

THE VEGETABLE IN THE WITNESS BOX



ISLIP COLLYER

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FOREWORD

This book, *The Vegetable in the Witness Box*, was originally published in 1922 and has long been out-of-print. Since its publication, the Theory of Evolution has been so ingrained in the public education system as well as the Scientific Community that it is now taught as a fact. Opponents of the theory are dismissed as “ Christian Fundamentalists” on a par with people who believe in a flat earth. So confident are evolutionists in the correctness of their theory that one prominent scientist proclaimed, “ Evolution is a *fact*, fact, FACT !”. (Michael Ruse in *Darwinism Defended* 1982. p.58) [emphasis his].

In the present book, Islip Collyer examines the claims of “natural selection” : “survival of the fittest”; the struggle for existence” as they are put forward by evolutionists. The famous Professor of Zoology at Columbia University, Theodosius Dobzhansky, said, “The Modern Biological theory of evolution assumes that natural selection is the chief propellant of evolutionary change”. Sir Julian Huxley assures us, “ So far as we now know, not only is Natural Selection inevitable, not only is it *an* effective agency of evolution, but is *the* only effective agency of evolution”.

The argument in *The Vegetable in the Witness Box* is that however effective Natural Selection may be as a propellant in the *animal* world, it just simply does not apply to the *vegetable* world.

Many examples are given to demonstrate this fact. Thus the whole basis of the alleged propellant in the theory of evolution is shown to be without foundation.

A few changes have been made from the original text. Sub-headings have been inserted and some long paragraphs have

been broken up for easier reading. Certain key points which the author makes have been set in bold-face type.

The font of the text and the overall dimensions of the book, have been enlarged.

The front cover has been modernized. Otherwise the book is an exact replica of the original.

(Front cover design by Mary Morgan Pike)

INTRODUCTION

Introductions are generally tedious , but sometimes they are necessary. It seems inevitable in offering to readers these fragmentary lessons drawn from the Vegetable World, there shall be a short introduction to explain their origin.

Perhaps there is no need to apologize for the element of personal reminiscence which is almost bound to intrude, for although we are all ready to criticize the man of modest attainments who ventures on anything in the nature of an autobiography, it is nevertheless a fact that nothing interests us more. Certainly it is true that if a book or article is worth reading for itself, we are pleased to hear how the author came to write it.

Twenty nine years ago, when I first put on the name of Christ, there was already a marked tendency in the direction of Secularism. Instead of the brethren having to fight merely against religious error, with no weapon required but an open Bible, there came the need to strive against unbelief. Men who called themselves " free thinkers", although as hopelessly dependent on their leaders as any religious weakling could be, made themselves famous by the bold manner in which they attacked the Bible, using all the well-known arguments of infidelity.

During the same period the Evolution theory, associated with the name of Darwin, was becoming popular. As an American writer remarked, it supplied men with the reason for the unbelief that was in them. Exponents of Natural Selection, as opposed to Creation, were found in unexpected quarters. In debating classes and workshops, Darwin was attacked and defended by men who, at least, had one feature in common - a complete ignorance of the teachings of Darwin.

Under these circumstances it sometimes happened that in our reasoning with friends who attended Church or Chapel, our efforts to establish belief in the Gospel proved abortive, even though our arguments could not be resisted. Once loosed from anchorage, the boat became susceptible to the influence of any wind or current, and as the Truth involved a pull against the stream, our feeble efforts were inadequate. To change the metaphor: Faith in many men was so tender a growth that it could not bear transplantation. It could remain with at least the appearance of life while undisturbed in the soil in which it grew; but when torn up by the roots by enthusiastic but inexperienced gardeners, it was caught by the chilling wind of infidelity and killed before it could be replanted.

ANSWERS TO CRITICS

It was mainly through such sad results of our efforts that I was influenced to form a very ambitious project. I determined to write a great work demonstrating the superhuman character of the Bible. It was to be called *Vox Dei*. It was to present old arguments in a new form, and supplement them with arguments entirely new. The main idea was to state the case in such a manner as to secure the cumulative effect of all the reasons we can urge for the conviction that God has spoken. Many thousands of words were written and condemned as inadequate almost as soon as each section was finished. A large amount of incidental harmonies and analogies were noted on scraps of paper just as they were observed in the daily readings. I regret that in subsequent upheavals of our pilgrimage these scraps have been lost. Nothing came of this ambitious design, and many of the notes made in connection with it have been scattered or destroyed.

In connection with the same idea it seemed desirable to become acquainted with the best arguments that could be advanced in favour of the Evolution theory. It seemed to be

admitted on all hands that Charles Darwin had influenced the opinions of men more than any other writer of his generation, and although some semi-scientific critics were already beginning to suggest that Darwin was out of date, it was only in matters of detail that they criticized him. His main theory was then, and still is, after the interval of another twenty years, the only serious challenge to the old faith in a Creator. It is true Darwin did not deny the existence of God, and he even seemed to suggest a belief in the Creator as the Originator of the first simple forms of life on earth; but his whole theory of development was distinctly atheistic. He expressed the inward meaning of his theory when he confessed that at one time the argument of Paley for Design in Nature seemed conclusive, but that with the discovery of Natural Selection, that argument was overthrown.

DARWIN UNDER THE MICROSCOPE

Accordingly, I read the main works of Darwin with the closest possible attention, reading passages several times if necessary in order to be sure of grasping their meaning. Even the marginal notes in *The Descent of Man*, against the dullness of which students are warned in the text of the book, I read with painstaking attention.

The result of this study was unexpected. I became an admirer of Darwin, and I learned from him the elementary lesson in the art of controversy. Darwin was surely the most lovable and the most humble-minded of all the scientists. His patient accumulation of facts, his frank recognition of ignorance, even when his knowledge was probably greater than that of any other man living, and his moderate statement of the case, tended to make his arguments carry more weight than their substance warranted.

The supremely confident style which treats opponents with amused contempt and makes free use of the adjectives,

absurd, ridiculous and so on, is appreciated by shallow supporters who wish merely to hear a justification of beliefs they already hold. It is useful as a means to induce reasonable men to change their convictions. Darwin gives us a powerful lesson in the power of moderation.

While my admiration of the man grew, however, I became conscious that the theory he expounded was flouting the lessons that I was learning from Nature every day. For about eight years, dating from the time of my very early teens, my daily employment was in my father's fruit farm, and market garden. The lessons learned in connection with that work began to acquire a new meaning. Repeatedly it seemed that the opponents of Darwin missed the best arguments by dealing always with the animal instead of the vegetable world.

Repeatedly it seemed that Darwin's arguments and defences even when they appeared plausible as applied to the animal world, were totally inapplicable to plants. I was impressed with the growing conviction that I could write an essay which should not be a mere hash-up of arguments culled from books, but an elaboration of observations direct from Nature. Before long the work was started, and thirty or forty thousand words were written. After a few years some of the chapters were read to friends, and criticism was invited. The verdict was, that the arguments were most interesting and effective, but the literary style stood in need of much improvement.

On further consideration, I concluded that this criticism was just. The embryo work was, therefore, put back until opportunity should be found to re-write it entirely. Then came a sudden increase in business demands, with extra work of all kinds increasing at a faster rate than arrears could be worked off. The opportunity to re-write the argument has never arrived.

It is futile to wait for opportunity to do justice to such a subject. The arguments must be put forth just as they are, if they are to see the light at all. There is always the possibility that some readers may carry them further, polish them better, and by process of criticism and testing, clear away any errors and reveal the truth.

Islip Collyer.

THE VEGETABLE IN THE WITNESS BOX
CHAPTER 1
THE ISSUE STATED

In connection with almost all matters there are harmful extremes, and the truth lies somewhere between them. It is so with Evolution and Creation. There is the extreme of those who say there is no such thing as Evolution, and there is the extreme of those who, in effect, say that there is nothing else. It would be well if the distinction between the moderate central position and the two extremes could be borne in mind. Not only is a belief in a kind of Evolution quite consistent with a recognition of Creation, but it is a logical sequence of such recognition. It would be impossible to conceive a world of life, ordered by an intelligent Creator, which should exclude the possibility of variation or development. Imagine all men like perfect twins, quite indistinguishable from each other. Intelligence would decree that with all forms of life there should be infinite variety, within the bounds of its created capacity. The growth of the adult from the infant, the development of a chicken from an egg, and the improvement of a species by artificial selection, are all instances of Evolution; but in all these cases the full potentialities are innate from the beginning. It is an Evolution within the created capacity. It is thus quite possible to evolve a strong horse from a weak one; but quite another matter to evolve a horse of any kind from nothing at all.

THE MOTIVE POWER OF EVOLUTION

Before enquiring whether certain facts in Nature can be explained on the principles of Evolution, it is necessary to have plainly before the mind what motive power this theory has at its disposal, and, therefore, I will briefly enumerate the principal facts on which Darwin relies. It has been said that he taught the existence of an innate principle of development in all organic beings, tending to improve them. As a matter of fact, he only mentioned this idea in order distinctly to dissociate himself from it. Indeed, such an innate law of development would simply mean

Creation by Evolution, and would, therefore, hardly be regarded as a scientific conception. It has been said that according to Darwin, the need for a faculty developed the faculty; but this is rather a misleading statement of the case, bordering on the lines of the above-mentioned error. It would be more correct to say that he believed that if a faculty became absolutely necessary, all creatures which did not possess it would perish. If two animals possessed the faculty, and ten million did not, the ten million would perish and the two survive. I think we can hardly dispute such proposition as that.

Darwin believed that there was in all living organisms a tendency to vary, and just as man has taken advantage of this fact to develop different breeds and varieties suited to his purpose or fancy, so Darwin believed that Nature has acted in a slower but surer way to develop breeds suited to her own conditions. Thus man acts by artificial selection to preserve variations in his animals which are of advantage to man. Nature acts by natural selection to preserve variations which are of advantage to the animals themselves. It is claimed that many more creatures are born than can possibly survive, and **this leads to a struggle for existence, in which the weakest perish and the "fittest" survive.** A variation harmful to the creature will hamper it in the struggle for existence, and ensure a final extinction of all that vary in that way, while on the other hand, a profitable variation, however slight, will give to the creatures which will develop it an advantage in the struggle for existence which will enable them to survive, and pass on their advantages to a numerous progeny. Isolation from various causes will enable varieties to evolve on divergent lines and under new conditions, thus accentuating the differences and producing fresh species, and this weeding out and development carried on for an enormous length of time will produce changes and improvements as much greater than the changes effected by the artificial selection of man, as the history of the earth is greater than the history of man.

The fittest to survive are, of course, those most capable of surviving; whether from their strength, ferocity, armament, hardiness, cunning, or fecundity; and there are very many trifling

causes which might determine both the manner in which certain creatures might vary, and their capacity to survive.

USE AND DISUSE OF PARTS

Another extremely important consideration in the doctrine of Evolution is the use and disuse of parts. It is a fact in Nature that no one can deny, that the use of an organism tends to develop it, while disuse allows it to decay. We need only think of the blacksmith's arms, the cyclist's legs, and the pianist's lithesome fingers, to recognize that this is a principle of Nature which is every day being exemplified. It is a fact quite in harmony with the idea of special Creation, and it certainly does not find a parallel in machines which man is able to make. It might be claimed, without straining the point, that the law of development by use is an evidence of God. The Evolutionist, however, without attempting to explain the fact, regards it as a great assistance to Natural Selection.

SEXUAL SELECTION

Sexual selection is also supposed to have played an important part. By this is meant the selection of favoured or attractive individuals by the opposite sex, and the consequent more numerous progeny of those animals which proved fascinating. Sometimes superior strength or armament would be directly passed on in this way, as male animals frequently struggle for the possession of the females, and those which are victorious naturally have the more numerous offspring.

These are the principal forces on which Darwin relied for his theory of Evolution, but there are, of course, many minor influences which he supposed would largely affect the development of all organic beings. In his interesting works he brings forward multitudes of facts, some pointing in one direction, and some in another, and with admirable candour endeavours to meet the difficulties which he encounters. He brings forward strange instances of variations, correlated growths, and reversion to type, but the main argument is on the basis of the principles here briefly described. **Too many births, accidental variations, struggle for existence, survival of the fittest, and the**

development of parts and sexual selection, carried on during an immense period of time. Weak ones weeded out century after century, and profitable variations, however slight, preserved. Struggle with creatures of the same species, and struggle with species widely different, with famine and with pestilence, with fire and with flood. No better parentage than the forces of Nature from the time millions of years ago when the earth was first cool enough to live on, and apparently no better object than to continue the struggle until the earth is too cold to sustain life any longer.

Such is the theory that has done much to shake religious faith, and which in a subtle way will do much more. Such is the theory which is now taught in our science books, our cyclopaedias, and our newspapers; and gardeners are, I suppose, amongst others, called upon to accept in theory a doctrine which they will assuredly never put into practice.

It is important to note that the Natural Selection theory is distinctly atheistic. Some readers may object to this statement as Darwin was not an atheist in the ordinary sense of that ugly word. Atheism, however, simply means "without God", and Darwin did most emphatically rely on Natural Selection to explain Nature without God. Even man himself is regarded as the product of a million chances, so that the most rifling causes in the early days of life on earth might have turned the forces of Nature in another direction, and man would never have appeared.

It was the Natural Selection theory that made Darwin confess that the old arguments in favour of a belief in God had lost all their force so far as he was concerned. All creatures are regarded as the victims of natural laws which operate without any ultimate design, and which are no more interested in men than in maggots. The variations of the creatures are regarded as purely accidental, and the preservation of profitable variations is a natural consequence of the selfish struggle for life.

It is against this Natural Selection theory that I now write. It is totally unable to explain the variety and the perfection of the vegetable world. One might be a practical gardener and believe in Evolution; but it seems to me impossible

for anyone to be an intelligent cultivator of the soil and to accept the Natural Selection theory propounded by Charles Darwin.

CHAPTER II

WHEN THE VEGETABLE STRUGGLES TO EXIST

Our attack on the Evolution theory under this heading will not be in matters of doubtful detail. The very foundation principle of Darwinism invites a frontal attack from every gardener capable of applying the plainest lessons of his vocation.

The theorist who attempts to explain Nature without God relies on natural selection through the struggle for existence to account for the development of complex forms from simple types, and that struggle for existence which is to take the place of a Creator, is in itself a degrading process.

This grave objection to the atheistical theory of development has been frequently stated in connection with animal life. It has been pointed out that a great war has been known to lower the standard of a nation with a perceptible dwarfing of its manhood. Whenever creatures are subjected to a struggle for life so severe that many are slain, those that are left will inevitably be degraded. Even Darwin gives some unintentional illustrations of this fact. He refers to the great battles which sometimes take place among salmon, and he mentions the fact that after such struggles many of the fish may be seen swimming about in an exhausted and dying condition. Doubtless many of them would die, and surely it is obvious that those which survived would be weakened and less fit as a result of their struggle. The same argument would apply with even more force in the case of struggle for food. If the scarcity is such that many must die, it will be such that even those which survive will be degraded and rendered less fit to develop new powers.

This line of argument has been answered with some force of reasoning from the Evolutionist's point of view. It has been claimed that a struggle so stirs the energies of those who engage in it, and causes such vigorous use of parts, that more is gained than lost. A great conflict may exhaust and weaken even those who are victorious, but it arouses all their forces into such activity, that there is no permanent degradation.

THE STRUGGLE FOR EXISTENCE

With still more force of reason it is pointed out that the struggle of the wild animals is not incessant. Beyond all question a struggle takes place; yet the prevailing impression one receives from a study of Nature is that wild creatures are happy. The Evolutionist explains that the struggle is intermittent. Sometimes it is severe with a great deal of extermination. Anon it relaxes, and there is opportunity for the joy of animal life. There may be a war of extermination between two closely allied species, one of which is beaten out in the struggle. As soon as the war is over there is a period of healing peace in which the conquerors can enjoy their victory, while if there are any survivors of the beaten species they learn perhaps to grow accustomed to a new kind of life, with new food, which may have the effect of starting them on a new line of development.

Or, again, the struggle may be against famine, caused through a sudden cutting off of the usual supply of food. There may be a period of great extermination, and some measure of degradation for all who suffer; but if any of the creatures afflicted can find new food, and adapt themselves to new conditions, there will soon come a period of ease for them, and there will be a most obvious illustration of selection. So it is with flood or fire, or any of the visitations which cause animals to flee or struggle for their lives. For a time the fight is severe and many fall; but presently circumstances become more favourable, and as Darwin says, "the fittest survive and are happy."

I have no desire at the present time to urge this contention that the struggle for existence is a degrading one to animal life, or to enquire how far the argument is met by the answer here suggested. **All I desire to point out for the moment is that if we turn from the animal world to the vegetable world, the argument against the Natural Selection theory applies with tenfold force, while the answer from the Evolutionist's point of view does not apply at all.**

THE VEGETABLE WORLD

In the vegetable world the struggle for existence is always degrading, and there is no counter-balancing advantage in the matter of moral stimulus. In the vegetable world there is no such thing as intermittent struggle, with periods of rapid extermination followed by periods of ease. Plants do not walk about, quarrel, and then bite and scratch each other. There are no battles for food decided in a few minutes, and giving death to the vanquished and peace and plenty to the victor. Vegetables do not fly before flood or fire to seek life in a new land. They do not forsake their original homes and wander far afield in search of a better feeding ground. Their struggle is merely for light and nourishment, and in the place where the struggle begins, there, so far as the individual plant is concerned, must it end.

Even when the struggle is most severe, there is no rapid extermination. When one a plant has established itself, probably as a mere chance that dropped the seed on a vacant spot, it will generally ripen its seed, even if it is hopelessly outmatched in the struggle with its neighbours. And during this slow-moving fight for food and sunshine, cross-fertilization goes on indiscriminately between the strong and the weak. **Where is the opportunity for a natural selection such as may be urged with some show of plausibility in connection with the animal world?**

In the first stages of a new generation of plants it sometimes happens that a thousand seeds will be wasted and only one will grow; but there is no selection of the fittest or of the one that will produce the best plant. Seeds do not wander at will and make choice of the spot where they will take up their abode. They are scattered by chances which are not in any way related to the fitness of the plant that bears them. The well-plumed seed may be borne by the waves into the sea. The well-hooked seed may attach itself to the fur of an animal, and only be shaken off in the river or in the darkness of a cave where it cannot grow. The seed selected is the one that chances to drop on a vacant spot where it can find congenial soil. Then if it once makes root the probability is the plant will ripen its seed, however stunted and degraded it may be by the struggle for existence. And if a number

of such plants grow near to each other there will be indiscriminate fertilization between strong and weak, between those that vary and those that remain true to type.

HOW A GARDENER OPERATES

It seems strange that Darwin so frequently should have appealed to the analogy of artificial selection, as if there were a similarity between the methods of the gardeners and the methods of Nature. In point of fact, a gardener who desired to preserve a variation he had observed in one of his plants, and who proposed to encourage it by giving it a struggle for existence, would be accounted hopelessly insane. **The very first rule in the selection and preservation of favourable variations is to prevent the struggle for existence by every means that can be found to thwart it.** The gardener finds one plant among many showing variation in a direction that he approves. If he decides to preserve and develop this tendency he proceeds to protect the favoured plant from every adverse influence. It is as far as possible isolated; it is fed; it is protected from frost and wind; weeds and insects are given no quarter; and probably all other plants near to it are ruthlessly cut down. When the seed has been ripened and the time comes to sow for the next generation, this careful attention is continued unabated. Not a check of any kind must be given to the young seedlings by frost or drought, or lack of light. The young plants are pricked out so far apart, and then watered and tended with the utmost care to encourage the development of the new tendency. The gardener knows perfectly well that if there is a struggle for existence the plants will be drawn and weak and the leaves unhealthy. Under such circumstances the plant can hardly maintain the powers and characteristics that are native to it: how much less can it develop new ones!

It is a fact perfectly well known to all practical gardeners, that some plants which have been the subjects of much careful selection by man will lose the special characteristics bred into them if they are in any way subjected to the struggle for existence. Take two familiar examples B the Cauliflower and the Cos

Lettuce. The specially inbred characteristic of the one is to produce a compact and level head of flower. The selected peculiarity of the other is the tendency for the leaves to fold inwards, thus forming a solid and well-bleached heart. Keep the plants a good distance apart, free from struggle and well fed, and the majority of them will develop the qualities you desire to see in them. Give them a struggle for existence at any stage of their lives and away go the special qualities that have been so carefully selected. It is not only that the plants are stunted in growth; they lose the distinctive features they have acquired through artificial selection, and revert to the common stock from whence they came.

Perhaps a practical man who, in spite of his experience, was inclined to accept the teaching of Darwin, would explain that the reason these plants thus lose their peculiar characteristics is that any check to their growth makes them run to seed in accordance with a law that is evident throughout the vegetable world. This is perfectly true and I would like for a few minutes to examine the significance of that well-known law. Gardeners use an apt word to describe the haste with which plants will develop their seed when circumstances are adverse. They say for instance that the lettuce if checked in its growth by drought or overcrowding will "bolt." The word is singularly appropriate, for the effort on the part of a struggling plant to reproduce its kind is like the impetuous rush of a runaway creature.

Probably all who have ever taken any pride in a garden have had opportunity to observe this law. Perhaps you have had a bed of plants carefully tended and guarded against the struggle for existence. A near neighbour has carelessly allowed a quantity of groundsel to run to seed and send its winged messengers over the countryside. You, however, have taken such pains to keep the hoe busy, that you have no fear of any trespassing successfully on your ground. Then, perhaps, there comes a spell of wet weather and for a few days you neglect your favourite bed of plants. The next time you go among them you are amazed to find one or two of the hated weeds with flowers out and seed almost ready to blow away. Your plants have been given such a start, and were so completely appropriating the available light and sustenance

that the weeds have had a terrible struggle for existence. Here is the result of that struggle. The weed is stunted and weakly, but it has produced its seed in marvelously short time.

This law of Nature, aiming at the preservation of the species, is consistent with the idea of intelligent creation. It is a fact strongly suggestive of such a foundation. We need not, however, discuss this phase of the matter now. The scientist generally rules out such a consideration, and merely accepts each law as a matter of course, with all its effects and relations. We may be quite content to accept this law, and note its meaning. It is simply that when a plant has a struggle for existence, all its energy is bent to the one object of producing its seed. Variation, strange growth, and the development of new powers will only come when the plant has freedom from struggle. If the gardener wishes to select such a new variety, he encourages it by protecting it from every adverse influence, and feeding it in every way to promote growth. He knows that any check to its growth will immediately result in the full energy of the plant being bent to the production of seed. He knows that a severe struggle will utterly kill the new tendency, and probably degrade the plant to a lower level than that of the original stock.

Yet this principle of struggle and survival which the plant breeder seeks to avoid, is the force relied upon by the disciples of Darwin to explain all the wonders of Nature. It is supposed actually to take the place of the plant breeder in the great garden of the world!

It seems to me that if a gardener ever comes to accept the theory of Natural Selection as Darwin explained it, and if he embraces it as the great cause of development, it can only be because he has completely forgotten the first and most important lesson of his calling.

CHAPTER III

SELECTION MUST HAVE SOMETHING TO SELECT

Even if Selection could take place in Nature without degrading the plants by subjecting them to a struggle for existence, it would not move a step towards establishing the atheistical theory that has been so freely propounded. Selection must have something to select. We do not explain the origin of any of the articles of furniture in the house by saying that we selected it. If someone asks, "Who made the piano?" it is no answer to say, "I selected it." It had to be made and indeed completed before it was possible to judge of its merits and have any ground for making a choice. We have, indeed, encountered pianos of such quality that it would be difficult to believe that anyone on earth would select them, but there was never any doubt that man made them. Selection does not in any way contribute to the manufacture of an article. It only makes choice when the article is ready.

Sometimes Evolutionists have scornfully answered the man who believes in God. I remember one writer saying that such old-fashioned people were "continually trying to find gaps in the chain of Evolution in order that they might fill them up with God."

Perhaps there may be some grounds for the sarcasm. There has been a tendency in certain quarters to confine a conception of a Creator to those details in the law of life in which the development theory fails most obviously. To suggest that Evolution might produce monkeys but could not go further and produce men. When believers in a Creator are as timid and unreasonable as this, they are, perhaps, deserving of sarcastic criticism.

NATURE WITHOUT GOD ?

Strictly speaking, however, the case is almost the exact opposite of the atheistic critic's representation. Evolutionists say in effect, "Grant that there are living creatures in a world sustaining life. Grant that they are capable of growing and propagating their kind. Grant that they can pass on to their progeny any special peculiarities they chance to develop in themselves. Grant that they have tendency to produce variations covering in the aggregate the entire range of Nature's equipment, and we can fill in the

gaps without God." We may well ask, "Where are the gaps?" One might as well say that certain manufactured articles came into being without yielding any evidence of human intelligence because the machinery that makes them is so perfect that it can be worked by an unintelligent operator. We should say that the perfect machine gives more evidence of human brain power than would the handmade article.

For the moment, however, I do not desire to discuss these foundation principles. We are dealing more with details now. I do not admit that the marvels of Creation are diminished in the least degree by splitting the work into minute sections and looking at one step at a time. Many people, however, are under the impression that it makes all the difference. They cannot conceive of a chance variation producing a new and perfect organ; but they readily can accept the idea of such an organ being produced by easy stages, each chance variation in the right direction being selected by the "ever-watchful force" B the survival of the fittest. For the sake of the argument, then, we will recognize the distinction and raise the question as to what is involved by our proposition that "selection must have something to select."

Here, again, the opponents of the selection theory have used the argument in connection with living creatures. The wing of the bird has been cited as a test case. The bird cannot fly at all until it has perfect wings. It cannot gain an advantage in the struggle for existence until it can fly. Therefore selection could not begin until it has perfect wings, when, of course, the creative work would be complete. The Creationist calls this argument, **Uselessness during immaturity.**

The Evolutionist has felt triumphant in answering this argument. He has pointed out that there are some birds which do not fly, such as the ostrich. He has generally been candid enough to admit that such birds are probably the descendants of birds which could fly very well. Indeed, it is remarkable how much evidence the leaders of science have brought forward to show that changes which have taken place in the animal economy have been in the nature of deterioration rather than development. Repeatedly, when we should have expected Darwin to maintain

that certain imperfect and rudimentary organs were the beginnings of new developments, he has claimed B and as I think, proved B that they were only survivals of organs that were perfect in a remote ancestor. I remember being shocked to find that the theories of Wilford Hall in connection with the subject of rudimentary parts and organs appeared in every way less reasonable, and from my point of view more objectionable, than the theories of Darwin.

But although the bird which cannot fly is the heavy and degenerate descendant of a bird that could fly, it uses its wings to aid its running. Here we have a principle of which the Evolutionist makes full use. Whenever a living creature is forced by circumstances to change its mode of life, it makes use of such organs as it possesses, however ill adapted they may be for the new work. If men have to swim in order to avoid their foes, they use their hands and feet for the purpose, and the man with limbs best adapted to the task, will have the best chance of escaping. In the same way it is claimed that if certain creatures needed to make long jumps from tree to tree in order to escape their foes, they would stretch forth their fore limbs to steady them in their flight. If any chanced to develop a peculiarity in the growth of the fore limbs, which in some measure gave them a gliding power, and increased the length of the jump, that might be just the determining factor which would secure their survival. Forthwith, by natural selection and the constant use of parts, the Evolutionist can see the complete development of the bird, every stage of the work so slight that chance seems to him all-sufficient, and God can be ignored.

Such an argument seems to me to be very farfetched and unreasonable, but for the moment I have no desire to attack it. **All that I desire for the present purpose is to point out that such a line of reasoning is not applicable to the vegetable world,** and even if we conceded all the most extravagant demands of the Evolutionist, it would not enable him to evade the force of the objection summarized in our proposition that selection must have something to select.

A COMMON ILLUSTRATION

We will take a single instance from the vegetable world for the purpose of illustration. The strawberry, which is typical of the plants of its order, can be propagated by means of seed, or from runners. Man may surely be excused for thinking that such a plant was designed for his benefit. Nothing could be more luscious than the fruit while, if it is desired to increase the quantity for another year, nothing could be easier than the propagation of the plants. Instead of having to wait for the seed to grow, the gardener makes use of the runners. He keeps the ground round each plant open and free from weeds. He feeds the plants generously with manures, and they promptly throw out a number of runners. These runners grow long enough to reach beyond the outmost leaves of the parent, and then they develop a perfect little plant, capable of rooting when it comes in contact with the ground. It is easy for the gardener to pin these little plants down with a wooden peg, or weight them down with a stone, and then they quickly take root and soon become strong enough to be independent. A dozen or more sturdy plants can be taken in a season from one parent without any need to take more than one from each runner. More gardeners prefer to pinch the runner off after it has formed its first plant. If it is allowed to continue its growth, it may produce three or even more, but it is held that the first plant on each runner will be the best fruiter, and runners are produced in such profusion that there is no need to overwork them.

All this is very convenient for the horticulturist who desires to increase his supply of fruit. The Evolutionist, however, will not tolerate any suggestion that such devices of Nature could have been designed for the benefit of man. In fact, he denies that they were designed for anything. He regards them as the pure products of chance variations which, proving profitable to the plant itself, have been selected in the struggle for existence.

We ask, then, how in this case can the work be divided into the easy stages which are necessary, to enable even the Evolutionist to regard chance variation as an adequate explanation? One cannot say that the plant was forced by

circumstances into a new course of life, and it made use of such organs and parts as it possessed. The runners are of no use to the species unless they produce perfect plants which can grow. Inevitably the first growth is from the centre, and the runner must shoot upwards. All round the parent root are the stalks and leaves as necessary to the plant as lungs are to an animal. If the runner produced the new plant too soon, it could never reach the ground, and would be useless. The runner must reach beyond the widest leaves, and must then bend over until it reaches the ground. At this point the new plant must be produced with leaves, stalks and a growing centre capable of developing to the full size and capacity of the species. The heel of the plant where it comes in contact with the ground must be capable of developing a root rapidly as soon as the conditions are favourable. In other words, the new method of Propagation must be perfect from the start or else it can be of no profit whatever.

This, indeed, is a feeble statement of the case. Every practical gardener who has had any experience of strawberries would read such a statement with a feeling of wonder at its timidity, for every such experienced man knows that the production of runners is very seriously to the detriment of the plant's fruiting capacity, and therefore unless the runners were perfect from the start, they would be more unprofitable variations. So unmistakable is this fact that if a gardener desires to secure the maximum quantity of fruit from his plants, he takes care to cut off the runners as fast as they appear. Sometimes a plant will throw out scores of such little shoots in a season, all of them being pinched off as soon as they are observed. This is doubtless exhausting to the plant, but it does not check the development of fruit as seriously as if the runners were left to grow. Much more fruit would be produced, however, if by some means it were possible to prevent the plant from attempting to grow runners, and all its energy could be turned towards the production of fruit.

Now the Evolutionist cannot have the argument both ways. He tells us that the growth of fruit or runners is solely in the interest of the species itself. He tells us that the principle of the survival of the fittest provide an Aever-watchful force' which is

capable of selecting the most trifling of variations that give the plant any advantage in the struggle existence. If so, then, it must also be capable of rejecting or weeding out any variation that proves unprofitable. It is demonstrated beyond all cavil that if plants grow runners they do not produce half as much fruit. If, therefore, they threw out rudimentary runners, just the first step in the direction of the new method of propagation, it would be a variation not merely useless by definitely harmful.

The answer which has been given in connection with the wing of the bird will not apply in this case. For a selection of a profitable variation of this kind to come into play, the new plant must be perfect from the start. In other words, the man who talks about filling in the gaps must add to his postulates. Not only must he say, "Let it be granted that these plants are capable of producing variations covering the entire range of Nature's equipment," but he must add, "Let it also be granted that these variations appear suddenly and perfectly from the start."

Surely there is not much left for this much advertised principle of Natural Selection, which has in the case of many men destroyed the belief in God.

CHAPTER IV USE OF PARTS

Controversy has generally been spoiled by unfairness or by intolerance. Sometimes disputants have purposely mis-stated their opponent's case in order to triumph over it. Often they have used the weapon of scorn and ridicule with very little justification for having recourse to such a method.

Darwin was the fairest and gentlest of controversialists, but he had some supporters who did not at all follow his example in this matter. I can remember reading a short treatise by a well-known exponent of Evolution which gave a very unfavourable impression of the Professor's mentality. He pitied the ignorance of all who did not agree with him. He wrote as if unconscious of any difficulty in the way of his conclusions or of any limit to the mass of his knowledge. The only effect of such writing is to expose the limitations of the author and to stiffen the hostility of those who are inclined to dissent.

On similar lines, a theologian delivering an attack upon the Evolution theory in the early days of the controversy, expressed a doubt as to Darwin's sanity and presented a view of the natural selection theory designed to make it appear as absurd as possible.

We may well conclude that if our own position seems absolutely free from difficulty it is probably only due to our self-satisfied ignorance. If we are inclined to doubt the sanity of a writer it is surely not desirable that we should try to answer him. Of what use would it be to enter into controversy either with a maniac or with a sane and capable man whose writings we could not understand?

DEVELOPMENT BY THE USE OF PARTS

The theologian who unfairly stated the theory of Darwin, ignored the principle of development by use, and thus by his lack of common justice to an opponent he diminished the value even of his sound arguments. He described the development of legs according to the natural selection theory taking care to make the picture as ridiculous as possible. Legs were represented as chancing to grow from all parts of the wretched creature's body.

We were asked to imagine an animal with three legs to support it and two growing out of its back, or an animal with only one leg which would prove an unprofitable variation, as it would prevent the owner from crawling in the old-fashioned way while being inadequate for an improved mode of progression. The survival of the fittest is represented as making choice among such monstrosities during countless ages until at last legs chanced to grow in the proper place in even numbers and length.

The sportive method might make entertaining reading for those who felt no sympathy with Darwin or who knew nothing of his writings, but it is safe to affirm that it would never influence serious opinion. Darwin complained that even some of his sober and scientific critics failed sufficiently to take into consideration the effect of use of parts which he had always recognized as an essential part of this theory of development. It is clear, too, that as he studied the matter more closely he grew increasingly conscious of the inadequacy of natural selection alone to explain the adaptations of Nature, and he was correspondingly more inclined to rely upon development by use.

We have already suggested in a previous chapter that the development of organs by use is an evidence of a Creator. This principle cannot reasonably be regarded as fortuitous. It is on a level of that wonderful capacity of the blood to discriminate between vital and accessory organs in time of famine.

The Evolutionist makes no serious attempt to deal with such fundamentals. He simply accepts them and makes some use of them to explain his theory of development. In this way Darwin used the old-established fact that the proper use of an organ tends to develop it.

If we tried to state the case fairly in connection with the development of legs in an originally legless creature we should find that the use of parts would be of more importance than natural selection. Imagine a creature crawling along the ground. The very effort to crawl would tend to develop muscles along the under part of the body. If, therefore, legs chanced to grow surely they would be most likely to appear where the muscles were being used?

It is not suggested that this principle of development by use is exhibited as the main factor in the Darwinian scheme of life, but it certainly is insisted upon as a most important accessory, and it is foolish of critics to ignore it. We do not in any way assist the cause of religion by making an unfair representation of oppositions of science.

In connection with the prehensile tail of the South American monkey, Darwin especially mentioned the principle of development by use. (*prehensile* means suitable for holding, grasping or seizing)

In *The Origin of Species*, 6th Edition, page 188, we have the words:

"A reviewer remarks on the structure, 'It is impossible to believe that in any number of ages the first slight, incipient tendency to grasp could preserve the lives of the individuals possessing it or favour their chance of having and rearing offspring.' But there is no necessity for such belief. Habit, and this almost implies that some benefit great or small in this direction would in all probability suffice for the work."

In several other passages in *The Origin of Species*, Darwin complained that critics treated him unfairly by ignoring this principle of development by use. I think he had good reason for protesting. The effect of the use of parts is absolutely necessary to make his theory intelligible and it is neither honest nor wise to deprive him of any assistance that he can reasonably claim.

For the present purpose I do not desire to argue the question as to the precise bearing that principle has on the doctrine of development as applied to the animal world. **All I desire to point out is that it does not apply in connection with the development of plants.**

Plants do not exhibit a voluntary muscular movement. They do not have their parts or senses increased by reason of use, nor can they be described as benefitting by any chance variations which may occur. Plants do not wander about after the manner of animals, intelligently employing their parts and using their organs in harmony with their environment. They grow where they are planted in accordance with the laws of their being without muscular

movement and without volition.

Darwin exclaimed at those who denied that natural selection was applicable to plants because they have no volition, and his reply was just. No doubt natural selection is applicable to plants, but not the use of parts.

This seems a strong argument against the Darwinian position even when baldly stated. It appears still stronger when considered in detail.

THE PEA IN THE WITNESS BOX

For purpose of illustration we may call the common garden pea into the witness box. The pea is one of the most nutritious of vegetables, containing in its perfect state far more nitrogenous matter than any of the cereals we cultivate. It is very prolific, and supplies food not only for man, but for birds and many different animals and insects. If we follow the development of the pea from the time it is first put into the ground, we cannot fail to be struck by the number of wonderful adaptations, and it may serve as an illustration, to put the theory of Evolution to the test. There can be no development of parts by use, and there is sexual selection such as may take place in the animal world. **Natural selection is the only force Evolution can rely on.**

When the hard round seed is dropped into dry ground and covered up, it remains dormant until sufficient rain comes to give the plant a start. As soon as rain falls in any quantity the pea swells slightly, and a shoot begins to develop. The shoot strikes up, and the root strikes down. The root has the capacity to take hold of the ground, to draw up moisture and nutriment, and to form this nutriment into vital forces. The shoot is pointed so as readily to force its way out of the ground, and it contains within itself all the innate capacity for development into leaves, flowers, and fruits. As soon as the shoot is above the ground it divides, and leaves are formed. These leaves are perfectly constructed, supplied with sap from the stalk, and they have the capacity to breathe and take in nutriment from the air for the support of the plant.

A little later tendrils are developed which become prehensile

(*grasping*) and by growth, not muscular action, will take hold of any object they encounter. The plant can thus climb and support itself. Then flowers develop, beautiful, and supplied with honey. Bees are attracted, and in their efforts to secure honey, they fertilize the flower. Finally the peas, encased in perfectly constructed pods are formed in immense quantity, all just as highly nitrogenous as the seed which produced them, and all containing the same vital power to produce plants another year. They can give ninety-nine per cent, for the food of man, bird, and beast, and still keep up the stock, their vigour unimpaired and their number not decreased.

If you believe in the theory of Evolution, however, you must suppose that all this is the result of natural selection. The shoot strikes up because those which chanced to do so had an advantage over those which did not. The leaves secure nutriment because a slight accidental tendency in that direction gave certain plants an advantage in the struggle for existence, and less favoured members perished. The tendrils, the flowers, the pods, must all be accounted for on the same principle, and there is no doubt that if the real seed were an indigestible substance encased in the nitrogenous pea, this would be exhibited as an instance of natural selection having favoured those plants which produced an excellent food for birds and beasts and thus secured a wide distribution of the indigestible seed. This point is emphasized in connection with other plants. It seems rather difficult to suggest an atheistic explanation of the seeds being such an excellent food.

The most interesting point to discuss, however, in connection with this phase of our subject, is the development of the prehensible tendrils. **According to the Darwinian theory we must suppose that a few plants chanced to throw out tendrils with the power to grasp.**

The first growth of the tendril and the power to grasp must, according to Darwin's principles, coincide, or the tendril taking power and sap from the plant without being of any service, would be an unprofitable variation, and would thus be weeded out. If we are able to imagine the accidental production of a tendril with a slight tendency to grasp, the question arises, Would it be of any

real benefit to the plant? The gardener might possibly be able to take advantage of it, but there is no gardener there. The few peas which escape their enemies are dropped by various accidents in all sorts of places, and they have to grow where they are dropped B if they grow at all.

Now it is a fact that the placing of sticks for peas to climb up requires a certain amount of knowledge if any benefit is to accrue. There have been instances of wasted labour in this direction through lack of skill, and there have been some cases where the growth of the plants have been positively retarded by supports being placed by unskilled hands. If, then, a perfectly developed climbing plant requires a little humouring to secure the best results, what chance would there be that peas in a wild state, sprinkled about anywhere by accident, would drop in a position where a very slight tendency to climb would be of distinct service to them?

Then it must be remembered that there are many other determining factors in the struggle for existence which would easily clash with each other and with this effort to climb. The vigour of the plants, the kind of soil they happen to fall in, and their perfection of fertilization. We should have the spectacle of a number of plants perfectly able to live without climbing, and only a few of their number slightly adapted for climbing. Of these few only a very small proportion happen to fall in positions in which this new tendency is of any use to them; and all the time fertilization goes on indiscriminately between them all, diluting this recently formed characteristic and conforming all to the habits of the great majority. Even with every concession to the theory of Evolution, I fail to see how natural selection could possible effect such a change.

But that is not all. The principle of economy of growth which Darwin thoroughly believed in would come into play. The production of any organ or part involves the expenditure of vital force, and if such organs or parts are useless, they must necessarily be worse than useless. If, then, those plants which threw out prehensible tendrils had a very slight advantage over those which did not, when they happened to be in the right position for climbing, they would clearly be under a disadvantage when not in the right

position for climbing, and this would assuredly be in the majority of instances.

Lastly, there is the consideration of what they would climb up. The pea is not a parasite B it does not extract nutriment from its support. The gardener places dead sticks for it to cling to. These are strong, and they take no nutriment from the plant they hold up. When I meet a gardener who deliberately plants willows, or something of that kind, for his peas to climb up, I will inquire into the results, so as to be able to speak from experience; but I never expect to meet such an one. In a state of nature, however, it would almost always be a living plant to which the pea would cling, and since such a plant must be a support, **it simply means that the pea has entered upon a struggle for existence with something stronger than itself.**

Yet if you believe in the development theory you must suppose that tendrils with a slight tendency to grasp were thrown out by a chance variation. That the plants which threw them out, or some of them, chanced to fall into a position in which the incipient tendency to climb was an advantage to them. That in spite of the fact that the support was not placed to aid the peas, and being alive, will sap its nourishment, the plants with this slight and imperfect capacity to climb, flourished so much as to survive, and exterminate all others. You will have to suppose that the loss of sap and vital force which would be a positive disadvantage, except in the rare cases where the pea chanced to fall in a favourable position, was more than counterbalanced by the advantage gained in those cases where the tendrils chanced to grasp something which might assist the growth of the plant. You will have to suppose that these rare cases of advantage overcame the many cases of disadvantage B overcame the tendency to reversion, and all this in spite of the fact that the plant is an annual, and the work of climbing has to be recommenced every year.

I certainly cannot believe it, and when I remember that Darwin tactly admitted that natural selection alone could not account for the prehensile tail of the South American monkey, I am at a loss to understand how he could regard it as all-sufficient in this case, beset as it is with so many greater difficulties. Use of

parts is introduced to explain the monkey's tail, **but use of parts is not applicable in the case of plants.**

THE WONDER OF PEA PODS

I will deal briefly with the question of the pods in which the peas are enclosed. It must readily be admitted on all hands that the pod is a wonderful adaptation, beautifully formed, and evidently intended as a case for the seed. Natural selection is the only motive power Evolution has at its command to explain this contrivance. The question then arises, Is the pod of sufficient service to the plant to determine the issue of survival or extermination, so that through many stages the perfect pod could be developed by the selection of advantageous variations? The pods require a large amount of sap to produce them and thus on Darwin's principles there must be some distinct advantage in the pod to make the production of it an abiding law among so many different species. We do not have to think long to see the advantage it offers to man, birds and animals, **but it is not so easy to see what advantage it is to the plant itself.** It is no protection against the attacks of animals as is sufficiently proved by the fact that there is hardly anything in the vegetable world which is attacked more. The pod itself is nutritious, and no difficulty is experienced in getting through it to the peas inside.

The only suggestion I can think of which might offer an explanation from the point of view of the development theory is that birds and beasts would carry the pods away and accidentally spill some of the seeds, thus securing a wide distribution of the plants. This would, however, be a very feeble explanation for so great a fact, a very doubtful advantage to produce so wonderful an adaptation. I think there are good reasons for emphatically rejecting the supposition. I think there can be no doubt that an imperfect pod would serve this end better than a perfect one, and probably no pod at all would be better still. Certain it is that it is easier to harvest seeds contained in pods than many which are not. If you gave a man some corn and wanted him to spill it on the way home you would not put it up in the perfectly made bags.

Coming to more practical facts, it has been constantly

observed that birds and animal will pluck the pods from the stalks and take them away. I have sometimes found bushels of peas in various conditions from green to black laid up in the homes of rats and mice, like bags of corn. Those pods which had lost any peas had lost them all B the animals had eaten them. In fact the pods in the case of peas are of such value to animals and birds that it is difficult to see how they can be of value to the plant itself.

Why is the pea so nutritious and attractive? Evolutionists say that no peculiarity in any species of plant or animal is evolved for the benefit of another. When they find beautiful and palatable flesh surrounding the seed in a fruit tree, they say it has been rendered attractive by natural selection in order to widely scatter the indigestible seed. Why then is the pea so attractive? When animals eat that, the seed is killed.

Probably nothing is attacked more. Birds will scratch the seed out of the ground and eat it. They will pick off the young shoots. Then when the pods are formed, right from the green state to the dry, they are attacked and carried away wholesale. Apart from the plant being so enormously prolific it would surely become extinct.

CHAPTER V DILUTION

The objection to Evolution under the heading of Dilution may be very simply stated. Even if it be admitted that chance variations would occur in the manner claimed and that natural selection would tend to develop and perfect them, such profitable variations would at once be diluted and checked by interbreeding between animals which varied and animals which did not, or by cross breeding between creatures whose slight variations were developed in different directions and would thus neutralize each other. When it is remembered how difficult stock breeders find it to make permanent the variations they have selected, and how readily these slight differences are lost by breeding with the old stock, **it must be admitted that the law of dilution presents a serious problem to the exponent of Evolution.**

Darwin recognized the force of dilution and made some important admissions regarding it. He stated his conviction that abrupt variations occurring in single individuals would be lost by dilution, and that this actually occurs under domestication unless man takes pains to isolate and preserve the peculiarity. In a footnote to *The Descent of Man*, p. 423, and edition, he refers to the Origin of Species in this connection. I give the passage in full: B "I had always perceived that rare and strongly marked deviations of structure deserving to be called monstrosities could seldom be preserved through natural selection and that the preservation of even highly beneficial variations would depend to a certain extent on chance. I had also fully appreciated the *importance of mere individual differences and this led me to insist so strongly on the importance of that unconscious form of selection by man, which follows from the preservation of the most valued individuals of each breed, without any intention on his part to modify the character of the breed. But until I read an article in the *North British Review* which has been of more use to me than any other review, I did not see how great the chances were against the preservation of variations whether slight or strongly pronounced occurring only in single individuals."

* Perhaps this word is a misprint and should read impotence. This is suggested by the context.

From this it appears that even Darwin recognized that a profitable variation would be lost by dilution unless it occurred in a number of individuals at the same time. He insists on the importance of that slight tendency to vary in the same way which has modified certain breeds of animals or varieties of plants, during the process of selection by man.

A SERIOUS FLAW

Now here it appears to us there is a serious flaw in the reasoning. The idea is that if the profitable variations were only very slight instead of being strongly marked they might occur in many individuals at the same time and thus be preserved. Doubtless this would be the case with variations within the limit of created capacity, but surely such variations as would be necessary to produce a totally new sense of organ are not only different in degree but also in principle. If you have a field of turnips you may find one plant very big and another very small and an almost indefinite number of graduations between the two. If then you take a medium turnip as a standard and consider all that differ from it as variations, doubtless many individuals will vary in the same way. Half or more than half of the total number may be bigger than the standard set up, and if you select the few biggest you may improve the stock, or at least keep it from deteriorating. If, however, we consider the idea of producing a totally new tendency, such as the capacity to climb and grow other turnips in the air, the case is very different. Instead of being merely a question of size or colour, varying from a medium standard, it would require variation in the totally new direction in the nature of a freak. However slight the first variation might be it would still be in the nature of a freak and would, therefore, not be likely to occur in more than one individual at the same time. In truth the suggestion that the successive changes would be very trifling and the development very gradual, does not reduce the difficulty at all. Like the sugar coating to a pill, it only serves to make the idea rather easier to swallow. **Variations, in an entirely new direction, however slight, would only be likely to occur in single individuals, and thus they would be lost by dilution.**

Darwin made one strong effort to grapple with this dilution difficulty. In the *Origin of Species*, p. 81, he suggests that members of each variety might prefer to breed together. This clearly touches the difficulty at close quarters. If a certain family of animals which had varied in a profitable direction from the common standard of their species, held aloof from their fellows it is quite conceivable that they might retain their peculiarity. As there are many animals which do not band together to crush a common enemy, the idea that a few that had thus varied would in course of time multiply and completely supplant the old stock is intelligible. They might also be the subject of selection themselves, tending to increase their peculiar advantage, for obviously according to the law of battle those of the improved stock that were beaten and killed would generally be those that were improved the least. All this is intelligible as long as they retained the original peculiarity which gave them their advantage, and the suggestion is that the peculiarities would be retained by the modified members preferring to breed together. It may be so. That is the point with which we are not now concerned. **For the moment all we need to point out is that here again, the argument is not applicable to plants.**

Plants do not walk about and court each other. Flowers do not exercise any volition in the choice of a partner. They are fertilized either by the wind or insects which are intent on their own business and have no thought of the work they are incidentally performing for others. In the case of plants, then, dilution would be inevitable. Even under cultivation we are often made painfully conscious of this law and our efforts are thwarted through cross fertilization which we will deal with in the next chapter, and accidental variations are readily confirmed to the old stock.

Even apart from other difficulties it appears to me that the law of dilution places a barrier in the way of Evolution on anything like the scale maintained by Darwin. I cannot conceive of the possibility of all the existing species of animals and plant having developed from a few simple types unless there was some intelligent power behind Nature. An intelligent power, not only to originate life and start the development, but also to guide its course.

If mere chance variation were the only motive powers, plants and animals would remain with the faculties they originally possessed, for even if there ever appeared the beginning of a new capacity the solitary chance would be lost in the multitude, as a drop of milk is lost in a bucket of water.

CHAPTER VI REVERSION TO TYPE

It was through observing the law of reversion to type that I first conceived the idea of writing on the subject of Evolution. I was led to the conviction that **throughout the vegetable kingdom at all events, there is a universal law of conformity to the original type**, and plants which have been altered by artificial selection and cultivation will rapidly revert to their natural conditions when the work of cultivation is relaxed. It is like stretching a piece of elastic. Within certain limits it is not difficult to alter the shape, but when the force which has affected the change ceases to act, the original form is resumed.

It always seems to me that this law of reversion implied a natural, created condition for all plants, and that it was out of harmony with the theory of Evolution, and now, after a careful perusal of Darwin's principal works, I am of the same opinion. If all plants and animals have evolved from very simple types, all the innumerable stages in the long line of descent would be equally natural. **Why, then, should there be any innate tendency to revert to a previous condition?**

There is little doubt that as a general rule the wild plants are more hardy than the cultivated, and therefore are better fitted for a wild condition, but reversion to type is not by natural selection preserving the hardiest. It is a mysterious disposition innate in the plant, which sometimes bridges the distance between the highly cultivated plant, and the wild type in a very short time.

In Darwin's book, *The Origin of Species*, the following passage occurs, page 80, "Unless favourable variations be inherited by at least some of the offspring, nothing can be effected by natural selections. *The tendency to reversion may often check or prevent the work; but as this tendency has not prevented man from forming by selection numerous domestic states, why should it prevent against natural selection?*"

Page 121, AThere may truly be said to be a constant struggle going on between, on the one hand, *the tendency to reversion to a less perfect state*, as well as an innate tendency to new variations, and on the other hand the power of steady

selection to keep the breed true.

THE CRUX OF THE ARGUMENT

Here then is the crux of the whole questions so far as the law of reversion is concerned. There is "a constant struggle, between the tendency to reversion" and the power of selection, but if man has succeeded in overcoming the tendency to revert, why should not Nature?

Several weighty answers can be given to this question. **In the first place** selection by man is much more vigorous and rapid than natural selection could possibly be. **In the second place**, selection by man is in the direction of improving organs which exist, not to produce new ones. It is claimed that under Nature all the wonderful capacities of animals and plants are the results of this natural selection of chance variations, and the chances of variations in the direction of producing an entirely new organ are assuredly very different from the chances of an increase in size or a change of colour. **Thirdly**, natural selection cannot take place unless there is a struggle for existence, and this struggle, as Darwin admitted, is not incessant (*Origin of Species*, p. 61). **Fourthly**, man takes pains to prevent inter-crossing between different varieties. This is not prevented under Nature, and inter-crossing is the surest means of bringing the law of reversion into activity. And **lastly**, we may say that when the work of artificial selection and cultivation ceases, reversion is actually seen to occur very rapidly, and a work which would require hundreds of years of natural selection, even granting all the powers claimed for it, is undone in a few generations.

A PERSONAL ILLUSTRATION

A good many years ago a farm in which the writer was interested was purchased for the purpose of fruit growing. From sixty to seventy acres were apportioned for fruits and vegetables and the ground was cleared and prepared ready for planting. A number of fruit trees of various kinds were planted while other parts were devoted to the culture of vegetables and small fruits. Two mistakes were made in the initial stages. The ground was

not sufficiently cleared of the roots of weeds, and many of the fruit trees were planted too close together. Those who have had experience in this direction will understand what occurred. We were completely mastered by the weeds. The effort to keep the ground clear between the closely-planted fruit trees had to be abandoned, and in a few years, as it almost invariably happens in such cases, a rough kind of grass obtained the upper hand and almost covered the ground. This did not very much interfere with the fruit trees, and as it could be mown to prevent it growing too long it was allowed practically undisputed possession, other weeds only growing places where the grass was thin and scarce.

Meanwhile other parts of the estate were better tended and a considerable degree of attention was given to the cultivation of strawberries. One Summer day when I had occasion to go among the thickly planted fruit trees I was astonished to find the ground studded with wild strawberry plants. They had seized on parts where the grass was not very thick and flourished with the vitality of weeds. There were dozens of them, probably some hundreds, and they had ripened their tiny fruit quite perfectly.

Now I was aware that very many of our cultivated strawberries had been dropped there, for I had frequently seen birds fly in the direction of these trees when driven off the strawberry beds and I could often see that they carried strawberries in their beaks. Undoubtedly many of them would be dropped in such positions, but I could not see at first how this could account for the growth of these wild plants. It was not simply the size I judged by, but the whole character of the fruit was unlike our cultivated varieties, and proved clearly that they were either really wild strawberries from a wild stock or found odd seedlings in various parts of the estate which were evidently from the cultivated beds. They had grown through being dropped in particularly favourable positions and although they were in a measure degraded, they still bore the clearest evidence of their domesticated origin. I attributed the degradation principles at all events, to the direct effects of their struggle for existence.

The fact is, our cultivated strawberries are not as a rule good fighters, and so we cannot expect the seeds liberally scattered

about by the feathered marauders, to take root unless they happen to fall on favourable ground. These partially degraded plants I speak of were few in number, whereas the wild strawberries between the fruit trees were very numerous.

The discovery of these plants greatly puzzled me, for although I fully believed in the principle of reversion to type, I had always imaged that it would take a succession of generations of neglect to step the distance back to the old form, whereas this appeared to be **a case of reversion in a single generation**. I mentioned the matter to one of the gardeners, and he was of the same opinion. He had no doubt that they would revert, if left uncultivated for a long time, but he did not believe that these plants could be the offspring of the varieties we were cultivating. He expressed the opinion that they must be from original wild stock.

The more this theory was examined, however, the less likely it seemed to be. Wild strawberries were not plentiful in the neighbourhood before our beds were planted, indeed I have no reason to believe that they were ever found at all, and since in the indiscriminate scattering of the seeds by birds, a large percentage must inevitably be wasted, it seemed incredible that these hundreds of plants suddenly appearing in a small patch of ground could be from wild stock. I was driven to the conclusion that they furnished an instance of reversion, and at first I was disposed to believe they were the proceeds of the few partially degraded seedlings I have already mentioned. It was not until I read Darwin's *Origin of Species*, that the case became clear. In argument with regard to another matter, Darwin incidentally brings out a case of reversion which throws a great light on the circumstances I have narrated and suggests an idea which may prove to be of great importance.

In supporting the contention that all existing varieties of pigeons are descended from the wild rock pigeon, Darwin recounts an experiment he made.

Origin of Species, pp. 18, 19: " I crossed some white fantails, which breed very true, with some black barbs, and so it happens that blue varieties of barbs are so rare that I never heard of an instance in England; and the mongrels were black, brown

and mottled. I also crossed a barb with a spot, which is a white bird with a red tail and a red spot on the forehead, and which notoriously breeds very true; the mongrels were dusky and mottled. I then crossed one of the mongrel barb fantails with a mongrel barb-spot, and they produced a bird with as beautiful blue colour, with the white loins, double black wing bar and barred and white-edged tail feathers as any wild rock pigeon! We can understand these facts on the well-known principle of reversion to ancestral characters if all the domestic birds are descended from the rock pigeon."

Now here it appears to me that in the effort to establish the fact that the rock pigeon is the progenitor of all our domestic birds the real significance of the experiment is overlooked. **It simply means that through interbreeding between different varieties two generations sufficed to destroy the work of untold years of artificial selection by man.** What is to prevent this intercrossing in a state of Nature? When I read this passage from *The Origin of Species*, a solution of the difficulty regarding the strawberries at once occurred to me. We were cultivating a great number of varieties and this would consequently be a great deal of cross-fertilization.

Darwin's experiments confirm the view that this cross-fertilization will quickly bring the law of reversion into play. What is to prevent it in a state of Nature? With plants it would always take place. Thus in the war between the tendency to vary and the tendency to revert, there would be a constant presence of the conditions which encourage reversion. Two generations of this indiscriminate fertilization are sufficient to turn the most highly cultivated of pigeons into the primitive type; **a single generation will undo all the work of the cultivation of strawberries.** How many thousands of generations of natural selection would have sufficed to equal this work of man?

CHAPTER VII DETERIORATION

Does anyone imagine that the careful selection of seed by the gardener is constantly effecting an improvement in his stock commensurate with the vigour of his work? Such an impression would be a great mistake. The changes which take place in our cultivated plants are more in the nature of oscillation than of systematic development.

Darwin says in *The Origin of Species*, that almost all our cultivated vegetables have been "greatly improved in many ways within a recent period." This is doubtless true, and the work still continues; but it is not safe to assume that progress is constantly in the right direction merely because improved varieties are continually being introduced. Sometimes after many improved strains have been raised the net result is one step back. **The law of deterioration, or it may be the law of reversion is at work, and frequently it proves stronger than our efforts.**

An instance of this was brought before us only a few days before the first notes of this chapter were written. A special strain of celery selected a few years earlier had completely lost its superiority. It was the finest celery we have ever seen, and great efforts were made to preserve its characteristics. It appears, however, that either our selection was not rigorous enough, or else such excellence was stretching the elastic too far and the strain could not be maintained.

Perhaps the potato furnishes a still better illustration of reversion or deterioration. There can be no reasonable doubt that during the last half of the nineteenth century, in spite of continuous efforts to raise improved varieties of potatoes, the net result was a long step back. The potatoes grown during the latter half of this period was not as vigorous and nothing like as free from disease as their parents of fifty years earlier. We need not rely upon the memories of old men for this opinion. A comparison of prices yields the same conclusion. Sixty or seventy years ago wheat was so dear that poor people could hardly afford to buy bread. They were helped to live by the fact that potatoes were much cheaper after the rate. As farmers naturally grow the crops which

pay them best, there is only one conclusion to draw from this fact. The potatoes in those days were more vigorous and produced a better crop.

This is all the more remarkable in view of the fact that great efforts have been made to effect improvements. The improvements have been real in a sense, but the law of deterioration has been stronger. The fact that a variety of potato gets "played out", in course of time is, we suppose, too well known to need any argument. The constant efforts of the raiser of new varieties is to produce something as good as, or, if possible, better than the old variety was when it was first introduced. It appears, however, that in this case the law of declension has proved too strong. Some real improvements have been effected during the last few years, and it may be that some time a potato will be introduced as vigorous, and as free from disease as the parents were previous to the year 1845. If this ideal is ever reached it will be by the application of man's intelligence, not by chance, and by a selection far more vigorous and more persistent than natural selection can ever be.

THE LAW OF REVERSION

In this connection we must refer to a very practical matter. The majority of our plants are so prodigal in the production of seed that it is easy for the gardener or farmer to save seed for next year's crops. A very few plants would supply all the seed required. Very often, however, the practical man finds that it pays him better to buy the seed for another year, even at relatively high prices. The large growers have great facilities for making proper selection and the most rigorous selection is necessary if the high level of our cultivated plants is to be maintained. Even the best and most skillful raisers are continually bringing out new varieties which prove failures. **It is beyond question a fact that the more we improve a plant the harder it is to effect further improvement, or even to sustain the level already reached.**

Surely the very fact that there is such a law of reversion is indicative of creation. The illustration of the elastic well fits the

case. A piece of elastic has a natural shape, but it can be stretched considerably. The nearer we approach to the vaguely defined limits of its capacity the harder it is to stretch it farther. **If plants and animals had all evolved from the simplest of forms which in turn had come into existence by chance; every stage in the long line of development would be equally natural.** We could not reasonably expect any more tendency to revert than in the case of a plastic lump of putty. Why should the law of reversion become stronger as we proceed in our work of selection unless it is that the products of Nature are really the creations of God.

To summarize under this heading we may give a practical answer to the question put by the great naturalist. Darwin recognized the fact of reversion, but asked why it should prevail against natural selection if man had succeeded in overcoming it?

PRODIGAL SEEDS

We will take the case of a plant of any prolific family, and note the difference between artificial selection and natural selection. A single plant might produce a thousand seeds. The gardener makes the most rigorous selection in order to secure the very best. The chosen plants are isolated, guarded from enemies and treated with the utmost care. The seeds are all sown in the best of ground. The young plants as they appear are pricked out so many inches apart, and again most carefully tended. They are guarded in every way from the struggle for existence. If only three plants out of ten thousand come true to the quality that the gardener is selecting, the nine thousand nine hundred and ninety-seven are ruthlessly cut down, and the three are isolated and cared for in every possible way. This tremendous force of selection goes on for generations, all the energy of the gardener being applied to the work, and the effort always in the same direction. Even then the most skillful raiser is often beaten and the plants revert to the parental character.

What is there in Nature to present the slightest analogy to this? In some instances there is so much destruction that in spite of a yield of a thousandfold there is no increase in the number of plants; that means a destruction of nine hundred and ninety-nine

potential plants and the preservation of only one. It may be said, "What an opportunity for selection here." We answer, "Yes; if there is someone here to select the one seed out of a thousand." That is what the gardener does when he raises a new and distinct variety, but is anyone foolish enough to suppose that under natural conditions the work of elimination is so regulated? Hundreds of the seeds are devoured by animals, birds, or insects, and if there is any selection it is simply to destroy the best. Hundreds more will fall by chance in places where they cannot possibly grow. Many may cling to the fur of animals, eventually to be thrown off into the water, or into dark caves where germination is impossible. Of the few which fall into a soil in which they can grow some will not go beyond the production of the first tender shoot, for it will be eaten off by a hungry enemy, the life of the plant thus being stopped at the outset. **In all this there is no selection whatever, but simply the complex play of many chances.**

The first plants which escape these chance destructions will almost certainly ripen their seed, struggle how they may, and there will be the inevitable cross fertilization between those which vary and those which remain true to type, or between plants whose variations run in different directions. What can be accomplished by the struggle for existence between these few specimens? What can possibly follow but a measure of degradation commensurate with the severity of the struggle? That is always the result.

The gardener with a consistent aim selects the one plant in a thousand, and again the one in a thousand of the next generation. **He guards against cross fertilization as much as possible.** He takes care that all the seeds from his chosen plant shall show their quality, and he ruthlessly roots out all that fail to please him. Even then the law of reversion often beats him.

Nature with no aim at all, allows the great majority of the seeds to be destroyed, or to be placed where they cannot germinate. Then she allows indiscriminate cross fertilization between the few plants that chance to grow. With the next generation the process is repeated, with a thousand chances to one against the selection of the seed which would most fully carry

forward the special peculiarities of the parent.

Darwin asks why should the law of reversion prevail against natural selection if man can sometimes overcome it?

Well, we think that if ever a question has been answered, assuredly we have answered this.

CHAPTER VIII

WHAT IS THE REAL MEANING OF "FIT"?

One fact which is pressed home with merciless insistence on the gardener is that the strongest and most vigorous plants are those which he would like to destroy. It is rather vexing to be told that all the wonderful plants which grow out of mother earth have been produced by the survival of the fittest; when just those in which we are interested require such tender care, while the weeds against which we wage incessant war flourish in spite of us.

The most beautiful of gardens, if left untended for a few years, would be over-run with weeds. It may have been cultivated for centuries, and the weeds kept down during that entire period; yet a few weeds will be there even in the day of its glory. If we leave it uncultivated only for a decade, it is doubtful whether anything useful will be left, while the weeds of their own strength will have taken possession.

Couch grass may be taken as an illustration of vigour. The flower, such as it is, needs no special insect to make it fertile. The wind is all-sufficient for such purpose. The plant forms roots which run underground and are capable of taking possession of the soil. The tiniest piece of root will grow and re-establish the colony after every onslaught that the gardener makes. His only plan is to clean the ground thoroughly before he puts in his plants, and then by constant use of the hoe prevent weeds from growing.

The fact is, people are continually allowing their minds to be led astray by verbal juggling. **The argument regarding the survival of the fittest is not the simple and logical proposition that many amateur scientists suppose.**

It is necessary to ask the question, "In what sense do you use the word 'fitness'?" Many people begin by taking the word in the sense scientists use it. They can see the logic of the proposition that in a struggle for existence those individuals most capable of living will survive. Then with this conception of the survival of the fittest in mind they turn to the consideration of totally different problems. They see a fitness of a different kind and apply the principle of survival in a sense which sometimes is the exact

opposite of the original meaning. Find a man, intellectual, meek, gentle, thinking no evil of anyone, and wishing no evil to anyone, and we may readily agree that judged by the higher standard **he is one of the most fit to survive**. He might easily be the least fit, however, in the scientific sense of the expression B that is, **the least fit to hold his own** and beat his fellows in a struggle for existence.

Find a plant, delicate, beautiful, bearing wonderful flowers or fruit, having many qualities to attract, and contrivances to interest, and we agree that, judging it by the higher standard, it is one of the most fit to survive. By the jungle law, however, it would not be fit at all, and if we want it to flourish and reveal all its qualities, **we must assiduously guard against the struggle for existence**.

It cannot be too strongly emphasized that the old scientific formula "survival of the fittest" simply meant the selection of those most capable of living; without the slightest regard to the higher standards by which we judge them. According to the Darwinian school there was no other force to give Nature an upward tendency. It was just as well for creatures to survive in the mud at the bottom of a river, as for a race of intellectual beings to develop. Nature was as well pleased with the ones as with the other; or to be more exact, she does not care a jot for either.

DARWIN'S EXPLANATION

Darwin made some attempt to grapple with this problem. He suggested that it would be of no advantage for some creatures to be highly organized, that it might be a positive disadvantage, and that was why certain lowly species had remained unchanged since the dawn of life.

So far as the vegetable world is concerned we may say most emphatically that if there was no force behind Evolution except the survival of plants most capable of surviving, it would always be a disadvantage to be highly organized. The production of the many beautiful and useful plants that adorn our gardens would have been utterly impossible. The plants selected by nature would be the rankest of weeds, capable of living and flourishing,

and with nothing which would readily get out of order.

If a prize were offered for the best contrivance made out of metal we might have a wonderful exhibition of completed machines, almost as varied as the world's animals and plants. If, however, the prize was simply for the piece of metal best fitted to survive rough conditions, a simple ball of iron would beat all the clever devices. It would be no good, but what does that matter? **According to the Darwinian theory Nature had no aims, and the only prize she offered was life for those most capable of surviving. The simplest form of worm living in mud would beat all the mammals. The commonest of weeds would beat all the beautiful plants.**

It is very doubtful whether one could find a modern Evolutionist who would follow Darwin in this. What, however, is the alternative? As with theologians, so with scientists; they sometimes wish to hold a position which has been rendered logically untenable by the forced surrender of some of the main defenses. We do well to ask, "What is your position now?"

CHAPTER IX

ALTRUISM IN PLANTS

It is one of the first postulates of the development theory that there is no altruism in Nature. Each plant and each animal is supposed to develop qualities **solely for its own benefit**, or for its offspring. It is indeed quite obvious that if natural selection is the "ever watchful force" that it is supposed to be, it would most effectively nip in the bud any altruistic effort. **Darwin plainly stated that if it could be established that any plant or animal possessed any quality solely for the benefit of another species, it would be fatal to his theory.**

It would obviously be a difficult task to prove such a case. We need to possess a knowledge which, if it were once ours, would render the argument superfluous. Clearly no plant or animal can survive if it has qualities which are destructive to itself, and so long as it continues to survive, the Evolutionist will remain satisfied that all its qualities have been developed solely for the benefit of the species.

NATURE'S SELFISHNESS

Find a plant with a hard, indigestible seed, and there you have an illustration of Nature's selfishness. Neither men nor animals can eat such a seed. It exists solely for the propagation of the species. **Find another plant** bearing a luscious and attractive-looking fruit, with an indigestible seed in the middle; there you have another illustration of selfishness. The edible part of the fruit is simply to attract an animal to perform service. The indigestible seed will be carried to a remote part, and thus spread the species. **Find a third plant** bearing a seed which is itself digestible, and containing just the elements needed to sustain animal life, and you have - what? The Evolutionist will never admit that the conditions are for the sake of this nourishment. It is difficult, therefore, to see how it would be possible to prove to his satisfaction that anything in Nature was designed for the benefit of another species. We are asked to believe that the hard stone with luscious fruit covering, has been evolved by a very careful selection of conditions favourable to the development of the plant.

No explanation is either offered or permitted as to the seed which is, in itself, a perfect food.

Surely there is something very narrow and unsatisfactory in such a theory. If the "ever watchful" force of natural selection could produce such wonderful devices for the preservation of a species as we are asked to believe that it has done, **surely it could in every case guard against the seed becoming such a perfect food for animals that it would be devoured by the bushel.**

THE TIME FACTOR

When the Evolutionist is explaining the development of any of Nature's wonderful products, he asks us to think of millions of years of growth, during which each variation which would be of the slightest advantage to the species is the subject of natural selection. He regards this force as so potent that all the marvelous adjustments of animal bodies can be explained by it. Even the development of the eye did not appear to Darwin as a difficulty. He thought that the first slight sensitiveness to light would be of sufficient advantage to secure the preservation of those creatures possessing it, while others would perish in the struggle. So with each successive stage in the evolution of the lens, and all the muscular adjustments of the eye. We are asked to believe that there were only chance variations, subject through millions of years to this potent force of the survival of the fittest.

So with plants. Even when the most elaborate contrivance only gives a very slight advantage in the struggle, natural selection is supposed to be all-sufficient to account for it. We are reminded of the millions of years during which it is supposed to have operated. Well, we think of those millions of years in connection with those plants whose seed is food for man and beast - wheat, barley, oats, rice and all kinds of nuts. What has natural selection been doing to allow the seed to be a food? **Surely if this force can evolve the human eye, it should be powerful enough to protect the seed of plants from giving sustenance to a crowd of enemies.**

We may note in passing that this inconsistency of

Evolutionists is not confined in the phase of the subject we are at present discussing. It is, perhaps, even more obvious in connection with some of the phenomena of the animal world. Thus it has been very freely affirmed that the appendix in man, which has been troublesome to many people during recent years, is a perfectly useless appendage. Some have even gone so far as to call it a "death-trap". For how many millions of years have our ancestors carried this useless or even harmful part? It has always seemed to me an amazing case of inconsistency that men who accept the theory of Darwin can express such convictions. At one moment they claim that natural selection has **such power** that it can produce the human eye with all its adjustments. At another moment they regard it as **so weak** that it cannot remove a useless or harmful part in all the millions of years required to evolve the most complex of all creatures.

A little reflection will show that in the struggle for existence the supreme power should be on the side of the vegetable. Vegetables - using the word in its widest sense - have a monopoly of the power to transform raw chemicals into living substance. Animals and insects feed on these vegetable products. The vegetable world has the capacity to **produce poisons** which quickly put an end to the molestation. If, therefore, Nature had no force behind her but this soulless struggle for existence, and if natural selection had a tenth of the power that has been attributed to it, **we should expect every seed to be equipped with poison to guard it against its numerous enemies.**

Take a survey of Nature and observe the actual facts. There are many vegetable poisons, but they constitute a very small part of the vegetable world. They do not multiply rapidly, they are of rare occurrence, suggesting that there is a guiding hand upon them to prevent them from taking possession of the world. The dangerous drugs are comparatively rare in Nature. The most prolific growth is just of those plants which are of most service to the herbivorous animals. If garden land is uncultivated it reverts to a rough kind of grass. The stupid ox will get on all right with it. Man, more particular as to his diet, has to seek out other foods requiring cultivation, but both are able to live.

If the Evolution theory were true, if there were no altruism in the scheme of things, **surely the vegetable world would poison all the creatures that presume to feed upon it.** Instead of such selfishness, the vegetable world says to the ox, "Here is food in abundance for you, and your wit need only be exercised to avoid the rare herbs which would poison you if taken in quantity, but which may serve as medicine in the small proportion I give of them." To man she says, "Here is food for you, too, choicer and better food, but you must use your wits constantly and toil to grow it."

We are so used to the situation that we may grow to accept it as a matter of course. Surely it is reasonable to ask sometimes why it is that poisons are rare? Why the seed of some plants should provide us with nourishment? Why there should be such a balance in Nature that the vegetable world, with supreme power to slay, should not only let us live but minister to us with her own vital forces? A man is blind as well as unthankful to claim that we owe nothing to any power outside ourselves, and that Nature is always selfish however well she serves us.

The truth is the other way. Man is selfish and by his folly brings curse upon himself. We can see so many evils wrought by the sum and selfishness of humanity that it should not require much effort to accept the Bible assurance that when traced back to the first cause, all the ills must be placed in this category. Nature, on the other hand, is bountiful. There is ample provision for our needs and this provision must have a Provider.

NUTRIENTS

A closer investigation of the nutritious seeds strengthens this view. Man has shown repeatedly that his tastes will often lead him astray. He is not satisfied with bread as Nature has provided it and desires to make it finer and more palatable. Wheat is passed through many processes to make it finer and whiter. Yet the wheat in itself is a balanced food, containing the elements required by the human body in just about the proportion necessary. The fine flour is not balanced and if men tried to use it exclusively for food they would die. In the same way rice has been polished

to give it a gloss attractive to the eye. In this process some vital elements are removed, and the food value is reduced.

If the Evolution theory were true; if natural selection were the terrible potent force that has been represented, we should **not** have the vegetable world ministering to our needs and providing us with such a variety of food. If natural selection were so rigorous as to be able to evolve the fruits which carry an indigestible seed in an alluring covering B strawberries, raspberries, blackberries, plums and peaches, surely it would be sufficiently strong to guard other plants against the production of a seed providing a perfectly balanced diet for animal life.

The man who accepts all that nature can give, taking it just as a matter of course and refusing to recognize altruism in any of her processes, is like the selfish, thoughtless child, who accepts all that the parents provide as part of the natural order of things, requiring no thought and calling for no gratitude. More thoughtful beings, both young and old, recognize that in all the variety of life there is a deep design to make human life possible. In any one of a thousand different ways, the race might have been blotted out years ago but for this controlling, unseen hand. Children may often be denied what they would like to have. Sometimes the food is not just in the form they would best appreciate. Real food is provided, however, and wise children know that there is a Provider.

CHAPTER X BEAUTY IN NATURE

In the Darwinian philosophy there is no place for beauty except as a means to a material end. Darwin openly admitted that if it could be demonstrated that anything had been rendered beautiful for the pleasure of man or of the Creator, it would be fatal to his theory.

Again we have this problem of what is meant by demonstration and again we are made conscious of an anomaly in the arguments that are used. A tremendous effort is put forth to answer a minor difficulty in the animal world where there seems a fair case for the theory, **while a far greater difficulty in the floral creation is completely ignored.**

In order to make this part of the argument clear it is necessary to pass under review certain matters which perhaps do not properly come within the scope suggested by our title. It appears that the vegetable world has often been ignored in the argument. It becomes necessary, therefore, to follow the theory in connection with the animal world, before it can be put to an effective test.

Everyone has heard of Darwin's book, *The Descent of Man*, though very few people have read it with serious attention. Even some who claim to be familiar with it make a strategic retreat when they are questioned. The book is largely devoted to an exposition of "sexual selection".

Darwin recognized that some facts in life could **not** be explained by natural selection. Some creatures are laden with decorations which are so beautiful and elaborate as to call for explanation, but which certainly cannot be accounted for by natural selection, for example, the magnificence of the peacock's tail. So far from being a help in the struggle for existence they would be positive hindrances.

Take, for instance, the cock's comb or the tail decorations of many birds. In battle these would be obvious hindrances. Darwin fully recognized this and claimed that in such cases sexual selection had been so potent as to overrule the law of survival of the fittest.

Again we must point out that this admission is woefully out of harmony with the extravagant claims made for natural selection as a means for producing nearly all the wonderful adjustments of Nature. If there is such destruction of the unfit - such rigorous selection as to accomplish such wonders as the production of eyes, ears and wings - what chance would there be for the birds developing huge combs and unwieldy tails just at the period of life when they are most inclined to fight? However much the female might be attracted by the decorations, her favours would have no selective effect if the gay bird were killed as soon as he had developed his attractions.

In this, as in so many other cases, the thoughtful student of Darwin must be conscious of a great anomaly. Natural selection is represented as **strong enough** to work miracles, or **weak enough** to be overcome by any other influence, just according to the exigencies of the argument.

AN INTELLECTUAL SOMERSAULT

This, however, is a small matter compared with the anomaly which appears in connection with the main contention. It is possible that the subject has been treated from other points of view by different thinkers, but the present writer has never read anything to throw the faintest light upon the matter; nor has he ever met a believer in the Evolution theory who could even pretend to suggest a defense of Darwin's position. In the absence of any such defense, it certainly appears that the main argument of *The Descent of Man* is the most extraordinary intellectual somersault in the history of controversy. It may be interesting to explain the case, even though it involves rather a lengthy excursion outside the strict limits of our subject.

Among the peculiarities of the human race, one of the qualities calling for special explanation is the comparative nakedness of body. It is assumed by Darwin that the slight hairiness of the human body is proof of our animal origin. It is regarded as an inheritance from a still more hairy ancestor. The reasonableness of this assumption may be disputed. It can be affirmed with some confidence that hair is protection to the skin

against chafing, and that it is particularly needed where it is most abundantly provided - as in the armpits and the groin. There are many devices in Nature which make for creature comfort, though it is difficult to see how they would affect the issue of life and death in the manner necessary to produce a natural selection. We must, however, refuse to be led into bypaths of argument, or the evidence in connection with the strict limits of our subject would be too long delayed.

For the moment we simply need take note of the fact that according to Darwin the slight hairiness of the human body is a survival of a purely animal characteristic. Darwin freely admitted that our comparative nakedness could **not** be explained by natural selection. To be covered with thick hair or fur would obviously be an advantage in the struggle for existence of any creature living on the dry land. The wonderful coats of the animal world are supposed to have been produced by that very struggle, and the selection of the fittest arising from it. **One could hardly turn round and explain the removal of the coat in the same way.** The advantages to be derived from nakedness are not vital, and only vital matters can influence natural selection. Indeed, man is supposed to have lost his coat before he was sufficiently advanced even to appreciate the social advantages of removal garments and a washable skin.

Darwin recognized distinctly that natural selection could not explain our supposed loss of clothes. He thought, however, that the change could be explained by sexual selection. He thus regarded our general nakedness as a "secondary sexual character," like the beard of a man or the gay plumage of a male bird.

It is important to bear this in mind when we put the argument to a test, for it is in this connection that Darwin threw his extraordinary somersault.

DARWIN'S OBSERVATIONS

Having laid down the premises as to the possibility of sexual selection accounting for changes which would not be of value in the struggle for existence, Darwin proceeded to mass the details of evidence that can be drawn from Nature. In this matter of

observing and gathering facts he has had few rivals. As an attentive reader plods through page after page of the book, he cannot withhold a tribute of admiration for the painstaking labours of the scientist. The songs of birds, the love calls of other animals, the gay plumage, the elaborately arranged fur B all such matters are brought forward in formidable array as an overwhelming army of arguments. In each case it is shown that the secondary sexual characteristics are most pronounced just where we should expect to find them if they have been selected in the manner Darwin suggested. Repeatedly it is shown that the female does the selecting and the quality selected is in consequence most pronounced in the male. It is only passed on in minor degree to the sex which makes the choice.

Darwin proves conclusively that with nearly all creatures, the male is the vigorous one - inconstant, of course - but not particular in the choice of a partner. It is the female that is coy and hard to please. The female bird selects a partner with a good voice, and this choice of the most proficient males during many generations results in the male birds being the singers. The female selects the most pleasing plumage and the result is that the male bird has the gay feathers. The female chooses; the male is chosen and the quality selected is naturally passed on most to the sex which is the subject of this artistic selection.

Such, at least, is the argument which is enforced with insistent reiteration in Darwin's thesis. It is sustained until we come to the final application, and then, in the most amazing way, the whole argument is turned upside down. One of the principal qualities to be explained is the relative nakedness of body of a human being. It is still the female who chooses. It is still the male who is chosen, but the quality which is supposed to have been selected is *far more pronounced in the one who makes choice than in the one who is chosen*. This is a complete reversal of the order insisted on by Darwin in all his illustrations.

The only answer to this difficulty that the present writer has ever heard was a doubtful suggestion by an Evolutionist that possibly there might be some measure of choice the other way. What a hopeless last defense! Imagine primitive man as the

Evolutionists picture him, just emerging from the brute. No restraint, either moral or prudential. No laws, either religious or social. The birth rate of the sexes about equal. Would the family of primitive woman be restricted by the coyness and aesthetic daintiness of primitive man !!!? **The fact is that the argument failed completely, just at the crucial point.** It is possible to establish some sort of case for selection by the female as Darwin presented it, but when we come to the point for which the argument is wanted - that is in connection with humanity - it applies in exactly the wrong way. Surely every thoughtful man will perceive how this line of reasoning could be pressed home with merciless logic if we cared to go further into details.

DARWIN'S LAW OF INHERITANCE

Another anomaly in the case is in connection with the matter of "inheritance at corresponding ages." Darwin continually insisted on this as a law of Nature. He regarded all secondary sexual characters as the result of sexual selection all in harmony with this law of "inheritance at corresponding ages." He repeats this phrase many times.

We can quite agree that all true secondary sexual characters become manifest at the age of puberty. The bright colours of butterflies, the bright plumage and full combs of birds, the powers of song, and so right up to the human plane, the distinguishing signs of manhood. All these characters are manifest at the age of puberty. If our ancestors were all as hairy as monkeys, and if our relative nakedness of body were the outcome of sexual selection, surely on the basis of Darwin's insistent claims regarding "inheritance at corresponding ages" we should expect babies to be hairy like monkeys. The relative nakedness would come at the age of puberty. **The facts are, of course, exactly the opposite.**

It is not desirable that this matter should be pursued further here. It is rather off the proper line of our subject, and perhaps some will think that it is an unpleasant interlude. It may be interesting and useful, however, as presenting an important line of criticism which, so far as the writer is aware, has not been

touched hitherto. It may also be useful as showing the efforts that have been made to explain some natural phenomena in the animal kingdom, and paving the way for a very important argument to be drawn from the vegetable world.

CHAPTER XI

THE BEAUTY OF FLOWERS

There is a connection between the animal and vegetable worlds, even in the matters dealt with in the last chapter. There is sex in flowers and beauty plays a utilitarian part. Darwin's contention was that flowers existed solely for the propagation of the species, and that they were bright and beautiful solely to attract the insects which fertilize them. There is thus a close analogy between the two kingdoms. It may be said that sexual selection takes place in both, and, according to Darwin, that is the only cause of beauty. In the animal world beauty attracts a mate; in the vegetable world it attracts a marauder. In both cases fruitfulness is the result.

No believer in creation will dispute that beauty plays a utilitarian part in both kingdoms. The real point at issue is as to whether the selection effected in this vital matter of fertilization is sufficient to account for all the adornment of Nature. When we see birds with beautiful plumage, are we justified in saying, "These feathers were made so gay solely to attract a mate?" When we see a gorgeous floral offering to Heaven, are we justified in saying, "These flowers were rendered beautiful solely to attract insects that the blooms may be fertilized?"

Here again we notice an extraordinary difference between the treatment of the two kingdoms in the Darwinian philosophy. It seems that a great effort is made to expound the subject where there appears to be a reasonable chance of answering the difficulty, while the greater problem is ignored. Thus in attempting to account for the gay plumage of birds, Darwin goes into great details to show that the courtship is "a prolonged affair" with much evidence of selection. The male bird spreads his wings and ruffles his tail to display his charms to the best advantage. The female often makes it evident that she is influenced by these attractions.

When challenged by the Duke of Argyle with regard to the wonderful marking of the Argus pheasant, Darwin maintained that even this could be explained by sexual selection. The feathers of the Argus pheasant are so marked that a "cup and ball" effect

is produced, the shading corresponding to that which an artist would make in a picture of cup and ball. The Duke of Argyle argued that selection could not account for such a remarkable effect, but Darwin was fully prepared to justify his position. He produced evidence of the manner in which the male bird displays his charms before the severely critical female. He presents his case so well that we are almost led to believe that a hen has a nicer perception of artistic decoration than many human beings.

Again so far as this treatise is concerned there is no need to argue the case. Let it be granted that in the bird world the potential mothers are so coy and hard to please that if we once admit the postulates as to Nature's capacity for variation, sexual selection will account for all the beauty of bird life. **What of the floral creation? Are not flowers more beautiful than birds?** Note the subtle grace of the stem and the curve where the bloom appears; note the setting of the flower amid the leaves, not the curve of the petals, the quality of the colour and the varied markings, rarely set but always symmetrical.

If we want to know where there is anything really beautiful in a flower, let us try to imitate one. An unskillful painter of pictures may spend hours attempting to copy a flower, yet even with the original before him he utterly fails. The colours look dirty, all the grace of curve is lost, and there is no beauty of form. Mankind has been searching for pigments all through history. The mineral, vegetable and animal kingdoms have all been explored in order to find dyes capable of imparting permanent beauty of colour to the cloth we use. Much success has been achieved as the result of many experiments. Yet even the finest dye does not equal the richness of a wild flower, while the most artistic of designs cannot for a moment be compared with floral grace.

Take your favourite wild flower, if you have one, and analyze its perfection. You will find many essential elements in its beauty, many features that would have to be noted in any attempt at imitation. You will probably agree that there is more evidence of artistic selection here than in all the beauties of a bird's wing.

BEAUTY IN FLOWERS

The question then arises, "How does the Evolution theory account for this variety and beauty of floral decoration?" The answer is that all beauty in both animal and vegetable kingdoms is to be explained by chance variation and sexual selection. This selection, it is claimed, gives greater fruitfulness to the more beautiful individuals, and thus, during millions of years, has produced the perfections which lead simple souls to believe that the Creator has purposely given us some beauty of form and colouring to indicate what the earth might be.

Surely it is evident here that there is a fundamental difference between the animal and vegetable world. All the prolonged argument based on the observation of birds and butterflies fails to apply. Even if we grant that a hen pheasant may have an extraordinary artistic sense and a determination to choose a mate conforming to her exacting standard, **such concession will not help to explain the selection of beauty in flowers**, for the cases are not in any way parallel. The flowers do not seek each other, but are fertilized by insects in search of honey. Their courtship is not "a prolonged affair". The insect which performs the good office for them is really **a marauder** intent on finding food.

We may be willing to accept the claim that animals, birds and even butterflies are fastidious in their choice of companions but we certainly cannot admit that insects insist on a certain standard of beauty on the doors of the honey chamber before they will condescend to fetch their food. Even in the case of humanity there would be no selection of beauty in such a case as this. If a young woman can choose a mate from a number of men, she may select the best looking (though even that is doubtful). If, however, she is a pickpocket intent on petty larceny, beauty will be a matter of complete indifference. All who could be recognized as men with well-filled pockets would be equally attractive, though their faces might be like a nightmare and their bodies like question marks. **It is altogether too much to ask us to believe that insects flitting from flower to flower in search of honey have made such careful selection of beauty**

as to account for all the subtle charms in the jewelry of Nature.

To make the proposition still more unreasonable, scientists inform us that the eye of an insect has many lenses showing a multiplication of images. Even the most artistic of human beings would be unable to make a selection of beauty if equipped with such an eye. No doubt the bees use their eyes, no doubt the flowers attract them because they know that honey is there; but any kind of distinctive mark would have served equally well. They certainly do not insist that the honey pots must be delicately and rarely beautiful before they will raid them. A bee keeper in time of honey shortage will often feed his bees with a mixture of sugar and water. There is no need to employ a skillful artist to paint artificial flowers so as to administer the food in a beautiful bowl! The bees will accept it in rough and ready form. Nothing could more fully demonstrate the fact that the food is the attraction; with inherited instinct as the normal guide.

If Nature had been purely utilitarian, surely the commonest of grass, fertilized by the wind, independent of insect attentions and with no delicate parts to get out of order, would have been not only dominant but supreme on earth. **Why should more delicate and complex forms exist at all?** Why become dependent on a particular kind of insect for the essential process of self-propagation? Above all, why such wonderful variety and beauty of flowers if only to please the eye of greedy creatures which in spite of all inherited instincts will take sugar from a stick?

The truth is that all through Nature there is a strange and subtle blend of good and evil. To deny design is to stultify our reason. Often there is duality of design. The same organ may be used to perform more than one office. Aesthetic qualities may be used partly for utilitarian purposes. The whole earth is a lesson in the evil and ugliness that has been, and the good and beauty that may be.

Even Darwin had to admit the Creator as a first cause. The only logical position is to admit Him as a *constant cause* - the one Great Reality in all the Universe. The blend of beauty

and ugliness, good and evil in the world has its counterpart in revelation. Greedy insects make beauty fruitful and human robbers are carrying out a similar work on the spiritual plane.

CHAPTER XII

SUMMARY

Strictly speaking the doctrine of Evolution does not explain anything or throw the faintest ray of light on the mystery of our origin. Its best effect is to stimulate thought and quicken our appreciation of the wonders of Nature, its worst effect is to remove God farther from us and to make men atheistic in heart if not in profession. The doctrine of development does not diminish the marvels of Creation because for everything that Nature has evolved there must have been a law or cause at least as wonderful as its effects.

One of the greatest scientists once pointed to a bird coming from an egg as an illustration of Evolution that we can see in progress. We must agree that an egg seems a simple object as compared with the bird; but when we reflect that, mysteriously concealed in the albumen of the egg are all the organs and powers of the bird to be, we may well doubt which is more wonderful. The living bird is marvel enough, but if anything it is still more marvelous that he, with all his power, should be invisibly packed away in a transparent blob of albumen.

The Evolutionist asks us to grant the unexplained existence of life in a world capable of sustaining it. He asks us to grant the existence of the unknown laws governing substance and only visible by their effects. He asks us to grant the existence of simple forms of life capable of growing, producing their kind, and with a capacity for almost infinite chance variations on which natural selection may act. Then God can be kept far away and the idea of a divine purpose with the earth can be scouted, while all that now exists can be explained by natural law. There is certainly not much left for natural selection when all the necessary postulates have been granted.

THE MATTER OF ORIGINS

But although the development theory does not and cannot throw any light upon the origin of Nature's wonders; although it is not in any way the complete explanation of life that some people have supposed; it is, nevertheless, a serious challenge to religion

in that it tends to remove God so far from His creatures. There is a fundamental distinction between creative design and the myriad effects of law. Probably every believer in creation will recognize that there are many effects which are no part of the original plan. Man was produced as a matter of design and with a definite end in view, but probably no one will maintain that racial or individual peculiarities were designed. Races have sometimes been stunted in growth by purely chance influences or through their own evil ways. According to this view, the human race was designed and put under laws, both physical and moral. The millions of causes which modify humanity are not controlled, and so there is free play for that which we sometimes call chance.

The Darwinian theory denies even the general plan. Perhaps it will be conceded that God started life on the earth, but if so much is admitted that is all. The development is regarded as the result of a billion chances in which laws have had effects never designed by the Lawgiver. We who believe in Creation might admit the probability that God never designed that there should be a race of human pygmies in mid Africa. These people have been stunted by purely natural laws, and the play of many chances. The true Darwinian claims that the very appearance of man on earth is equally the result of chance. Nature, had no design of any kind. The highest form of life might just as well have been an eel or an earth worm. The noblest plant might just as well have been the coarsest of grass or a poisonous fungus which should prove its "fitness" by exterminating everything else, both vegetable and animal.

There are doubtless many believers in Evolution who would deny these propositions and affirm their conviction, both in Creation and overruling Providence. They are not Darwinians, and perhaps we have no quarrel with them. Everybody believes in Evolution in the sense of unfolding powers. Eggs evolve into birds, acorns evolve into oaks. Each egg after its kind, and each seed after its kind. We may examine the germ as minutely as we choose but we shall never find packed away there the bird or the tree that is to be evolved. Yet the potentialities are there, even to the tiniest of details. Run some drab-coloured hens with a game

cock, and, although we are unable to trace the slightest difference in the eggs, the markings, the quality of flesh and the disposition of the sire will all come out in the chicks.

Some creatures pass through several stages of life involving such translation as to seem like miracle; but such evolution is ordered by law, and when the life cycle is completed, the whole process is repeated. If scientists can prove that there are life cycles, even more remarkable than those already well known, all lovers of truth will welcome the increase of knowledge. It is unfortunate, however, that many people would regard such discoveries as witnessing the truth of the Darwinian theory. **There is really no affinity between the two positions.** They exhibit contrast rather than comparison. In the one case we have an orderly unfolding from the embryo to the predetermined final effect. In the other case we have a theory that in final analysis all things that we see have been developed through the myriad chances produced by many conflicting laws and with no creative design whatsoever.

THE VEGETABLE WORLD

We have seen that this theory fails utterly at many points, and that repeatedly the efforts to define it do not touch the difficulty so far as the evidence of **the vegetable world** is concerned. The battle has been fought over animals and birds, and often the issue has been confused to the advantage of the development theory, when an appeal to the vegetable world would have exposed the hollowness of the arguments used.

Thus the objection that the struggle for existence is in itself a degrading influence, has been met by the claim that it brings compensations in the increased use of parts, the quickening of energies and the maintenance of organs in fit and vigorous condition. It has been pointed out that the struggle of the wild is not incessant. It is severe for a time, with considerable destruction and consequent selection, and then comes a period of peace and plenty in which the fittest "survive and are happy". It has been shown that in the struggle for food the most fit may escape to a more favoured locality so that even if there is temporary

degradation they soon recuperate while the unfit perish.

All this can be urged regarding animals, but is totally inapplicable to plants. In the vegetable world there is no rapid destruction, and there are no periods of relaxation. Seeds grow where they chance to find suitable lodgement, and there the plant lives and dies. If there is a struggle for existence it is incessant so far as the individual plant is concerned. If it is severe enough to destroy any, it will be severe enough to degrade all. It is a struggle for light and nourishment, and none can escape to a more favoured locality.

All practical experience goes to prove that wild plants are easy to degrade but hard to kill. Every practical gardener knows that cultivated plants will lose the most careful selected qualities if they are subjected to a struggle for existence. His whole effort is to prevent that struggle. When carrying out a selective process, he makes the most rapid destruction of the plants rejected, and the most complete preservation from all struggle of those selected. **Nothing could be more grotesque than the suggestion that there is a parallel between the work of the gardener and so-called natural selection.** The processes are distinctly opposite. It is worthy of note that Mr. D. H. Scott in *The Evolution of Plants* is careful to explain that natural selection is not the only force to be relied upon in explaining the evolution of plants. There are other forces, the nature of which he does not explain. It is difficult to resist the conclusion that natural selection has been accepted on authority, and scientists have been loath to discard it because there was nothing to put in its place. Certain it is that **the struggle for existence is always degrading to plants**, there is no escape of favoured plants to other localities; the battle has to be found out in the place where the seeds chance to germinate. Unless the struggle is extraordinarily severe, the plant once rooted will produce seed and while this degrading struggle is going on there is cross fertilization all the time between the fit and unfit.

We have seen that the law of economy of growth presses with merciless severity on the natural selection theory. The illustration of runners on the strawberry plant will surely be accepted by all who have any practical knowledge of the subject

as a conclusive demonstration of the fact that such new parts could not have been produced in the manner supposed.

We have also seen that dilution presents a far greater problem in the vegetable world than in animal life, and that the attempt to explain the isolation and preservation of the new species breaks down completely.

The argument regarding reversion and deterioration is worthy of closer attention than could be given with only once reading of the very simple statement of it presented in this work. Darwin admits the law and gives illustration from his own experiments to show how it works. His experiments confirm the experience of the present writer that sometimes the results of many generations of the most careful of selection may be swept away in very little while by this law of reversion. He shows, too, that the cross breeding of widely different varieties tend to bring the law into active operation, and cross fertilization inevitably takes place in the vegetable world.

Darwin admits that the effects of selection might often be lost through this tendency to revert to a less perfect type, but he suggests that as the gardener has been able to overcome this force, so might natural selection.

We again invite the reader to consider the case of a vegetable of, say, the brassica family with as many as a thousand seeds on one plant. The gardener will, if necessary, select the one plant out of a thousand that pleases him. He isolates it, nourishes it, preserves it from struggle, and ruthlessly destroys all the unfit before they can complete or interfere. If necessary he will repeat the one in a thousand selection the next year and for many more years until he has fixed the type. Who shall calculate the difference between the chance of preservation of an individual peculiarity in nature and in the well ordered nursery? In the first year we have one thousand multiplied by one thousand plus all the other factors involved in preservation of the seed bearer from struggle and the isolation of the favoured individual. What would be involved in several years of such numerical progression?

It is true that Nature is often equally drastic in destroying the great majority, but the destruction is not selective. A thousand

seeds are scattered to the winds, and only one may drop in a favoured place, escape all enemies to its growth and bring its seed to perfection. The hundred chances which have saved it probably have nothing to do with the peculiarity of its development. The parent plant may be a very choice growth, but its seeds will not bring a new generation to perfection unless they chance to drop in suitable soil. And it is certain that the bare patches of unoccupied soil will not be reserved for the embryo new species as in the garden. In Nature, all such available spots will be studded with plants from the old stock. The sportive new species will quickly have to conform to type. **There is certainly no comparison between so-called "natural selection," and the work of the gardener.** When Darwin made that remarkable admission regarding the effect of the tendency to revert, and appealed to the analogy of the gardener's work, he really gave his case away.

Then we have seen that the simplest forms of plants are the most tenacious of life and thus in the Darwinian sense are the fittest to survive. **Men have allowed themselves to be deceived by using the word "fit" with two contrary meanings.** If we are asked to pick from a richly furnished room the article most fit to survive, our verdict must depend entirely on the meaning of the word "fit". If the idea is to choose that which is most valuable in the eyes of men, it may be a fragile work of art, needing the utmost care to preserve it. If the idea is to choose the article which is most likely to survive a removal to another town, pick the ugliest, clumsiest and most worthless article in the room and you will probably have found the most fit. It must never be forgotten that according to the school of Darwin, there is no final object in Nature. There is no reason for the existence of the nobler forms of plants or animals unless they are better able to survive in the rough struggle of life. Even the appearance of man is regarded as the result of countless chance variations selected by the law of survival, with no controlling hand to guide the course of events and with no object in view.

Perhaps a change is now taking place in the thoughts of men, dethroning the theory of natural selection from the place it

has held. The ill effects of false doctrine will linger, however, long after the destructive theories have been repudiated by leaders of thought.

A few days ago a distinguished author complained that people "confuse the doctrine of Evolution, which is religious, with the doctrine of natural selection or survival of the fittest, which is devilish".

Here at last is a writer who begins to see the truth of the matter. Some readers might regard his remark as paradoxical, simply because the gross error which it challenges has been thoughtlessly accepted for many years. As a matter of fact he only states a truism.

Micro-Evolution (change) is a fact in Nature. It is the unfolding of powers that have been implanted in the substantial world, and it speaks to us of design and order and purpose, and of forces which are quite beyond our understanding. While naturalists seek to observe and classify the facts, they are truly scientific. When they put forth theories to account for the facts, they may easily go sadly astray and lead their followers to confusion.

When Darwin confined his work to observation of Nature and classification of facts, he had few equals, and his work was valuable. When he attempted to explain final causes and the wonder of human life, solely on the basis of materialistic observations, he became an enemy to truth and righteousness.

Before his death, Darwin came to recognize that in earlier days he had attributed too much to natural selection. He perceived that it was a less potent force than he had originally supposed. Every argument that has come to light since his day has tended still further to pull down the natural selection theory from the place in which he tried to enthrone it. Modern exponents of Evolution have far less to say regarding this "ever watchful force," which at one time was supposed to be capable of taking the place of God.

If these fragmentary notes regarding the vegetable world can effect anything further toward the overthrow of this essentially atheistic theory, they will not be devoid of value.