on Man, vol. ii, 260.

it is an atheistic theory based on accidental operations.”¹ Whatever Mr. Darwin's mind may have been when first he broached the hypothesis, it is clear that his reverence was not passed on to his disciples.

WHY AN ARGUMENT BASED ON DIVINE INTENTION WAS
EVER USED AND WHY MANY STILL USE IT.

The tone of evolutionary advocacy, apart from Mr. Darwin, has ever been that of the profoundest faith in the impregnable strength of the hypothesis, coupled with a feeling of pity and sometimes open contempt for those who are still foolish enough to claim that nature bears on it the signs of Intention. The advocates of Evolution appear to forget that advocates of Intention must have some very strong reasons for not falling in with the modern view, however captivating it may at first sight seem. Many of these are by no means unintelligent or ignorant men, and some of them have been and are men of might in the scientific world. Not a few of the former have followed the history of the hypothesis from the year 1859 to the present with the keen interest of intelligent readers, and have entered on the study with unbiased minds, and yet thousands of such men to-day are not only unconvinced as to the truth of the hypothesis, but are reasonably sure that, as stated, it does not furnish

¹ Lectures on Darwinism, vol. i, 125.

a correct idea of creation. Now, there must be some very strong reasons for this position apart wholly from the Biblical reason, which, thank God, is not yet "turned out of doors."

The first reason is that, however it has come about, the universe, the world and man have gathered around them and in them an appearance of object, order and method that, if not intentional, is the most extraordinary harvest of "fitness, full-orbed and radiant," that the mind of man could think of. Even admitting that the human eye is not a positively perfect instrument, still it is sufficiently perfect to prevent any evolutionist thirsting to lose it, and as an organ is in its way not only a singularly contrived one, but in every sense a useful and valuable one. If the eye was not intended to be what it is as an organ; if it was not intended to see with; if the crystalline lens was not intended to produce distinct perception of form and outline, or the retina to receive the impression of luminous rays; if the mathematical accuracy which adjusts its parts together was never intended to be accurate; if no such adjustment was ever thought of; then the eye is one of countless evidences to be found in nature which should teach us that the best yet slowest way to perfect any instrument composed of parts is to give no thought to it whatsoever, but to leave it all to chance. Because the trouble with organs such as the eye, the

nose, the mouth, and with such things connected with nature as the seasons, tides, celestial movements, etc., is their delusiveness; for they all seem as if they were intended to do what they do, and to perform the functions they fulfil. Mr. Darwin felt this so strongly with regard to the eye that with characteristic honesty he acknowledged that "to suppose the eye with all its inimitable contrivances, etc., could have been formed by Natural Selection, seems, I freely confess, absurd in the highest degree."¹ This very confession bears out the thought that weighs heavily on many non-Evolutionists, Why should it seem absurd? Because the eye seems to be "an inimitable contrivance for adjusting the focus to different distances, for admitting different amounts of light, and for the correction of spherical and chromatic aberration." It seems to be all this; whereas, according to Evolution it was never intended to effect any of these things, and the appearances which would lead ordinary people to suppose it so intended are delusions. Now, admitting Natural Selection as the main agent of creation, then this delusiveness runs through the whole of Nature. As a rule things seem to be made with a purpose; the earth appears to have been intended to enfold and mature seed, the sun appears to have been intended to give light and heat; air appears to have been so mixed as to be useful for

¹ Origin of species, p. 143.

breathing, and the function of respiration appears to have been so ordered as to permit oxygen to penetrate the substance of living organisms; in short, there appears to run through all nature a dependence of things upon each other which implies a planned system of Nature. But according to Evolution there never has been anything approaching a plan. Nothing was intended to be what it is, for all forms arise from profitable variations in original forms, and the original favorable point in the variation was never an intentional point; consequently all this seeming order was never ordered, and this seeming dependence of things upon each other was never intended; but things in earth and sea, and air, are what they are under the action of dead, senseless laws, without mind behind them.

Now thousands of intelligent people cannot believe this. They find no analogy for such a hypothesis in other things. They know that their business will go to pieces if mind is not behind it, and in it; that home will never arrange its order without mentality; that chaos, and chaos only, can be the result of mindlessness. And what strikes them primarily here is, that notwithstanding this evidence, or that, in favor of Evolution, the universe as a whole seems ordered, and they cannot believe that such order as exists was never thought of until the mind of man realized its wide-reaching evidence.

And this state of mind on the question is strengthened by the fact, that so ingrained is the idea of

intelligence in the constitution of nature itself, that evolutionists are literally forced, in describing the working of Natural Selection, to speak of it as if it were an intelligent power, and its effects the result of mind. Thus a person taking 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 Intention in Nature. The object of the work, he says, "is to show the contrivances by 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. So with Mr. Spencer. On one page of his work on Biology we read of "a conducting apparatus," "mechanical motions," "coordinating apparatus," "inner forces fitted to counterbalance outer forces," etc. The reason for this peculiarity is plain; unintended things are so like intended things that the only possible way to describe them is to speak of them as if they were intended,—an utterly ridiculous position, but one that under the circumstances cannot easily be avoided.

Another very important reason why not a few intelligent persons, who are not scientific special-

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ists, cannot accept the hypothesis of Evolution is that their actual study of science in connection with the universe leads them to believe more firmly than ever in Divine intention as associated with the universe. For instance, they are told by competent authority that all Matter can be reduced to a fairly defined number of elements, each element being composed of ultimate Atoms—in fact, that the atom lies at the base of the universe. Now, if we could get at the characteristic of one atom, we ought to be able to realize whether mindlessness or intention is written on it, and this, marvellous as it seems, science has done. For atoms are wonderful things, moulding and guiding by their weight the proportions in which chemical bodies combine, and so constant is this combining ratio and proportion that as far as is known no chemical change can alter it; for it is as if it were stamped on each separate atom,—as if the whole combining power had been arranged beforehand. Hence the late J. Clerk Maxwell states "each atom throughout the universe bears impressed upon it the stamp of a metric system as distinctly as does the metre of the archives of Paris, or the double royal cubit of the temple of Karnac" Consequently, when we reach atoms we reach not only the foundation of everything, but the combined material of all things, and in connection with them, beneath everything, we find a metric

system, with the atom of each element adopted as the unit on which all measures relating to the weight and capacity of each element are based. That this great underlying system of ultimate weights and measures is the result of non-intention seems to many an utter impossibility; in no sense can they imagine it as the result of a natural selection of atoms; and, therefore, they seem shut up to the conclusion that these unalterable characteristics of atoms were instituted with an object, and as such imply the action of an intelligent mind behind them. And this position is strengthened by realizing how life itself depends on proportionate combination, how every breath we draw testifies to its necessity.

From the study of the Atom and its teaching, it is not hard for an ordinarily intelligent person to rise to some realization of the universe, which is composed of arranged atoms, and within which the united voice of all natural phenomena responds to what fairly may be called "mathematical axioms." Thus eclipses of the heavenly bodies respond to the voice of mathematics, and there is no calculation or prediction on the whole more certain. Step by step the astronomer forecasts the date of the eclipse, predicts its magnitude, duration and phases, calculates the motion of the shadow, and prepares charts exhibiting the motion—in

short, enables the public to know the whole record of the eclipse long before the event takes place. Now, this mathematical certainty on the part of the astronomer arises from the mathematical certainty that rules the heavenly bodies; the earthly figures and language are but the language of the spheres themselves translated by human mind and brought within the area of human appreciation. The translation is perfect, but only because the original speech is perfect—the language of a universe—the voice of order.

If it be acknowledged that the term "Mathematics" covers some of the grandest evidences of human intelligence, and that without Mind you could not possess or appreciate the science, and if it be further acknowledged that the universe, as far as we know of it, is so arranged and ordered that it forms one of the noblest fields that the mathematical mind can work in, then it certainly appears reasonable that the universe, which is arranged mathematically, must have resulted from Mind joined with Power, and that each must have been greater than the splendour of the universe itself. Inorganic nature cannot work out a mathematical problem, and organic nature furnishes but one representative that can do so, namely man, and man can alone do so because man is possessed of mind. Hence mind and mathematics must go

together, and if we find the universe responding to mathematical axioms, we are logically driven to the conclusion that the universe has been thought out,—ordered.

I know it may be replied “that the strength of the case for Evolution cannot be realized by general discussions.” This may be partially true, but surely a scheme of creation that covers the universe, and all that is therein, should admit of the fullest abstract thought being applied to it. Indeed, unless Evolution is to be received without any consideration, abstract thought is naturally the line of thought that will be followed by those who are not specialists in distinctive scientific fields. Such persons may follow with deepest interest the special arguments derived from Zoology, Botany, etc., but they cannot be expected to follow literally the actual working out of distinct cases placed in evidence; nor is it to be expected that they should hurriedly pin their faith to such evidence in the face of Mr. Huxley’s dogmatism with reference to the vitality of *Bathybius*, and his apology for his dogmatism, and of other cases by no means uncommon. Indeed, ardent specialists in Evolution are so dogmatically certain as to their special facts, that they forget that everything concrete is not yet discovered, and that what they teach dogmatically to-day, is subject to the revision

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of minds yet to think, and pens yet to write. Hence, abstract thought which cannot be paralyzed should not be regarded as having but little to do with the general hypothesis. It is the natural line of thought of non-specialists, and there will always be a majority of this class in the field.

WHY NATURAL SELECTION IS NOT UNIVERSALLY
RECEIVED.

It is felt by many that evolutionists are somewhat circumscribed in their ideas as to the factors connected with material things, although of late it is very plain that a younger school is breaking away into wider fields, and no doubt in due time Natural Selection will come to be regarded as a factor, rather than the factor. But why should a like privilege be denied to believers in Intelligent Creation? Admit the Intelligent Mind behind everything, and why seek to confine the will of that Mind in creating, to one method? Nature itself is full of diversity, and why should it be thought unlikely that a wide diversity of operations should have been active in creating that general object and order, which the Creator had in view from the beginning? Thus there is nothing to debar us from believing that amongst other agents of creation something akin to Natural Selection and heredity, etc., may have been used as agents, for the agents of creation are not described in the

general scheme of Revelation. What so many reasonably minded persons object to, is, that a perfectly unintelligent cause styled Natural Selection, through its undesigned working, and without any object before it, should have been the great factor in creating effects which, in the overwhelming majority of cases, are palpably characterized by object and order.

But the main obstruction to Natural Selection, as the most important agent in Evolution, is found in its first act towards overleaping species, and commencing that series of variations which may result in a perfectly new species. Take for instance the commonly worked up case of a fish making the first step whereby it lays the foundation of that series of changes which results in the evolution of the frog. It is an easy thing for Haeckel to speak of Amphibia, which originated out of Gilled Amphibians, by accustoming themselves in early life to breathe only through gills, and later in life "only through lungs," which lungs had been developed three stages previously in a fish that had become "adapted to life on land," "whose swimming bladder had been transformed into a lung, and nasal cavity into air passages." All this reads smoothly, but ordinary, intelligent men naturally enquire as to the first act which finally led to a fish "becoming adapted to life on land." What brought

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the fish on land? It has been suggested that it came "in search of food," but this as a newborn instinct seems a most unlikely one; and certainly an unprofitable one, for the food that the land would supply to a fish accustomed to diet furnished by the sea, would not be likely to be nutritious, digestible, or agreeable. If on the other hand it was flung up on the shore by an angry tide, is it reasonably probable that it would survive long enough to be drawn back by the returning tide? or if so, is it likely that it should be flung back again and again until at last it would become "adapted to life on land?" Further, admitting such a singular experience possible, what about the first act of striving to balance itself, and stand on fins? For the pectoral and ventral fins are as a rule singularly delicate organs, wholly unable to bear the bulk weight of the body they are attached to, and if used as supporting organs would require a perfectly new instinct guiding their use; for naturally a paired fin works simultaneously with the action of the tail, *i.e.*, when the tail guides the body towards the right, the right pectoral fin acts in unison with it, the left remaining pressed close to the body. And this line of thought holds good in spite of the fact that certain fish, such as Blennies, possess fins adapted for walking on the sea bottom, no necessary reason being to hand to lead us to suppose that the first form of this description was not made to do so.

What strikes one, therefore, in this connection is that, under any imaginable circumstances connected with this first step, the fish, instead of presenting some favorable variation for Natural Selection to lay hold of, would be so unfavorably circumstanced that Natural Selection would have no room to work in at all. And yet everything connected with the evolution of a new species from the fish depends on this first step.

The same may be said with regard to the first step connected with Mr. Darwin's theory as to the evolution of the eye. "A nerve comes to be sensitive to light. How, does not concern us." But surely the fact of a nerve which never before was sensitive to light gradually or suddenly becoming sensitive would place the subject itself at a disadvantage as compared with its fellows, who were perfectly free from the fiery neuralgic pains that in the nature of things it would be likely to undergo. If the subject could hold out, and create an advantage to itself that it might pass on to its children, other steps in evolution might take place; but what possible advantage could a seriously inflamed nerve be to its possessor? One could understand how a partially developed eye in the head of a sightless creature would have certain limited advantages, and how an advanced eye would have greater advantages; but the inflamed nerve, the initial eye state, cannot produce one solitary advantage,

and consequently would not be likely to be passed on. Mr. Darwin spreads the process of eye evolution over "millions of years," so that we may allow at least a thousand years for the inflamed nerve period, during which a succession of animals would be born with inflamed nerves in their heads that would be perfectly objectless and useless, for the simple reason that in this initial stage it would not tend to produce an image.

This same objection as to initial variation is to be found in almost every field in which Natural Selection is claimed to be the main agent of Evolution. Everywhere the subject seems placed at a disadvantage. Thus, it is perfectly true that the stripes on a tiger aid it in creeping on its prey and hiding from its enemies; but would the initial marking have been an advantage? Would it not rather have been a dangerous peculiarity, and, as such, a disadvantage? There are certain human birth-marks that often discolor the faces or necks of individuals. As compared with the whole skin of the body, such marks are mere spots, but these spots are so different from the ordinary appearance of the necks or faces of others, that one such marked man moving about in a crowd of people may easily be followed by the eye of an onlooker overlooking the crowd, simply because his appearance is peculiar. In the same way, initial marking on a tiger would mark it as peculiar, and its chances of life under many

conditions would be impaired rather than improved. Hence, Natural Selection does not seem to account for the final markings on any animal where the initial markings would constitute a dangerous peculiarity.

Countless obstacles appear against the general principle of the working of Natural Selection in the evolution of complicated organs, the evolutionist doing exactly what he accuses the believer in the miraculous of doing, *i.e.*, taking for granted the power of the creative instrument. In Mr. Darwin's description of the evolution of the eye, Natural Selection seems as if it were a person endowed not only with a perfect knowledge of organic needs, but owner of a storehouse of articles, out of which all these needs can be met. He speaks of Natural Selection as "always intently watching each slight alteration in the transparent layers, and carefully preserving each which, under varied circumstances, or in any way or in any degree, tends to produce a distincter image." Fluid is needed to fill spaces, and it is provided; layers of tissue of different densities and thicknesses require to be placed at different distances from each other, and they are so placed. And this aptness of chance provision runs through every organ claimed to have been perfected by Natural Selection; the evolution proceeds, and as it does so its wants are many, but they are al-

ways met, and met so aptly that in time the organ is perfect.

THE LAW OF NATURAL PROTECTION AND THE LAW
OF EQUALIZATION.

Mr. Darwin stakes the main work of the development of life on Natural Selection. Given the struggle for existence, the strong and the weak taking part in that struggle, the weak going to the wall, the strong selected to survive through Natural Selection, and every species of animal and vegetable life is accounted for apart from Intelligence or Design in any form.

Now it is admitted that there is evil, and sorrow, and a struggle in the world, but such admissions do not of necessity lead to the consequences claimed by evolutionists. For it is perfectly clear that Natural Selection is not an irresistible law, sweeping on its ruthless course without let or hindrance, crushing to death what it regards as unfit to live, and preserving what it considers possessed of things favorable to life, but one of many laws, and like all laws bounded and circumscribed by the action of other laws. Admit that what is called the law of Natural Selection exists; as an active power it is palpable that its undue influence is guarded against by the due action of at least two other laws (probably many more), the law of Natural Protection, and the law of Equalization.

THE LAW OF NATURAL PROTECTION.

In the law of Natural Protection, we see a power which steps right into the struggle for existence, and instead of protecting the strong, seems ordered to protect the weak, that it may preserve and retain and keep them alive, and in so doing place a restraint on the ruthless working of Natural Selection.

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 alone in this and countless 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 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, in spite of all Mr. Wallace's efforts to explain it away. In the tawny color of the lion, that roams over sandy deserts; in the white bear, that lives amongst eternal

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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.

I am well aware that such protective characteristics as the last mentioned are claimed by evolutionists to be the result of Natural Selection, but, however that law may have been one of many agents in bringing about such results, it is clear that it cannot have been the main agent; for Natural Selection cannot reasonably explain how the Canadian rabbit and snow bird, the Arctic fox and ptarmigan are possessed of the power to change their colors to meet the seasons. Neither does Natural Selection explain the fact of the chameleon varying its color to suit that of the position it happens to be in, or the fact that a number of Central African insects possess the power of imitating the grass or foliage on which they light, in all the varied tinting of forest hues—bright red, claret color, brilliant yellow, tawny gold, dull yellow, etc. In such cases there must be some organic or deep-seated bodily influences at work, which enables the form to make

these changes, and a corresponding instinct which leads the form to make them. One can easily understand how a law like Natural Selection might improve a gift of this nature most materially, but it seems impossible to conceive how it could bestow it.

Further, it seems necessary to hold that this law of Natural Protection must have been exercised over man himself. If we adopt the theory of 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 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 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 as an unprofitable variety. But he, weak amidst the strong, survived and peopled a world.

Then explain it also how you will: as civilization and education advance, the irresistible working of Natural Selection is driven out before them everywhere. Even in lowest life, the hungry cry

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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 to 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. This power may be called Judaism, 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 Natural Selection, which only exists to crush out the weak and enable the hand of a man to snatch from the hand of a woman the last crust, that fairly divided might preserve the lives of both.

Where man is uncivilized the care of the weak runs as far as love and family relationship run, and sometimes is wholly absent with reference to the aged. In such a state of society Natural Selection might have a large field to work in, for the young, strong and well fed would possess great advantages. But where civilization exists the care of the weak becomes a national characteristic, and cities abound with Medical, Surgical, Maternity, Ophthalmic, Cancer, Consumptive, Contagious hospitals, meant wholly for the preservation of the weak, and with Lunatic, Blind, Deaf and Dumb and Orphan Asylums, Homes and Alms-houses for the aged poor, and a number of other institutions all carried on in the interests of the weak and the degraded, in the interests of that very class that Natural Selection, left to itself, would kill, or that the law of Equalization, left to itself, would palpably reduce. For although to a limited degree Natural Selection may work in an hospital, the gain arising from the highest skill brought to bear on the death rate of the weak is wholly on the side of a class of

life that, left to itself, would go to the wall; in other words the greatest barrier to Natural Selection is that noblest of all earthly professions—the Medical, and the higher its perfection in pathological, medical and surgical skill, the more crippled and confined the action of Natural Selection amongst the sons of men.

THE LAW OF EQUALIZATION.

In the law of Equalization we see another power which steps right into the struggle for existence and impedes the law of Natural Selection, by equalizing the chances of life or death, thus bringing the strong and the weak to an unmistakable level. In a limited pamphlet of this description it would be impossible to give full details of the working of this law, but the author can assure his readers that its working is as palpable amongst all classes of life as is the claimed working of Natural Selection.

In reviewing the methods by which death comes to various forms of microscopic life, apart from age or disease, one finds three methods, each of which bring the chances of life for improved and unimproved varieties to an equality.

1st. Wherever death becomes imminent to smaller forms, through their getting into strong ciliary currents, which convey them as food to the mouths or orifices of larger forms, death seeks the strong and weak, the healthy and sickly, the best

fitted and the worst fitted alike. Careful study of the action of ciliary currents proceeding from a form like that of a Rotifer, proves clearly that as a rule "there is no escape in that war," and that in exceptional cases where there is a chance of escape, the smaller and lighter forms on the margin of the current appear to be more likely to get free than the stronger, on the principle that in a river a chip is often stranded when a log is carried forward. The same principle holds true of the Rotalia and forms that seek food by threadlike protrusions of their bodies through shell orifices. As the threads of such forms are thrust into the water it is impossible to say what improved or unimproved form of animal or vegetable microscopic life they may come in contact with; hence the improved and unimproved run exactly the same chances of escape or death.

2nd. The second form of death is equally outside of discrimination, *i. e.*, death arising from fish feeding on the green substance covering stones and rocks in rivers, streams and pools, which substance is, according to the season, filled with Philodinæ, Vorticellæ, Melicertæ, Stentors, etc. Here the methods of fish feeding are wholly destructive of any kind of selection. Tadpoles, catfish, etc., browse over a given space till they clear out everything, and then move to another space, whilst

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chub, minnow, etc., as a rule tear off sections and strips teeming with life and bolt them wholesale.

3rd. The third method of death arises from the sudden or gradual evaporation of the water in which microscopic forms live. Here there is but little chance of escape save for forms possessed of the power of maintaining life under dry conditions (encysting) or for smaller forms. If an ordinary microscopic slide be evaporated it will be found, as a rule, the smaller the form the greater the chance of life, for large and powerful representatives of any species quickly melt out of existence, whilst smaller forms of the same species continue lively and vigorous, the last to melt out being the smallest.

Hence it may be claimed that, as far as general microscopic life is concerned, there are at least three widespread methods of death, which in some cases wholly paralyze, and in others materially limit the working of Natural Selection, by reducing the chances for strong and weak to an equality, or if there be selection, selecting the weak.

The same law plainly applies to a wide field of Radiate life, to those forms which cannot be said always to seek their food, but to whom it is largely brought. Such as sea urchins, star fish, sand stars, sea slugs, sand swallows, sea baskets, etc.

Wide as is the field of insectivorous life, there

are few if any departments of it in which this law of equalization may not in some sense be seen working, and wherever it works it paralyzes or limits Natural Selection. What will the fate of the fittest to survive be in the foliage of oak, beech, or poplar, when cockchafers leave the trees as bare as if they had never budded? or what prospect of survival is there for the fittest in any vegetable form when the larvæ of locusts, grasshoppers, etc., are hatched out and in their winged state begin their career of destruction? or what advantage has an improved gnat over an unimproved, as the dragon-fly suddenly swoops into a cloud of gnats? In the case of the deadly tsetse-fly of Africa, which works in defined belts, if there be any discrimination, it seems likely it works against the strong, for it follows the larger game and disappears with them. But there does not seem to be selection in personal attack, for, according to Livingstone, weak and strong alike suffer; and the same may be said of the attacks of whame and gad-flies.

Then many cases may be cited where, as far as life is concerned, a favorable variety of lower forms useful as food to Mollusks is in no better position than an unfavorable. In scallops, oysters, mussels, cockles, etc., the gill fringes are covered with cilia or hair-like processes, which by constant vibration create powerful and rapid currents, which, sweeping

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over the entire surface of the gills, hurry towards the mouth, in a perfectly indiscriminate manner, the living food supply. In the case of the Periwinkle, it grazes on marine pastures as cattle on land, feeding straight on, and swallowing everything within a given space, and in the case of the Northern Clio the almost countless suckers on its tentacles prove clearly that it is formed to make an indiscriminate onslaught on the tiny creatures forming its food supply.

The methods of gaining food characteristic of Fishes seem at first sight to support the hypothesis of the strong destroying the weak, for unquestionably a large proportion of the food supply of fishes is furnished by weaker forms of fish, *i.e.*, fish feed on fish. But then as a rule they feed indiscriminately, a method that destroys the chances of improved varieties of fish, forming food supply, escaping. Mackerel in feeding follow schools of herring fry, and swallow wholesale, and conger eels, sturgeon, the white shark, etc., are such voracious eaters, that they will swallow almost anything. Though whales, porpoises, etc., cannot be classified as fish, yet for temporary convenience they may here be regarded as such. In the case of the Greenland or Right whale, the destruction of life for food is not only indiscriminate but is enormous, one single mouthful meaning a rush of water that engulphs

thousands of crustaceans and pteropods, and as the Right whale seeks out shoals of these forms the wholesale destruction can scarcely be computed, and much the same may be said of the Roquail and other whales, which feed mainly on squid and the smaller forms of cuttle fish. Porpoises also follow shoals of mackerel, pilchards and herring, swallowing indiscriminately a mass of struggling life, and Dolphins feed in the same voracious manner on crustaceans and fish. One might as well speak of an improved variety of man having a chance over an unimproved in the rapids of Niagara, as of the chances of an improved fish when any of these larger forms swim through a shoal of small-fish life, filling and refilling their mouths as they proceed.

How far Birds exercise a choice in food material is open to question, but it is plain that, in many cases, no choice exists, and consequently the chances of life are equal as far as the prey of such birds are concerned. As the giant condor soars over a flock of fleeced vicunas; as owls make their sudden and silent foray on nests of young birds; as the night jar wings its way through a flight of moths; as the woodpecker clears the bark of a tree of the hidden insect life beneath it; as seed and grain eating birds consume indiscriminately, one finds it hard to fancy how under such circumstances Natural Selection could ever act.

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In the wide field of Mammalian life this law of equal chances is also apparent, the habits of many of the carnivora, as they seek for prey, precluding the influence of selection. As a rule, none of the great Cat family hunt or select their prey, but, lying in covert close to spots where other animals resort, spring from their concealment and deliver the death blow suddenly. When a hungry lion springs over the thorny wall of a zereba, it often leaps on the animal it kills, and having gained what is essentially chance prey, releaps the enclosure with its prey in its mouth. In the tiger, its lying in wait is palpable. It has no idea what prey may come within its reach; it waits and takes what comes. In short, of all these animals the chance of prey escaping through keenness of sight or swift-ness of foot is almost impossible, on account of the cunning of the animal in hiding and the rapidity of its attack.

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When we come to Man, we reach Mind, and may consequently look for selection in food supply, but, unfortunately for Natural Selection, Man will always select the best for consumption, not the weakest. The kitchen middens of Denmark, composed of oysters, cockle, periwinkle and mussel shells, prove very clearly that primitive man made a selection, but if he did, the best perished and the weakest survived. It is clear also from the nets

and hooks used by the lake-dwellers of Switzerland that they made their hooks large, and their nets wide meshed, in order to kill the very forms that Natural Selection would have preserved, *i.e.*, the strongest and best developed.

Then there are methods of obtaining food characteristic of savages, that if they do not destroy the best, bring strong and weak to an equal level of death or escape. Australian savages will surround a given space of bushland and drive great and small prey to the centre, where they slaughter them indiscriminately. Amongst some South American Indians fish is killed by throwing the narcotic euphorbia into deep pools, bringing all within the pools to the surface, and Chinook Indians draw salmon within reach of their spears by waving torches. In both these cases, narcotic and torch alike are instruments to bring about a wholesale, or chance harvest of the fish within reach.

Apart from early man and his food supply, one can see many ways in which the exercise of his will blocks the action of Natural Selection in the onward and upward development of the race itself. Sparta unquestionably helped the work of Natural Selection by training strong women to become the mothers of strong children, but its success as a breeder of physically powerful men was only a

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question of time, as it must always be with any nation that surrenders the flower of its manhood to war. No nation can go on century after century culling out its finest men as soldiers, and losing such soldiers in repeated wars, without lowering in course of time the physical standard of the nation. Hence the great secret of the almost total extinction of magnificent tribes in Africa and elsewhere where tribal wars were unceasing. And it is becoming even worse in our own day wherever the Christian feelings or diplomacy of nations cannot avoid war, for war with us is not an accumulation of individual deeds of brave men acting in concert, or bravery combined with military tactics, or a mere question of bodily weight; it is fast becoming a strife of military machinery. Artillery is meant to kill men, to reduce the living fighting force of an enemy. As it becomes a greater power, each nation must seek to obtain the power at its best, and behind it armies proportionately large, to bear its desolating fires, and yet be strong enough to follow up in charge, assault, or defence, its influence on the strife. Instead of time advancing the human race by Natural Selection in physical and mental strength, force and power, the drains that future wars must bring on the nations of earth cannot fail but to be injurious to the general advance.

It seems reasonably plain, therefore, that these laws of Natural Protection and of Equalization must in the nature of things retard the triumphant, irresistible progress of Natural Selection. But if that be retarded, and in countless cases completely paralyzed, then the main factor connected with Evolution becomes a limited factor, and falls into the comparatively subordinate position of many other laws, which, whilst doing their part to aid in supporting a general empire of law, cannot fairly be regarded in the light that evolutionists regard it in.

WHY THE INSTABILITY OF SPECIES IS NOT UNIVERSALLY
ACCEPTED.

The hypothesis of Evolution depends on the instability of species, the word species serving as "the common designation of all individual animals or plants, which are equal in all essential matters of form, and are only distinguished by subordinate features."¹ Until late years a species was regarded as a fixed state of animal existence, within which there might be great varieties, but a distinct existence having no hereditary contact with any other species, or as Linnæus wrote, "there are as many different species as there were different forms created in the beginning by the Infinite Being." This view Evolution rejects, holding the position that species has never been a stable state of exist-

¹ Haeckel, *Histry. of Creation*, v. 1, p. 41.

ence, but has always been capable through variations in structure, etc., of producing in long lapses of time perfectly new species; in short, that all apparently defined species as they exist are descended "from a single or a few primary forms."

Now, not a few intelligent people cannot accept this view, primarily for the reason already mentioned, *i.e.*, that to all appearance nature seems to have divided life into species. It has ever struck thoughtful minds so, and until late years the idea has not been seriously objected to; indeed, Haeckel admits that "the primary nomenclature of Linnaeus is still universally applied by all zoologists and botanists, and will, no doubt, maintain itself, for a long time to come, with undiminished authority."¹ It seems, then, but reasonable that before uprooting an idea of this nature, that the evidence produced against it should be not only of a most decisive character, but that it should also be supported by a vast number of widespread cases in favor of the newer idea.

Many who cannot receive the instability of species are well aware of the cases relied on by evolutionists in favor of the position that varieties of one species are "the incipient" elements of a perfectly new species,² how the species of fuschia, petunia, calceolaria, etc., have been crossed, how

¹ Histy. of Creation, vol. I, 40.

² Origin of Species, 86

the offspring of two distinct moths remained fertile for eight generations, how the hare and rabbit, under certain conditions, are fertile ; but they nevertheless feel that, even supposing such cases to be positively verified, much yet remains to be explained before the stability of species can be surrendered. Thus, not a few think that even some of the special cases mentioned need further investigation, for if Mr. Darwin states that "two such distinct species as the hare and rabbit produce fertile offspring," Mr. De Quatrefages states "that the experiment of uniting rabbits and hares has been tried thousands of times all over the world and the experiment is said to have succeeded twice."¹

But apart from such claimed cases, it is perfectly plain that a general law of Nature seems to preclude members of two distinct species being successfully married ; and that, where such union takes place, it is as a rule incapable of producing a permanent family ; indeed that where such unions are attempted, "in the immense majority of cases the marriage is sterile," or where fertile the offspring either cannot reproduce, as in the case of the mule, and the hinny, or the reproductive powers weaken as time advances and die out in a few generations, as in the case of the union of the canary with the goldfinch. Indeed, Mr. Wallace freely states this ²

¹ Natural History of Man., p. 24.

² Darwinism, p. 152.

when writing on the infertility of crosses between two species, striving to overcome the difficulty by somewhat carelessly speaking of "the vast mass of evidence." on the other side gathered by Mr. Darwin, which evidence, he claims, goes to prove that the infertility of two species is not a fixed law. This statement is directly contradicted by De Quatrefages in these words: "I might here accumulate a mass of analogous facts and details. But over them all would appear a great general fact including them, which is the expression of a law, and here is this fact: notwithstanding observations reaching back for thousands of years, and made on hundreds of species, we do not yet know a single example of intermediate species obtained by the crossing of animals belonging to different species;" in other words, "infertility is the law where animals of different species unite."¹

On the other hand, where different varieties of the same species unite, such crossings are singularly fertile, save where the relationship of varieties is very close and the unions repeated constantly in that close relationship. And this fact seems to many to account largely for the rich and varied differences that often exist between animals of the same kind, between the racer and the cart horse, the deer-like Jersey and wild cattle; for, although in such cases much is due to the skill of man, still the secret after

¹ Natural History of Man, 25.

all lies in the acts of progressive breeding within the bounds of one species.

This fact De Quatrefages expresses in the following words: "An animal or vegetable may vary within certain limits, but the dog remains a dog, whatever its general form, its size, its hair; and the pear remains a pear, whatever its size, its savor, and the colour of its skin." And these varieties may be transmitted to such an extent "that individuals of the same species cease to resemble each other in an absolute manner," but, "the dog remains a dog whatever its modifications."¹

Sir William Dawson takes the same position. He says: "It must be admitted that no case has been ascertained in which an individual of one species has transgressed the limits between it and other species. However extensive the varieties produced by artificial breeding, the essential character of the species remains, and even its minor characters may be reproduced; while the barriers established in nature between species, by the laws of their production, seem to be absolute."²

In the light of this contradictory evidence furnished by leading scientific authorities, it is not unnatural that many fairly intelligent men should not see their way to adopt readily the statement that species is, and ever has been, a fluctuating

¹ Natural History of Man, p. 16.

² Story of Earth and Man, p. 328.

state of life. Scientifically, it is yet plainly an unsettled question, with a great deal to be said against it. But if it is not settled, then the purely hypothetical character of all that is claimed for Evolution becomes apparent; for if species is not capable of breaking through its specific bounds, and in so doing creating new species, then Natural Selection can only work within species, and form new varieties of the species it works in, which, though not proved, is not impossible.

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."¹ Fossils of Rhizopods have been found in the Lower Silurian era,² and the chalk of the Cretaceous period is made mostly from their minute calcareous shell.³ 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 microscopic studies,⁴ or, as Mr. Darwin describes them, "things of wondrous and beautiful organization."

Mr. Darwin explains this crucial point by assuming that lowly forms have been preserved through inhabiting "confined stations," where they have

¹ Origin of Species, 99. ² Dana, 85. ³ Dana, 191. ⁴ Dana, 109.

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.¹ But surely, if the telegraphic plateau between Ireland and Newfoundland supports a continuous bed of stone, a thousand miles in breadth, mainly formed out of Rhizopod remains,² it seems hardly fair to assume that Rhizopod life existed within "a confined station" or 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, for Mr Darwin admits that the Eozoon of the lower Laurentian is a "highly organized" member of the group of Protozoa.³

The history and existence of Diatomaceæ are also hard points for evolutionists to explain. For fossil diatoms have been found 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.⁴

Mr. Darwin does not devote much thought to the renowned mollusk, the *Lingula*. He admits that the geological *Lingula* of the lower Silurian

¹ Origin of Species, 99-100. ² Dana, 265. ³ Origin of Species, 287.

⁴ Encycl. Brit. "Diatomaceæ," O'Meara, vol. 71. Dana's Geology, 210. The Microscope, Carpenter, 326-328.

"does not differ materially from living (existing) species,"¹ but he does not notice this antagonistic point as carefully as others. The fact is, that the Lingula of the lower Silurian is the 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.² For "the Lingula of the Cambrian rocks is but very little, if at all, different from the existing Lingula, and it has indeed been considered doubtful by some authors whether even specific characters could be assigned to distinguish some of the earlier from the later forms, separated by an interval of millions of years."³ The same persistence of type is represented in the Genus *Discina*.

CONCLUSION.

The foregoing reasons for not believing in Evolution constitute by no means the whole case against the hypothesis, but they are reasons present in the minds of intelligent people that cannot be answered by the arrogance or superciliousness of a class of evolutionists who regard every person that may differ from them as ignorant and wholly unacquainted with the hypothesis. The advance of real science can never be aided by such rash and unwarranted assertions.

¹ Origin of Species 293. ² †Dana, 81.

³ Distribution of Animals, Heilpron, 137.

Whatever is true in science will ever come to the front of its own native force, and needs not the paltriness of innuendo or open or veiled invectives to speed it on its way. It has been said that "theology is a grave-yard of dead doctrines"; and however false, such a statement leads to the thought that "science is a grave-yard of dead hypotheses." But science is not dead. Hypothesis after hypothesis might perish, but there has scarce ever been one that did not contribute something to the great advance, as calm, peaceful and undisturbed the Truth went on its way. And so it will ever be. There are few questions that have not two sides to them; time alone can settle on which the weight of truth lies. Give time, and truth must come. And when it comes, it will come as a fact that all will receive, though stripped it may be of a thousand fancies that heralded its birth.

