CHAPTER XIV.

PRIMITIVE MAN. CONSIDERED WITH REFERENCE TO MODERN THEORIES AS TO HIS ORIGIN.

THE geological record, as we have been reading it, introduces us to primitive man, but gives us no distinct information as to his origin. Tradition and revelation have, it is true, their solutions of the mystery, but there are, and always have been, many who will not take these on trust, but must grope for themselves with the taper of science or philosophy into the dark caverns whence issue the springs of humanity. In former times it was philosophic speculation alone which lent its dim and uncertain light to these bold inquirers; but in our day the new and startling discoveries in physics, chemistry, and biology have flashed up with an unexpected brilliancy, and have at least served to dazzle the eyes and encourage the hopes of the curious, and to lead to explorations more bold and systematic than any previously undertaken. Thus has been born amongst us, or rather renewed, for it is a very old thing, that evolutionist philosophy, which has been well characterised as the "baldest of all the philosophies which have sprung up in our world," and which solves the question of human origin by the assumption that human nature exists potentially in mere inorganic matter, and that a chain

of spontaneous derivation connects incandescent molecules or star-dust with the world, and with man himself.

This evolutionist doctrine is itself one of the strangest phenomena of humanity. It existed, and most naturally, in the oldest philosophy and poetry, in connection with the crudest and most uncritical attempts of the human mind to grasp the system of nature; but that in our day a system destitute of any shadow of proof, and supported merely by vague analogies and figures of speech, and by the arbitrary and artificial coherence of its own parts, should be accepted as a philosophy, and should find able adherents to string upon its thread of hypotheses our vast and weighty stores of knowledge, is surpassingly strange. It seems to indicate that the accumulated facts of our age have gone altogether beyond its capacity for generalisation; and but for the vigour which one sees everywhere, it might be taken as an indication that the human mind has fallen into a state of senility, and in its dotage mistakes for science the imaginations which were the dreams of its youth.

In many respects these speculations are important and worthy of the attention of thinking men. They seek to revolutionise the religious beliefs of the world, and if accepted would destroy most of the existing theology and philosophy. They indicate tendencies among scientific thinkers, which, though probably temporary, must, before they disappear, descend to lower strata, and reproduce themselves in grosser

forms, and with most serious effects on the whole structure of society. With one class of minds they constitute a sort of religion, which so far satisfies the craving for truths higher than those which relate to immediate wants and pleasures. With another and perhaps larger class, they are accepted as affording a welcome deliverance from all scruples of conscience and fears of a hereafter. In the domain of science evolutionism has like tendencies. It reduces the position of man, who becomes a descendant of inferior animals, and a mere term in a series whose end is unknown. It removes from the study of nature the ideas of final cause and purpose; and the evolutionist, instead of regarding the world as a work of consummate plan, skill, and adjustment, approaches nature as he would a chaos of fallen rocks, which may present forms of castles and grotesque profiles of men and animals, but they are all fortuitous and without significance. It obliterates the fine perception of differences from the mind of the naturalist, and resolves all the complicated relations of living things into some simple idea of descent with modification. It thus destroys the possibility of a philosophical classification, reducing all things to a mere series, and leads to a rapid decay in systematic zoology and botany, which is already very manifest among the disciples of Spencer and Darwin in England. The effect of this will be, if it proceeds further, in a great degree to destroy the educational value and popular interest attaching to these sciences, and to throw them

down at the feet of a system of debased metaphysics. As redeeming features in all this, are the careful study of varietal forms, and the inquiries as to the limits of species, which have sprung from these discussions, and the harvest of which will be reaped by the true naturalists of the future.

Thus these theories as to the origin of men and animals and plants are full of present significance, and may be studied with profit by all; and in no part of their applications more usefully than in that which relates to man. Let us then inquire,—1. What is implied in the idea of evolution as applied to man? 2. What is implied in the idea of creation? 3. How these several views accord with what we actually know as the result of scientific investigation? The first and second of these questions may well occupy the whole of this chapter, and we shall be able merely to glance at their leading aspects. In doing so, it may be well first to place before us in general terms the several alternatives which evolutionists offer, as to the mode in which the honour of an origin from apes or ape-like animals can be granted to us, along with the opposite view as to the independent origin of man which have been maintained either on scientific or scriptural grounds.

All the evolutionist theories of the origin of man depend primarily on the possibility of his having been produced from some of the animals more closely allied to him, by the causes now in operation which lead to varietal forms, or by similar causes which have

been in operation; and some attach more and others less weight to certain of these causes, or gratuitously suppose others not actually known. Of such causes of change some are internal and others external to the organism. With respect to the former, one school assumes an innate tendency in every species to change in the course of time.* Another believes in exceptional births, either in the course of ordinary generation or by the mode of parthenogenesis.† Another refers to the known facts of reproductive acceleration or retardation observed in some humble creatures.‡ New forms arising in any of these ways or fortuitously, may, it is supposed, be perpetuated and increased and further improved by favouring external circumstances and the effort of the organism to avail itself of these,§ or by the struggle for existence and the survival of the fittest. ||

On the other hand, those who believe in the independent origin of man admit the above causes as adequate only to produce mere varieties, liable to return into the original stock. They may either hold that man has appeared as a product of special and miraculous creation, or that he has been created mediately by the operation of forces also concerned in the production of other animals, but the precise nature of which is still unknown to us; or lastly, they may hold what seems to be the view favoured by the book of Genesis, that his bodily form is a product

* Parsons, Owen. † Mivart, Ferris.
‡ Hyatt and Cope. § Lamarck, etc. || Darwin, etc.

of mediate creation and his spiritual nature a direct emanation from his Creator.

The discussion of all these rival theories would occupy volumes, and to follow them into details would require investigations which have already bewildered many minds of some scientific culture. Further, it is the belief of the writer that this plunging into multitudes of details has been fruitful of error, and that it will be a better course to endeavour to reach the root of the matter by looking at the foundations of the general doctrine of evolution itself, and then contrasting it with its rival.

Taking, then, this broad view of the subject, two great leading alternatives are presented to us. Either man is an independent product of the will of a Higher Intelligence, acting directly or through the laws and materials of his own institution and production, or he has been produced by an unconscious evolution from lower things. It is true that many evolutionists, either unwilling to offend, or not perceiving the logical consequences of their own hypothesis, endeavour to steer a middle course, and to maintain that the Creator has proceeded by way of evolution. But the bare, hard logic of Spencer, the greatest English authority on evolution, leaves no place for this compromise, and shows that the theory, carried out to its legitimate consequences, excludes the knowledge of a Creator and the possibility of His work. We have, therefore, to choose between evolution and creation; bearing in mind, however, that there may be a place

in nature for evolution, properly limited, as well as for other things, and that the idea of creation by no means excludes law and second causes.

Limiting ourselves in the first place to theories of evolution, and to these as explaining the origin of species of living beings, and especially of man, we naturally first inquire as to the basis on which they are founded. Now no one pretends that they rest on facts actually observed, for no one has ever observed the production of even one species. Nor do they even rest, like the deductions of theoretical geology, on the extension into past time of causes of change now seen to be in action. Their probability depends entirely on their capacity to account hypothetically for certain relations of living creatures to each other, and to the world without; and the strongest point of the arguments of their advocates is the accumulation of cases of such relations supposed to be accounted for. Such being the kind of argument with which we have to deal, we may first inquire what we are required to believe as conditions of the action of evolution, and secondly, to what extent it actually does explain the phenomena.

In the first place, as evolutionists, we are required to assume certain forces, or materials, or both, with which evolution shall begin. Darwin, in his Origin of Species, went so far as to assume the existence of a few of the simpler types of animals; but this view, of course, was only a temporary resting-place for his theory. Others assume a primitive protoplasm, or

physical basis of life, and arbitrarily assigning to this substance properties now divided between organised and unorganised, and between dead and living matter, find no difficulty in deducing all plants and animals from it. Still, even this cannot have been the ultimate material. It must have been evolved from something. We are thus brought back to certain molecules of star-dust, or certain conflicting forces, which must have had self-existence, and must have potentially included all subsequent creatures. Otherwise, if with Spencer we hold that God is "unknowable," and creation "unthinkable," we are left suspended on nothing over a bottomless void, and must adopt as the initial proposition of our philosophy, that all things were made out of nothing, and by nothing; unless we prefer to doubt whether anything exists, and to push the doctrine of relativity to the unscientific extreme of believing that we can study the relations of things non-existent or unknown. So we must allow the evolutionist some small capital to start with; observing, however, that self-existent matter in a state of endless evolution is something of which we cannot possibly have any definite conception.

Being granted thus much, the evolutionist next proceeds to demand that we shall also believe in the indefinite variability of material things, and shall set aside all idea that there is any difference in kind between the different substances which we know. They must all be mutually convertible, or at least

derivable from some primitive material. It is true that this is contrary to experience. The chemist tells that matter is of different kinds, that one element cannot be converted into another; and he would probably smile if told that, even in the lapse of enormous periods of time, limestone could be evolved out of silica. He may think that this is very different from the idea that a snail can be evolved from an oyster, or a bird from a reptile. But the zoologist will inform him that species of animals are only variable within certain limits, and are not transmutable, in so far as experience and experiment are concerned. They have their allotropic forms, but cannot be changed into one another.

But if we grant this second demand, the evolutionist has a third in store for us. We must also admit that by some inevitable necessity the changes of things must in the main take place in one direction, from the more simple to the more complex, from the lower to the higher. At first sight this seems not only to follow from the previous assumptions, but to accord with observation. Do not all living things rise from a simpler to a more complex state? has not the history of the earth displayed a gradually increasing elevation and complexity? But, on the other hand, the complex organism becoming mature, resolves itself again into the simple germ, and finally is dissolved into its constituent elements. The complex returns into the simple, and what we see is not an evolution, but a revolution. In like manner, in

geological time, the tendency seems to be ever to disintegration and decay. This we see everywhere, and find that elevation occurs only by the introduction of new species in a way which is not obvious, and which may rather imply the intervention of a cause from without; so that here also we are required to admit as a general principle what is contrary to experience.

If, however, we grant the evolutionist these postulates, we must next allow him to take the facts of botany and zoology out of their ordinary connection, and thread them like a string of beads, as Herbert Spencer has done in his "Biology," on the threefold cord thus fashioned. This done, we next find, as might have been expected, certain gaps or breaks which require to be cunningly filled with artificial material, in order to give an appearance of continuity to the whole.

The first of these gaps which we notice is that between dead and living matter. It is easy to fill this with such a term as protoplasm, which includes matter both dead and living, and so to ignore this distinction; but practically we do not yet know as a possible thing the elevation of matter, without the agency of a previous living organism, from that plane in which it is subject merely to physical force, and is unorganised, to that where it becomes organised, and lives. Under that strange hypothesis of the origin of life from meteors, with which Sir William Thomson closed his address at a late meeting of the British

Association, there was concealed a cutting sarcasm which the evolutionists felt. It reminded them that the men who evolve all things from physical forces do not yet know how these forces can produce the phenomena of life even in its humblest forms. It is true that the scientific world has been again and again startled by the announcement of the production of some of the lowest forms of life, either from dead organic matter, or from merely mineral substances; but in every case heretofore the effort has proved as vain as the analogies attempted to be set up between the formation of crystals and that of organized tissues are fallacious.

A second gap is that which separates vegetable and animal life. These are necessarily the converse of each other, the one deoxidizes and accumulates, the other oxidizes and expends. Only in reproduction or decay does the plant simulate the action of the animal, and the animal never in its simplest forms assumes the functions of the plant. Those obscure cases in the humbler spheres of animal and vegetable life which have been supposed to show a union of the two kingdoms, disappear on investigation. This gap can, I believe, be filled up only by an appeal to our ignorance. There may be, or may have been, some simple creature unknown to us, on the extreme verge of the plant kingdom, that was capable of passing the limit and becoming an animal. But no proof of this exists. It is true that the primitive germs of many kinds of humble plants and animals

are so much alike, that much confusion has arisen in tracing their development. It is also true that some of these creatures can subsist under very dissimilar conditions, and in very diverse states, and that under the specious name of Biology,* we sometimes find a mass of these confusions, inaccurate observations and varietal differences made to do duty for scientific facts. But all this does not invalidate the grand primary distinction between the animal and the plant, which should be thoroughly taught and illustrated to all young naturalists, as one of the best antidotes to the fallacies of the evolutionist school.

A third is that between any species of animal or plant and any other species. It was this gap, and this only, which Darwin undertook to fill up by his great work on the origin of species, but, notwithstanding the immense amount of material thus expended, it yawns as wide as ever, since it must be

* It is doubtful whether men who deny the existence of vital force have a right to call their science "Biology," any more than atheists have to call their doctrine "Theology;" and it is certain that the assumption of a science of Biology as distinct from Phytology and Zoology, or including both, is of the nature of a "pious fraud" on the part of the more enlightened evolutionists. The objections stated in the text, to what have been called Archebiosis and Heterogenesis seem perfectly applicable, in so far as I can judge from a friendly review by Wallace, to the mass of heterogeneous material accumulated by Dr. Bastian in his recent volumes. The conclusions of this writer, would also, if established, involve evolution in a fatal *embarras des richesses*, by the hourly production during all geological time, of millions of new forms all capable of indefinite development.

admitted that no case has been ascertained in which an individual of one species has transgressed the limits between it and other species. However extensive the varieties produced by artificial breeding, the essential characters of the species remain, and even its minor characters may be reproduced, while the barriers established in nature between species by the laws of their reproduction, seem to be absolute.

With regard to species, however, it must be observed that naturalists are not agreed as to what constitutes a species. Many so-called species are probably races or varieties, and one benefit of these inquiries has been to direct attention to the proper discrimination of species from varieties among animals and plants. The loose discrimination of species, and the tendency to multiply names, have done much to promote evolutionist views; but the researches of the evolutionists themselves have shown that we must abandon transmutation of true species as a thing of the present; and if we imagine it to have occurred, must refer it to the past.

Another gap is that between the nature of the animal and the self-conscious, reasoning, moral nature of man. We not only have no proof that any animal can, by any force in itself, or by any merely physical influences from without, rise to such a condition; but the thing is in the highest degree improbable. It is easy to affirm, with the grosser materialists, that thought is a secretion of brain, as bile is of the liver; but a moment's thought shows that no real

analogy obtains between the cases. We may vaguely suppose, with Darwin, that the continual exercise of such powers as animals possess, may have developed those of man. But our experience of animals shows that their intelligence differs essentially from that of man, being a closed circle ever returning into itself, while that of man is progressive, inventive, and accumulative, and can no more be correlated with that of the animal than the vital phenomena of the animal with those of the plant. Nor can the gap between the higher religious and moral sentiments of man, and the instinctive affections of the brutes, be filled up with that miserable ape imagined by Lubbock, which, crossed in love, or pining with cold and hunger, conceived, for the first time in its poor addled pate, "the dread of evil to come," and so became the father of theology. This conception, which Darwin gravely adopts, would be most ludicrous, but for the frightful picture which it gives of the aspect in which religion appears to the mind of the evolutionist.

The reader will now readily perceive that the simplicity and completeness of the evolutionist theory entirely disappear when we consider the unproved assumptions on which it is based, and its failure to connect with each other some of the most important facts in nature: that, in short, it is not in any true sense a philosophy, but merely an arbitrary arrangement of facts in accordance with a number of unproved hypotheses. Such philosophies, "falsely so called,"

have existed ever since man began to reason on nature, and this last of them is one of the weakest and most pernicious of the whole. Let the reader take up either of Darwin's great books, or Spencer's "Biology," and merely ask himself as he reads each paragraph, "What is assumed here and what is proved?" and he will find the whole fabric melt away like a vision. He will find, however, one difference between these writers. Darwin always states facts carefully and accurately, and when he comes to a difficulty tries to meet it fairly. Spencer often exaggerates or extenuates with reference to his facts, and uses the arts of the dialectician where argument fails.

Many naturalists who should know better are puzzled with the great array of facts presented by evolutionists; and while their better judgment causes them to doubt as to the possibility of the structures which they study being produced by such blind and material processes, are forced to admit that there must surely be something in a theory so confidently asserted, supported by so great names, and by such an imposing array of relations which it can explain. They would be relieved from their weak concessions were they to study carefully a few of the instances adduced, and to consider how easy it is by a little ingenuity to group undoubted facts around a false theory. I could wish to present here illustrations of this, which abound in every part of the works I have referred to, but space will not permit. One or two must suffice. The first may be taken from one of

the strong points often dwelt on by Spencer in his "Biology."*

"But the experiences which most clearly illustrate to us the process of general evolution are our experiences of special evolution, repeated in every plant and animal. Each organism exhibits, within a short space of time, a series of changes which, when supposed to occupy a period indefinitely great and to go on in various ways instead of one, may give us a tolerably clear conception of organic evolution in general. In an individual development we have compressed into a comparatively infinitesimal space a series of metamorphoses equally vast with those which the hypothesis of evolution assumes to have taken place during those unmeasurable epochs that the earth's crust tells us of. A tree differs from a seed immeasurably in every respect—in bulk, in structure, in colour, in form, in specific gravity, in chemical composition: differs so greatly that no visible resemblance of any kind can be pointed out between them. Yet is the one changed in the course of a few years into the other; changed so gradually that at no moment can it be said, 'Now the seed ceases to be and the tree exists.' What can be more widely contrasted than a newly-born child and the small gelatinous spherule constituting the human ovum? The infant is so complex in structure that a cyclopædia is needed to describe its constituent parts. The germinal vesicle is so simple

* "Principles of Biology," § 118.

that it may be defined in a line. . . . If a single cell under appropriate conditions becomes a man in the space of a few years, there can surely be no difficulty in understanding how, under appropriate conditions, a cell may in the course of untold millions of years give origin to the human race."

"It is true that many minds are so unfurnished with those experiences of nature, out of which this conception is built, that they find difficulty in forming it. . . . To such the hypothesis that by any series of changes a protozoan should ever give origin to a mammal seems grotesque—as grotesque as did Galileo's assertion of the earth's movement seem to the Aristoteleans; or as grotesque as the assertion of the earth's sphericity seems now to the New Zealanders."

I quote the above as a specimen of evolutionist reasoning from the hand of a master, and as referring to one of the corner-stones of this strange philosophy. I may remark with respect to it, in the first place, that it assumes those "conditions" of evolution to which I have already referred. In the second place, it is full of inaccurate statements of fact, all in a direction tending to favour the hypothesis. For example, a tree does not differ "immeasurably" from a seed, especially if the seed is of the same species of tree, for the principal parts of the tree and its principal chemical constituents already exist and can be detected in the seed, and unless it were so, the development of the tree from the seed could not take

place. Besides, the seed itself is not a thing self-existent or fortuitous. The production of a seed without a previous tree of the same kind is quite as difficult to suppose as the production of a tree without a previous seed containing its living embryo. In the third place, the whole argument is one of analogy. The germ becomes a mature animal, passing through many intermediate stages, therefore the animal may have descended from some creature which when mature was as simple as the germ. The value of such an analogy depends altogether on the similarity of the "conditions," which, in such a case, are really the efficient causes at work. The germ of a mammal becomes developed by the nourishment supplied from the system of a parent, which itself produced the germ, and into whose likeness the young animal is destined to grow. These are the "appropriate conditions" of its development. But when our author assumes from this other "appropriate conditions," by which an organism, which on the hypothesis is not a germ but a mature animal, shall be developed into the likeness of something different from its parent, he oversteps the bounds of legitimate analogy. Further, the reproduction of the animal, as observed, is a closed series, beginning at the embryo and returning thither again; the evolution attempted to be established is a progressive series going on from one stage to another. A reproductive circle once established obeys certain definite laws, but its origin, or how it can leave its orbit and revolve in some other, we

cannot explain without the introduction of some new efficient cause. The one term of the analogy is a revolution, and the other is an evolution. The revolution within the circle of the reproduction of the species gives no evidence that at some point the body will fly off at a tangent, and does not even inform us whether it is making progress in space. Even if it is so making progress, its orbit of revolution may remain the same. But it may be said the reproduction of the species is not in a circle but in a spiral. Within the limit of experience it is not so, since, however it may undulate, it always returns into itself. But supposing it to be a spiral, it may ascend or descend, or expand and contract; but this does not connect it with other similar spirals, the separate origin of which is to be separately accounted for.

I have quoted the latter part of the passage because it is characteristic of evolutionists to decry the intelligence of those who differ from them. Now it is fair to admit that it requires some intelligence and some knowledge of nature to produce or even to understand such analogies as those of Mr. Spencer and his followers, but it is no less true that a deeper insight into the study of nature may not only enable us to understand these analogies, but to detect their fallacies. I am sorry to say, however, that at present the hypothesis of evolution is giving so strong a colouring to much of popular and even academic teaching, more especially in the easy and flippant conversion of the facts of embryology into instances

of evolution on the plan of the above extract, that the Spencerians may not long have to complain of want of faith and appreciation on the part of the improved apes whom they are kind enough to instruct as to their lowly origin.

The mention of "appropriate conditions" in the above extract reminds me of another fatal objection to evolution which its advocates continually overlook. An animal or plant advancing from maturity to the adult state is in every stage of its progress a complete and symmetrical organism, correlated in all its parts and adapted to surrounding conditions. Suppose it to become modified in any way, to ever so small an extent, the whole of these relations are disturbed. If the modification is internal and spontaneous, there is no guarantee that it will suit the vastly numerous external agencies to which the creature is subjected. If it is produced by agencies from without, there is no guarantee that it will accord with the internal relations of the parts modified. The probabilities are incalculably great against the occurrence of many such disturbances without the breaking up altogether of the nice adjustment of parts and conditions. This is no doubt one reason of the extinction of so many species in geological time, and also of the strong tendency of every species to spring back to its normal condition when in any way artificially caused to vary. It is also connected with the otherwise mysterious law of the constant transmission of all the characters of the parent.

Spencer and Darwin occasionally see this difficulty, though they habitually neglect it in their reasonings. Spencer even tries to turn one part of it to account as follows :—

"Suppose the head of a mammal to become very much more weighty—what must be the indirect results? The muscles of the neck are put to greater exertions; and the vertebræ have to bear additional tensions and pressures caused both by the increased weight of the head and the stronger contraction of muscles that support and move the head." He goes on to say that the processes of the vertebræ will have augmented strains put upon them, the thoracic region and fore limbs will have to be enlarged, and even the hind limbs may require modification to facilitate locomotion. He concludes: "Any one who compares the outline of the bison with that of its congener, the ox, will clearly see how profoundly a heavier head affects the entire osseous and muscular system."

We need not stop to mention the usual inaccuracies as to facts in this paragraph, as, for example, the support of the head being attributed to muscles alone, without reference to the strong elastic ligament of the neck. We may first notice the assumption that an animal can acquire a head "very much more weighty" than that which it had before, a very improbable supposition, whether as a monstrous birth or as an effect of external conditions after birth. But suppose this to have occurred, and what is even less likely, that the very much heavier head is an advan-

tage in some way, what guarantee can evolution give us that the number of other modifications required would take place simultaneously with this acquisition? It would be easy to show that this would depend on the concurrence of hundreds of other conditions within and without the animal, all of which must co-operate to produce the desired effect, if indeed they could produce this effect even by their conjoint action, a power which the writer, it will be observed, quietly assumes, as well as the probability of the initial change in the head. Finally, the *naïveté* with which it is assumed that the bison and the ox are examples of such an evolution, would be refreshing in these artificial days, if instances of it did not occur in almost every page of the writings of evolutionists.

It would only weary the reader to follow evolution any further into details, especially as my object in this chapter is to show that generally, and as a theory of nature and of man, it has no good foundation; but we should not leave the subject without noting precisely the derivation of man according to this theory; and for this purpose I may quote Darwin's summary of his conclusions on the subject.*

"Man," says Mr. Darwin, "is descended from a hairy quadruped, furnished with a tail and pointed ears, probably arboreal in its habits, and an inhabitant of the Old World. This creature, if its whole structure had been examined by a naturalist, would have been classed amongst the quadrumana, as surely

* "Descent of Man," part ii., ch. 21.

as would the common, and still more ancient, progenitor of the Old and New World monkeys. The quadrumana and all the higher mammals are probably derived from an ancient marsupial animal; and this, through a long line of diversified forms, either from some reptile-like or some amphibian-like creature, and this again from some fish-like animal. In the dim obscurity of the past we can see that the early progenitor of all the vertebrata must have been an aquatic animal, provided with branchiæ, with the two sexes united in the same individual, and with the most important organs of the body (such as the brain and heart) imperfectly developed. This animal seems to have been more like the larvæ of our existing marine Ascidians than any other form known."

The author of this passage, in condescension to our weakness of faith, takes us no further back than to an Ascidian, or "sea-squirt," the resemblance, however, of which to a vertebrate animal is merely analogical, and, though a very curious case of analogy, altogether temporary and belonging to the young state of the creature, without affecting its adult state or its real affinities with other mollusks. In order, however, to get the Ascidian itself, he must assume all the "conditions" already referred to in the previous part of this article, and fill most of the gaps. He has, however, in the "Origin of Species" and "Descent of Man," attempted merely to fill one of the breaks in the evolutionary series, that between distinct pecies, leaving us to receive all the rest on mere

faith. Even in respect to the question of species, in all the long chain between the Ascidian and the man, he has not certainly established one link; and in the very last change, that from the ape-like ancestor, he equally fails to satisfy us as to matters so trivial as the loss of the hair, which, on the hypothesis, clothed the pre-human back, and on matters so weighty as the dawn of human reason and conscience.

We thus see that evolution as an hypothesis has no basis in experience or in scientific fact, and that its imagined series of transmutations has breaks which cannot be filled. We have now to consider how it stands with the belief that man has been created by a higher power. Against this supposition the evolutionists try to create a prejudice in two ways. First, they maintain with Herbert Spencer that the hypothesis of creation is inconceivable, or, as they say, "unthinkable;" an assertion which, when examined, proves to mean only that we do not know perfectly the details of such an operation, an objection equally fatal to the origin either of matter or life, on the hypothesis of evolution. Secondly, they always refer to creation as if it must be a special miracle, in the sense of a contravention of or departure from ordinary natural laws; but this is an assumption utterly without proof, since creation may be as much according to law as evolution, though in either case the precise laws involved may be very imperfectly known.

How absurd, they say, to imagine an animal created

at once, fully formed, by a special miracle, instead of supposing it to be slowly elaborated through countless ages of evolution. To Darwin the doctrine of creation is but "a curious illustration of the blindness of preconceived opinion." "These authors," he says, "seem no more startled at a miraculous act of creation than at an ordinary birth; but do they really believe that at innumerable periods in the earth's history, certain elemental atoms have been commanded suddenly to flash into living tissues?" Darwin, with all his philosophic fairness, sometimes becomes almost Spencerian in his looseness of expression; and in the above extract, the terms "miraculous," "innumerable," "elemental atoms," "suddenly," and "flash," all express ideas in no respect necessary to the work of creation. Those who have no faith in evolution as a cause of the production of species, may well ask in return how the evolutionist can prove that creation must be instantaneous, that it must follow no law, that it must produce an animal fully formed, that it must be miraculous. In short, it is a portion of the policy of evolutionists to endeavour to tie down their opponents to a purely gratuitous and ignorant view of creation, and then to attack them in that position.

What, then, is the actual statement of the theory of creation as it may be held by a modern man of science? Simply this; that all things have been produced by the Supreme Creative Will, acting either directly or through the agency of the forces and materials of His own production.

This theory does not necessarily affirm that creation is miraculous, in the sense of being contrary to or subversive of law; law and order are as applicable to creation as to any other process. It does not contradict the idea of successive creations. There is no necessity that the process should be instantaneous and without progression. It does not imply that all kinds of creation are alike. There may be higher and lower kinds. It does not exclude the idea of similarity or dissimilarity of plan and function as to the products of creation. Distinct products of creation may be either similar to each other in different degrees, or dissimilar. It does not even exclude evolution or derivation to a certain extent: anything once created may, if sufficiently flexible and elastic, be evolved or involved in various ways. Indeed, creation and derivation may, rightly understood, be complementary to each other. Created things, unless absolutely unchangeable, must be more or less modified by influences from within and from without, and derivation or evolution may account for certain subordinate changes of things already made. Man, for example, may be a product of creation, yet his creation may have been in perfect harmony with those laws of procedure which the Creator has set for His own operations. He may have been preceded by other creations of things more or less similar or dissimilar. He may have been created by the same processes with some or all of these, or by different means. His body may have been created in one way, his soul in another. He

may, nay, in all probability would be, part of a plan of which some parts would approach very near to him in structure or functions. After his creation, spontaneous culture and outward circumstances may have moulded him into varieties, and given him many different kinds of speech and of habits. These points are so obvious to common sense that it would be quite unnecessary to insist on them, were they not habitually overlooked or misstated by evolutionists.

The creation hypothesis is also free from some of the difficulties of evolution. It avoids the absurdity of an eternal progression from the less to the more complex. It provides in *will*, the only source of power actually known to us by ordinary experience, an intelligible origin of nature. It does not require us to contradict experience by supposing that there are no differences of kind or essence in things. It does not require us to assume, contrary to experience, an invariable tendency to differentiate and improve. It does not exact the bridging over of all gaps which may be found between the several grades of beings which exist or have existed.

Why, then, are so many men of science disposed to ignore altogether this view of the matter? Mainly, I believe, because, from the training of many of them, they are absolutely ignorant of the subject, and from their habits of thought have come to regard physical force and the laws regulating it as the one power in nature, and to relegate all spiritual powers or forces,

or, as they have been taught to regard them, "supernatural" things, to the domain of the "unknowable." Perhaps some portion of the difficulty may be got over by abandoning altogether the word "supernatural," which has been much misused, and by holding nature to represent the whole cosmos, and to include both the *physical* and the *spiritual*, both of them in the fullest sense subject to law, but each to the law of its own special nature. I have read somewhere a story of some ignorant orientals who were induced to keep a steam-engine supplied with water by the fiction that it contained a terrible *djin*, or demon, who, if allowed to become thirsty, would break out and destroy them all. Had they been enabled to discard this superstition, and to understand the force of steam, we can readily imagine that they would now suppose they knew the whole truth, and might believe that any one who taught them that the engine was a product of intelligent design, was only taking them back to the old doctrine of the thirsty demon of the boiler. This is, I think, at present, the mental condition of many scientists with reference to creation.

Here we come to the first demand which the doctrine of creation makes on us by way of premises. In order that there may be creation there must be a primary Self-existent Spirit, whose will is supreme. The evolutionist cannot refuse to admit this on as good ground as that on which we hesitate to receive the postulates of his faith. It is no real objection to say that a God can be known to us only partially, and,

with reference to His real essence, not at all; since, even if we admit this, it is no more than can be said of matter and force.

I am not about here to repeat any of the ordinary arguments for the existence of a spiritual First Cause, and Creator of all things, but it may be proper to show that this assumption is not inconsistent with experience, or with the facts and principles of modern science. The statement which I would make on this point shall be in the words of a very old writer, not so well known as he should be to many who talk volubly enough about antagonisms between science and Christianity: "That which is known of God is manifest in them (in men), for God manifested it unto them. For since the creation of the world His invisible things, even His eternal power and divinity are plainly seen, being perceived by means of things that are made." * The statement here is very precise. Certain things relating to God are manifest within men's minds, and are proved by the evidence of His works; these properties of God thus manifested being specially His power or control of all forces, and His divinity or possession of a nature higher than ours. The argument of the writer is that all heathens know this; and, as a matter of fact, I believe it must be admitted even by those most sceptical on such points, that some notion of a divinity has been derived from nature by men of all nations and tribes, if we except, perhaps, a few enlightened positivists of this nineteenth century,

* Paul's Epistle to the Romans, chap. i.

whom excess of light has made blind. "If the light that is in man be darkness, how great is that darkness." But then this notion of a God is a very old and primitive one, and Spencer takes care to inform us that "first thoughts are either wholly out of harmony with things, or in very incomplete harmony with them," and consequently that old beliefs and generally diffused notions are presumably wrong.

Is it true, however, that the modern knowledge of nature tends to rob it of a spiritual First Cause? One can conceive such a tendency, if all our advances in knowledge had tended more and more to identify force with matter in its grosser forms, and to remove more and more from our mental view those powers which are not material; but the very reverse of this is the case. Modern discovery has tended more and more to attach importance to certain universally diffused media which do not seem to be subject to the laws of ordinary matter, and to prove at once the Protean character and indestructibility of forces, the aggregate of which, as acting in the universe, gives us our nearest approach to the conception of physical omnipotence. This is what so many of our evolutionists mean when they indignantly disclaim materialism. They know that there is a boundless energy beyond mere matter, and of which matter seems the sport and toy. Could they conceive of this energy as the expression of a personal will, they would become theists.

Man himself presents a microcosm of matter and force, raised to a higher plane than that of the merely

chemical and physical. In him we find not merely that brain and nerve force which is common to him and lower animals, and which exhibits one of the most marvellous energies in nature, but we have the higher force of will and intellect, enabling him to read the secrets of nature, to seize and combine and utilize its laws like a god, and like a god to attain to the higher discernment of good and evil. Nay, more, this power which resides within man rules with omnipotent energy the material organism, driving its nerve forces until cells and fibres are worn out and destroyed, taxing muscles and tendons till they break, impelling its slave the body even to that which will bring injury and death itself. Surely, what we thus see in man must be the image and likeness of the Great Spirit. We can escape from this conclusion only by one or other of two assumptions, either of which is rather to be called a play upon words than a scientific theory. We may, with a certain class of physicists and physiologists, confine our attention wholly to the fire and the steam, and overlook the engineer. We may assume that with protoplasm and animal electricity, for example, we can dispense with life, and not only with life but with spirit also. Yet he who regards vitality as an unmeaning word, and yet speaks of "living protoplasm," and "dead protoplasm," and affirms that between these two states, so different in their phenomena, no chemical or physical difference exists, is surely either laughing at us, or committing himself to what the Duke of Argyll calls a philosophical bull; and

he who shows us that electrical discharges are concerned in muscular contraction, has just as much proved that there is no need of life or spirit, as the electrician who has explained the mysteries of the telegraph has shown that there can be no need of an operator. Or we may, turning to the opposite extreme, trust to the metaphysical fallacy of those who affirm that neither matter, nor force, nor spirit, need concern them, for that all are merely states of consciousness in ourselves. But what of the conscious self—this self which thinks, and which is in relation with surroundings which it did not create, and which presumably did not create it? and what is the unknown third term which must have been the means of setting up these relations? Here again our blind guides involve us in an absolute self-contradiction.

Thus we are thrown back on the grand old truth that man, heathen and savage, or Christian and scientific, opens his eyes on nature and reads therein both the physical and the spiritual, and in connection with both of these the power and divinity of an Almighty Creator. He may at first have many wrong views both of God and of His works, but as he penetrates further into the laws of matter and mind, he attains more just conceptions of their relations to the Great Centre and Source of all, and instead of being able to dispense with creation, he hopes to be able at length to understand its laws and methods. If unhappily he abandons this high ambition, and contents himself with mere matter and physical force, he

cannot rise to the highest development either of science or philosophy.

It may, however, be said that evolution may admit all this, and still be held as a scientific doctrine in connection with a modified belief in creation. The work of actual creation may have been limited to a few elementary types, and evolution may have done the rest. Evolutionists may still be theists. We have already seen that the doctrine, as carried out to its logical consequences, excludes creation and theism. It may, however, be shown that even in its more modified forms, and when held by men who maintain that they are not atheists, it is practically atheistic, because excluding the idea of plan and design, and resolving all things into the action of unintelligent forces. It is necessary to observe this, because it is the half-way evolutionism which professes to have a Creator somewhere behind it, that is most popular; though it is, if possible, more unphilosophical than that which professes to set out from absolute and eternal nonentity, or from self-existent star-dust containing all the possibilities of the universe.

Absolute atheists recognise in Darwinism, for example, a philosophy which reduces all things to a "gradual summation of innumerable minute and accidental material operations," and in this they are more logical than those who seek to reconcile evolution with design. Huxley, in his "lay sermons," referring to Paley's argument for design founded on the structure of a watch, says that if the watch could be conceived

to be a product of a less perfect structure improved by natural selection, it would then appear to be the "result of a method of trial and error worked by unintelligent agents, as likely as of the direct application of the means appropriate to that end, by an intelligent agent." This is a bold and true assertion of the actual relation of even this modified evolution to rational and practical theism, which requires not merely this God "afar off," who has set the stone of nature rolling and then turned His back upon it, but a present God, whose will is the law of nature, now as in times past. The evolutionist is really in a position of absolute antagonism to the idea of creation, even when held with all due allowance for the variations of created things within certain limits.

Perhaps Paley's old illustration of the watch, as applied by Huxley, may serve to show this as well as any other. If the imperfect watch, useless as a time-keeper, is the work of the contriver, and the perfection of it is the result of unintelligent agents working fortuitously, then it is clear that creation and design have a small and evanescent share in the construction of the fabric of nature. But is it really so? Can we attribute the perfection of the watch to "accidental material operations" any more than the first effort to produce such an instrument? Paley himself long ago met this view of the case, but his argument may be extended by the admissions and pleas of the evolutionists themselves. For example, the watch is altogether a mechanical thing, and this

fact by no means implies that it could not be made by an intelligent and spiritual designer, yet this assumption that physical laws exclude creation and design turns up in almost every page of the evolutionists. Paley has well shown that if the watch contained within itself machinery for making other watches, this would not militate against his argument. It would be so if it could be proved that a piece of metal had spontaneously produced an imperfect watch, and this a more perfect one, and so on; but this is precisely what evolutionists still require to prove with respect both to the watch and to man. On the other hand it is no argument for the evolution of the watch that there may be different kinds of watches, some more and others less perfect, and that ruder forms may have preceded the more perfect. This is perfectly compatible with creation and design. Evolutionists, however, generally fail to make this distinction. Nor would it be any proof of the evolution of the watch to find that, as Spencer would say, it was in perfect harmony with its environment, as, for instance, that it kept time with the revolution of the earth, and contained contrivances to regulate its motion under different temperatures, unless it could be shown that the earth's motion and the changes of temperature had been efficient causes of the motion and the adjustments of the watch; otherwise the argument would look altogether in the direction of design. Nor would it be fair to shut up the argument of design to the idea that the watch must have suddenly flashed into existence

fully formed and in motion. It would be quite as much a creation if slowly and laboriously made by the hand of the artificer, or if more rapidly struck off by machinery; and if the latter, it would not follow that the machine which produced the watch was at all like the watch itself. It might have been something very different. Finally, when Spencer tries to cut at the root of the whole of this argument, by affirming that man has no more right to reason from himself with regard to his Maker than a watch would have to reason from its own mechanical structure and affirm the like of its maker, he signally fails. If the watch had such power of reasoning, it would be more than mechanical, and would be intelligent like its maker; and in any case, if thus reasoning it came to the conclusion that it was a result of "accidental material operations," it would be altogether mistaken. Nor would it be nearer the truth if it held that it was a product of spontaneous evolution from an imperfect and comparatively useless watch that had been made millions of years before.

We have taken this illustration of the watch merely as given to us by Huxley, and without in the least seeking to overlook the distinction between a dead machine and a living organism; but the argument for creation and design is quite as strong in the case of the latter, so long as it cannot be proved by actual facts to be a product of derivation from a distinct species. This has not been proved either in the case of man or any other species; and so long as it has not,

the theory of creation and design is infinitely more rational and scientific than that of evolution in any of its forms.

But all this does not relieve us from the question, How can species be created?—the same question put to Paul by the sceptics of the first century with reference to the resurrection—"How are the dead raised, and with what bodies do they come?" I do not wish to evade this question, whether applied to man or to a microscopic animalcule, and I would answer it with the following statements:—

1. The advocate of creation is in this matter in no worse position than the evolutionist. This we have already shown, and I may refer here to the fact that Darwin himself assumes at least one primitive form of animal and plant life, and he is confessedly just as little able to imagine this one act of creation as any other that may be demanded of him.

2. We are not bound to believe that all groups of individual animals, which naturalists may call species, have been separate products of creation. Man himself has by some naturalists been divided into several species; but we may well be content to believe the creation of one primitive form, and the production of existing races by variation. Every zoologist and botanist who has studied any group of animals or plants with care, knows that there are numerous related forms passing into each other, which some naturalists might consider to be distinct species, but which it is certainly not necessary to regard as distinct

products of creation. Every species is more or less variable, and this variability may be developed by different causes. Individuals exposed to unfavourable conditions will be stunted and depauperated; those in more favourable circumstances may be improved and enlarged. Important changes may thus take place without transgressing the limits of the species, or preventing a return to its typical forms; and the practice of confounding these more limited changes with the wider structural and physiological differences which separate true species is much to be deprecated. Animals which pass through metamorphoses, or which are developed through the instrumentality of intermediate forms or "nurses,"* are not only liable to be separated by mistake into distinct species, but they may, under certain circumstances, attain to a premature maturity, or may be fixed for a time or permanently in an immature condition. Further, species, like individuals, probably have their infancy, maturity, and decay in geological time, and may present differences in these several stages. It is the remainder of true specific types left after all these sources of error are removed, that creation has to account for; and to arrive at this remainder, and to ascertain its nature and amount, will require a vast expenditure of skilful and conscientious labour.

3. Since animals and plants have been introduced upon our earth in long succession throughout geologic

* Mr. Mungo Ponton, in his book "The Beginning," has based a theory of derivation on this peculiarity.

time, and this in a somewhat regular manner, we have a right to assume that their introduction has been in accordance with a law or plan of creation, and that this may have included the co-operation of many efficient causes, and may have differed in its application to different cases. This is a very old doctrine of theology, for it appears in the early chapters of Genesis. There the first aquatic animals, and man, are said to have been "created;" plants are said to have been "brought forth by the land;" the mammalia are said to have been "made." In the more detailed account of the introduction of man in the second chapter of the same book, he is said to have been "formed of the dust of the ground;" and in regard to his higher spiritual life, to have had this "breathed into" him by God. These are very simple expressions, but they are very precise and definite in the original, and they imply a diversity in the creative work. Further, this is in accordance with the analogy of modern science. How diverse are the modes of production and development of animals and plants, though all under one general law; and is it not likely that the modes of their first introduction on the earth were equally diverse?

4. Our knowledge of the conditions of the origination of species, is so imperfect that we may possibly appear for some time to recede from, rather than to approach to, a solution of the question. In the infancy of chemistry, it was thought that chemical elements could be transmuted into each other. The

progress of knowledge removed this explanation of their origin, and has as yet failed to substitute any other in its place. It may be the same with organic species. The attempt to account for them by derivation may prove fallacious, yet it may be some time before we turn the corner, should this be possible, and enter the path which actually leads up to their origin.

Lastly, in these circumstances our wisest course is to take individual species, and to inquire as to their history in time, and the probable conditions of their introduction. Such investigations are now being made by many quiet workers, whose labours are comparatively little known, and many of whom are scarcely aware of the importance of what they are doing toward a knowledge of, at least, the conditions of creation, which is perhaps all that we can at present hope to reach.

In the next chapter we shall try to sum up what is known as to man himself, in the conditions of his first appearance on our earth, as made known to us by scientific investigation, and explained on the theory of creation as opposed to evolution.

CHAPTER XV.

PRIMITIVE MAN. CONSIDERED WITH REFERENCE TO MODERN THEORIES AS TO HIS ORIGIN—(*continued*).

In the previous chapter we have seen that, on general grounds, evolution as applied to man is untenable; and that the theory of creation is more rational and less liable to objection. We may now consider how the geological and zoological conditions of man's advent on the earth accord with evolution; and I think we shall find, as might be expected, that they oppose great if not fatal difficulties to this hypothesis.

One of the first and most important facts with reference to the appearance of man, is that he is a very recent animal, dating no farther back in geological time than the Post-glacial period, at the close of the Tertiary and beginning of the Modern era of geology. Further, inasmuch as the oldest known remains of man occur along with those of animals which still exist, and the majority of which are probably not of older date, there is but slender probability that any much older human remains will ever be found. Now this has a bearing on the question of the derivation of man, which, though it has not altogether escaped the attention of the evolutionists, has not met with sufficient consideration.

Perhaps the oldest known human skull is that which has been termed the "Engis" skull, from the cave of Engis, in Belgium. With reference to this skull, Professor Huxley has candidly admitted that it may have belonged to an individual of one of the existing races of men. I have a cast of it on the same shelf with the skulls of some Algonquin Indians, from the aboriginal Hochelaga, which preceded Montreal; and any one acquainted with cranial characters would readily admit that the ancient Belgian may very well have been an American Indian; while on the other hand his head is not very dissimilar from that of some modern European races. This Belgian man is believed to have lived before the mammoth and the cave-bear had passed away, yet he does not belong to an extinct species or even variety of man.

Further, as stated in a previous chapter, Pictet catalogues ninety-eight species of mammals which inhabited Europe in the Post-glacial period. Of these fifty-seven still exist unchanged, and the remainder have disappeared. Not one can be shown to have been modified into a new form, though some of them have been obliged, by changes of temperature and other conditions, to remove into distant and now widely separated regions. Further, it would seem that all the existing European mammals extended back in geological time at least as far as man, so that since the Post-glacial period no new species have been introduced in any way. Here we have a series of facts of the most profound signifi-

cance. Fifty-seven parallel lines of descent have in Europe run on along with man, from the Post-glacial period, without change or material modification of any kind. Some of them extend without change even farther back. Thus man and his companion-mammals present a series of lines, not converging as if they pointed to some common progenitor, but strictly parallel to each other. In other words, if they are derived forms, their point of derivation from a common type is pushed back infinitely in geological time. The absolute duration of the human species does not affect this argument. If man has existed only six or seven thousand years, still at the beginning of his existence he was as distinct from lower animals as he is now, and shows no signs of gradation into other forms. If he has really endured since the great Glacial period, and is to be regarded as a species of a hundred thousand years' continuance, still the fact is the same, and is, if possible, less favourable to derivation.

Similar facts meet us in other directions. I have for many years occupied a little of my leisure in collecting the numerous species of molluscs and other marine animals existing in a sub-fossil state in the Post-pliocene clays of Canada, and comparing them with their modern successors. I do not know how long these animals have lived. Some of them certainly go far back into the Tertiary; and recent computations would place even the Glacial age at a distance from us of more than a thousand centuries. Yet after carefully studying about two hundred species, and, of some

of these, many hundreds of specimens, I have arrived at the conclusion that they are absolutely unchanged. Some of them, it is true, are variable shells, presenting as many and great varieties as the human race itself; yet I find that in the Post-pliocene even the varieties of each species were the same as now, though the great changes of temperature and elevation which have occurred, have removed many of them to distant places, and have made them become locally extinct in regions over which they once spread. Here again we have an absolute refusal, on the part of all these animals, to admit that they are derived, or have tended to sport into new species. This is also, it is to be observed, altogether independent of that imperfection of the geological record of which so much is made; since we have abundance of these shells in the Post-pliocene beds, and in the modern seas, and no one doubts their continued descent. To what does this point? Evidently to the conclusion that all these species show no indication of derivation, or tendency to improve, but move back in parallel lines to some unknown creative origin.

If it be objected to this conclusion that absence of derivation in the Post-pliocene and Modern does not prove that it may not previously have occurred, the answer is, that if the evolutionist admits that for a very long period (and this the only one of which we have any certain knowledge, and the only one which concerns man) derivation has been suspended, he in effect abandons his position. It may, however,

be objected that what I have above affirmed of species may be affirmed of varieties, which are admitted to be derived. For example, it may be said that the negro variety of man has existed unchanged from the earliest historic times. It is curious that those who so often urge this argument as an evidence of the great antiquity of man, and the slow development of races, do not see that it proves too much. If the negro has been the same identical negro as far back as we can trace him, then his origin must have been independent, and of the nature of a creation, or else his duration as a negro must have been indefinite. What it does prove is a fact equally obvious from the study of Post-pliocene molluscs and other fossils, namely, that new species tend rapidly to vary to the utmost extent of their possible limits, and then to remain stationary for an indefinite time. Whether this results from an innate yet limited power of expansion in the species, or from the relations between it and external influences, it is a fact inconsistent with the gradual evolution of new species. Hence we conclude that the recent origin of man, as revealed by geology, is, in connection with the above facts, an absolute bar to the doctrine of derivation.

A second datum furnished to this discussion by geology and zoology is the negative one that no link of connection is known between man and any preceding animal. If we gather his bones and his implements from the ancient gravel-beds and cave-earths, we do not find them associated with any

creature near of kin, nor do we find any such creature in those rich Tertiary beds which have yielded so great harvests of mammalian bones. In the modern world we find nothing nearer to him than such anthropoid apes as the orangs and gorillas. But the apes, however nearly allied, cannot be the ancestors of man. If at all related to him by descent, they are his brethren or cousins, not his parents; for they must, on the evolutionist hypothesis, be themselves the terminal ends of distinct lines of derivation from previous forms.

This difficulty is not removed by an appeal to the imperfection of the geological record. So many animals contemporary with man are known, both at the beginning of his geological history and in the present world, that it would be more than marvellous if no very near relative had ere this time been discovered at one extreme or the other, or at some portion of the intervening ages. Further, all the animals contemporary with man in the Post-glacial period, so far as is known, are in the same case. Discoveries of this kind may, however, still be made, and we may give the evolutionist the benefit of the possibility. We may affirm, however, that in order to gain a substratum of fact for his doctrine, he must find somewhere in the later Tertiary period animals much nearer to man than are the present anthropoid apes.

This demand I make advisedly—first, because the animals in question must precede man in geological

time; and secondly, because the apes, even if they preceded man, instead of being contemporary with him, are not near enough to fulfil the required conditions. What is the actual fact with regard to these animals, so confidently affirmed to resemble some not very remote ancestors of ours? Zoologically they are not varieties of the same species with man—they are not species of the same genus, nor do they belong to genera of the same family, or even to families of the same order. These animals are at least ordinally distinct from us in those grades of groups in which naturalists arrange animals. I am well aware that an attempt has been made to group man, apes, and lemurs in one order of "Primates," and thus to reduce their difference to the grade of the family; but as put by its latest and perhaps most able advocate, the attempt is a decided failure. One has only to read the concluding chapter of Huxley's new book on the anatomy of the vertebrates to be persuaded of this, more especially if we can take into consideration, in addition to the many differences indicated, others which exist but are not mentioned by the author. Ordinal distinctions among animals are mainly dependent on grade or rank, and are not to be broken down by obscure resemblances of internal anatomy, having no relation to this point, but to physiological features of very secondary importance. Man must, on all grounds, rank much higher above the apes than they can do above any other order of mammals. Even if we refuse to recognise all higher grounds

of classification, and condescend, with some great zoologists of our time, to regard nature with the eyes of mere anatomists, or in the same way that a bricklayer's apprentice may be supposed to regard distinctions of architectural styles, we can arrive at no other conclusion. Let us imagine an anatomist, himself neither a man nor a monkey, but a being of some other grade, and altogether ignorant of the higher ends and powers of our species, to contemplate merely the skeleton of a man and that of an ape. He must necessarily deduce therefrom an ordinal distinction, even on the one ground of the correlations and modifications of structure implied in the erect position. It would indeed be sufficient for this purpose to consider merely the balancing of the skull on the neck, or the structure of the foot, and the consequences fairly deducible from either of them. Nay, were such imaginary anatomist a derivationist, and ignorant of the geological date of his specimens, and as careless of the differences in respect to brain as some of his human *confrères,* he might, referring to the less specialised condition of man's teeth and foot, conclude, not that man is an improved ape, but that the ape is a specialised and improved man. He would be obliged, however, even on this hypothesis, to admit that there must be a host of missing links. Nor would these be supplied by the study of the living races of men, because these want even specific distinctness, and differ from the apes essentially in those points on which an ordinal distinction can be fairly based.

This isolated position of man throughout the whole period of his history, grows in importance the more that it is studied, and can scarcely be the result of any accident of defective preservation of intermediate forms. In the meantime, when taken in connection with the fact previously stated, that man is equally isolated when he first appears on the stage, it deprives evolution, as applied to our species, of any precise scientific basis, whether zoological or geological.

I do not attach any importance whatever, in this connection, to the likeness in type or plan between man and other mammals. Evolutionists are in the habit of taking for granted that this implies derivation, and of reasoning as if the fact that the human skeleton is constructed on the same principles as that of an ape or a dog, must have some connection with a common ancestry of these animals. This is, however, as is usual with them, begging the question. Creation, as well as evolution, admits of similarity of plan. When Stephenson constructed a locomotive, he availed himself of the principles and of many of the contrivances of previous engines; but this does not imply that he took a mine-engine, or a marine-engine, and converted it into a railroad-engine. Type or plan, whether in nature or art, may imply merely a mental evolution of ideas in the maker, not a derivation of one object from another.

But while man is related in his type of structure to the higher animals, his contemporaries, it is undeniable that there are certain points in which he con-

stitutes a new type; and if this consideration were properly weighed, I believe it would induce zoologists, notwithstanding the proverbial humility of the true man of science, to consider themselves much more widely separated from the brutes than even by the ordinal distinction above referred to. I would state this view of the matter thus:—It is in the lower animals a law that the bodily frame is provided with all necessary means of defence and attack, and with all necessary protection against external influences and assailants. In a very few cases, we have partial exceptions to this. A hermit-crab, for instance, has the hinder part of its body unprotected; and has, instead of armour, the instinct of using the cast-off shells of molluscs; yet even this animal has the usual strong claws of a crustacean, for defence in front. There are only a very few animals in which instinct thus takes the place of physical contrivances for defence or attack, and in these we find merely the usual unvarying instincts of the irrational animal. But in man, that which is the rare exception in all other animals, becomes the rule. He has no means of escape from danger, compared with those enjoyed by other animals—no defensive armour, no natural protection from cold or heat, no effective weapons for attacking other animals. These disabilities would make him the most helpless of creatures, especially when taken in connection with his slow growth and long immaturity. His safety and his dominion over other animals, are secured by entirely new means,

constituting a "new departure" in creation. Contrivance and inventive power, enabling him to utilise the objects and forces of nature, replace in him the material powers bestowed on lower animals. Obviously the structure of the human being is related to this, and so related to it as to place man in a different category altogether from any other animal.

This consideration makes the derivation of man from brutes difficult to imagine. None of these latter appear even able to conceive or understand the modes of life and action of man. They do not need to attempt to emulate his powers, for they are themselves provided for in a different manner. They have no progressive nature like that of man. Their relations to things without are altogether limited to their structures and instincts. Man's relations are limited only by his powers of knowing and understanding. How then is it possible to conceive of an animal which is, so to speak, a mere living machine, parting with the physical contrivances necessary to its existence, and assuming the new *rôle* of intelligence and free action?

This becomes still more striking if we adopt the view usually taken by evolutionists, that primitive man was a ferocious and carnivorous creature, warring with and overcoming the powerful animals of the Post-glacial period, and contending with the rigours of a severe climate. This could certainly not be inferred from his structure, interpreted by that of the lower animals, which would inevitably lead to the conclusion

that he must have been a harmless and frugivorous creature, fitted to subsist only in the mildest climates, and where exempt from the attacks of the more powerful carnivorous animals. No one reasoning on the purely physical constitution of man, could infer that he might be a creature more powerful and ferocious than the lion or the tiger.

It is also worthy of mention that the existence of primitive man as a savage hunter is, in another point of view, absolutely opposed to the Darwinian idea of his origin from a frugivorous ape. These creatures, while comparatively inoffensive, conform to the general law of lower animals in having strong jaws and powerful canines for defence, hand-like feet to aid them in securing food, and escaping from their enemies, and hairy clothing to protect them from cold and heat. On the hypothesis of evolution we might conceive that if these creatures were placed in some Eden of genial warmth, peace, and plenty, which rendered those appliances unnecessary, they might gradually lose these now valuable structures, from want of necessity to use them. But, on the contrary, if such creatures were obliged to contend against powerful enemies, and to feed on flesh, all analogy would lead us to believe that they would become in their structures more like carnivorous beasts than men. On the other hand, the anthropoid apes, in the circumstances in which we find them, are not only as unprogressive as other animals, but little fitted to extend their range, and less gifted with the power of adapt-

ing themselves to new conditions than many other mammals less resembling man in external form.

On the Darwinian theory, such primitive men as geology reveals to us would be more likely to have originated from bears than apes, and we would be tempted to wish that man should become extinct, and that the chance should be given to the mild chimpanzee or orang to produce by natural selection an improved and less ferocious humanity for the future.

The only rational hypothesis of human origin in the present state of our knowledge of this subject is, that man must have been produced under some circumstances in which animal food was not necessary to him, in which he was exempt from the attacks of the more formidable animals, and in less need of protection from the inclemency of the weather than is the case with any modern apes; and that his life as a hunter and warrior began after he had by his knowledge and skill secured to himself the means of subduing nature by force and cunning. This implies that man was from the first a rational being, capable of understanding nature, and it accords much more nearly with the old story of Eden in the book of Genesis, than with any modern theories of evolution.

It is due to Mr. Wallace—who, next to Darwin, has been a leader among English derivationists—to state that he perceives this difficulty. As a believer in natural selection, however, it presents itself to his mind in a peculiar form. He perceives that so soon as, by the process of evolution, man became a rational

creature, and acquired his social sympathies, physical evolution must cease, and must be replaced by invention, contrivance, and social organisation. This is at once obvious and undeniable, and it follows that the natural selection applicable to man, as man, must relate purely to his mental and moral improvement. Wallace, however, fails to comprehend the full significance of this feature of the case. Given, a man destitute of clothing, he may never acquire such clothing by natural selection, because he will provide an artificial substitute. He will evolve not into a hairy animal, but into a weaver and a tailor. Given, a man destitute of claws and fangs, he will not acquire these, but will manufacture weapons. But then, on the hypothesis of derivation, this is not what is given us as the raw material of man, but instead of this a hairy ape. Admitting the power of natural selection, we might understand how this ape could become more hairy, or acquire more formidable weapons, as it became more exposed to cold, or more under the necessity of using animal food; but that it should of itself leave this natural line of development and enter on the entirely different line of mental progress is not conceivable, except as a result of creative intervention.

Absolute materialists may make light of this difficulty, and may hold that this would imply merely a change of brain; but even if we admit this, they fail to show of what use such better brain would be to a creature retaining the bodily form and in-

stincts of the ape, or how such better brain could be acquired. But evolutionists are not necessarily absolute materialists, and Darwin himself labours to show that the reasoning self-conscious mind, and even the moral sentiments of man, might be evolved from rudiments of such powers, perceptible in the lower animals. Here, however, he leaves the court of natural science, properly so called, and summons us to appear before the judgment-seat of philosophy; and as naturalists are often bad mental philosophers, and philosophers have often small knowledge of nature, some advantage results, in the first instance, to the doubtful cause of evolution. Since, however, mental science makes much more of the distinctions between the mind of man and the instinct of animals than naturalists, accustomed to deal merely with the external organism, can be expected to do, the derivationist, when his plea is fairly understood, is quite as certain to lose his cause as when tried by geology and zoology. He might indeed be left to be dealt with by mental science on its own ground; and as our province is to look at the matter from the standpoint of natural history, we might here close our inquiry. It may, however, be proper to give some slight notion of the width of the gulf to be passed when we suppose the mechanical, unconscious, repetitive nature of the animal to pass over into the condition of an intellectual and moral being.

If we take, as the most favourable case for the evolutionist, the most sagacious of the lower animals

—the dog, for example—and compare it with the least elevated condition of the human mind, as observed in the child or the savage, we shall find that even here there is something more than that "immense difference in degree," which Darwin himself admits. Making every allowance for similarities in external sense, in certain instinctive powers and appetites; and even in the power of comparison, and in certain passions and affections; and admitting, though we cannot be quite certain of this, that in these man differs from animals only in degree; there remain other and more important differences, amounting to the possession, on the part of man, of powers not existing at all in animals. Of this kind are—first, the faculty of reaching abstract and general truth, and consequently of reasoning, in the proper sense of the term; secondly, in connection with this, the power of indefinite increase in knowledge, and in deductions therefrom leading to practical results; thirdly, the power of expressing thought in speech; fourthly, the power of arriving at ideas of right and wrong, and thus becoming a responsible and free agent. Lastly, we have the conception of higher spiritual intelligence, of supreme power and divinity, and the consequent feeling of religious obligation. These powers are evidently different in kind, rather than in degree, from those of the brute, and cannot be conceived to have arisen from the latter, more especially as one of the distinctive characters of these is their purely cyclical, repetitive, and unprogressive nature.

Sir John Lubbock has, by a great accumulation of facts, or supposed facts, bearing on the low mental condition of savages, endeavoured to bridge over this chasm. It is obvious, however, from his own data, that the rudest savages are enabled to subsist only by the exercise of intellectual gifts far higher than those of animals; and that if these gifts were removed from them, they would inevitably perish. It is equally clear that even the lowest savages are moral agents; and that not merely in their religious beliefs and conceptions of good and evil, but also in their moral degradation, they show capacities not possessed by the brutes. It is also true that most of these savages are quite as little likely to be specimens of primitive man as are the higher races; and that many of them have fallen to so low a level as to be scarcely capable, of themselves, of rising to a condition of culture and civilisation. Thus they are more likely to be degraded races, in "the eddy and backwater of humanity," than examples of the sources from whence it flowed. And here it must not be lost sight of, that a being like man has capacities for degradation commensurate with his capacities for improvement; and that at any point o his history we may have to seek the analogues o primeval man, rather in the average, than the extremes of the race.

Before leaving this subject, it may be well to consider the fact, that the occurrence of such a being as man in the last stages of the world's history is, in

itself, an argument for the existence of a Supreme Creator. Man is himself an image and likeness of God; and the fact that he can establish relations with nature around him, so as to understand and control its powers, implies either that he has been evolved as a soul of nature, by its own blind development, or that he has originated in the action of a higher being related to man. The former supposition has been above shown to be altogether improbable; so that we are necessarily thrown back upon the latter. We must thus regard man himself as the highest known work of a spiritual creator, and must infer that he rightly uses his reason when he infers from nature the power and divinity of God.

The last point that I think necessary to bring forward here, is the information which geology gives as to the locality of the introduction of man. There can be no hesitation in affirming that to the temperate regions of the old continent belongs the honour of being the cradle of humanity. In these regions are the oldest historical monuments of our race; here geology finds the most ancient remains of human beings; here also seems to be the birthplace of the fauna and flora most useful and congenial to man; and here he attains to his highest pitch of mental and physical development. This, it is true, by no means accords with the methods of the derivationists. On their theory we should search for the origin of man rather in those regions where he is most depauperated and degraded, and where his struggles

for existence are most severe. But it is surely absurd to affirm of any species of animal or plant that it must have originated at the limits of its range, where it can scarcely exist at all. On the contrary, common sense as well as science requires us to believe that species must have originated in those central parts of their distribution where they enjoy the most favourable circumstances, and must have extended themselves thence as far as external conditions would permit. One of the most wretched varieties of the human race, and as near as any to the brutes, is that which inhabits Tierra del Fuego, a country which scarcely affords any of the means for the comfortable sustenance of man. Would it not be absolutely impossible that man should have originated in such a country? Is it not certain, on the contrary, that the Fuegian is merely a degraded variety of the aboriginal American race? Precisely the same argument applies to the Austral negro and the Hottentot. They are all naturally the most aberrant varieties of man, as being at the extreme range of his possible extension, and placed in conditions unfavourable, either because of unsuitable climatal or organic associations. It is true that the regions most favourable to the anthropoid apes, and in which they may be presumed to have originated, are by no means the most favourable to man; but this only makes it the less likely that man could have been derived from such a parentage.

While, therefore, the geological date of the appear-

ance of man, the want of any link of connection between him and any preceding animal, and his dissimilar bodily and mental constitution from any creatures contemporary with him, render his derivation from apes or other inferior animals in the highest degree improbable, the locality of his probable origin confirms this conclusion in the strongest manner. It also shows that man and the higher apes are not likely to have originated in the same regions, or under the same conditions, and that the conditions of human origin are rather the coincidence of suitable climatal and organic surroundings than the occurrence of animals closely related in structure to man.

Changes of conditions in geological time will not meet this difficulty. They might lead to migrations, as they have done in the case of both plants and animals, but not to anything further. The hyena, whose bones are found in the English caves, has been driven by geological changes to South Africa, but he is still the same hyena. The reindeer which once roamed in France is still the reindeer in Lapland; and though under different geological conditions we might imagine the creature to have originated in the south of Europe, a country not now suitable to it, this would neither give reason to believe that any animal now living in the south of Europe was its progenitor, nor to doubt that it still remains unchanged in its new habitat. Indeed, the absence of anything more than merely varietal change in man and his companion-animals, in con-

sequence of the geological changes and migrations of the Modern period, furnishes, as already stated, a strong if not conclusive argument against derivation; which here, as elsewhere, only increases our actual difficulties, while professing to extricate us from them.

The arguments in the preceding pages cover only a small portion of the extensive field opened up by this subject. They relate, however, to some of the prominent and important points, and I trust are sufficient to show that, as applied to man, the theory of derivation merely trifles with the great question of his origin, without approaching to its solution. I may now, in conclusion, sketch the leading features of primitive man, as he appears to us through the mist of the intervening ages, and compare the picture with that presented by the oldest historical records of our race.

Two pictures of primeval man are in our time before the world. One represents him as the pure and happy inhabitant of an Eden, free from all the ills that have afflicted his descendants, and revelling in the bliss of a golden age. This is the representation of Holy Scripture, and it is also the dream of all the poetry and myth of the earlier ages of the world. It is a beautiful picture, whether we regard it as founded on historical fact, or derived from God Himself, or from the yearnings of the higher spiritual nature of man. The other picture is a joint product

of modern philosophy and of antiquarian research. It presents to us a coarse and filthy savage, repulsive in feature, gross in habits, warring with his fellow-savages, and warring yet more remorselessly with every living thing he could destroy, tearing half-cooked flesh, and cracking marrow-bones with stone hammers, sheltering himself in damp and smoky caves, with no eye heavenward, and with only the first rude beginnings of the most important arts of life.

Both pictures may contain elements of truth, for man is a many-sided monster, made up of things apparently incongruous, and presenting here and there features out of which either picture may be composed. Evolutionists, and especially those who believe in the struggle for existence and natural selection, ignore altogether the evidence of the golden age of humanity, and refer us to the rudest of modern savages as the types of primitive man. Those who believe in a Divine origin for our race, perhaps dwell too much on the higher spiritual features of the Edenic state, to the exclusion of its more practical aspects, and its relations to the condition of the more barbarous races. Let us examine more closely both representations; and first, that of creation.

The Glacial period, with its snows and ice, had passed away, and the world rejoiced in a spring-time of renewed verdure and beauty. Many great and formidable beasts of the Tertiary time had disappeared in the revolutions which had occurred, and

the existing fauna of the northern hemisphere had been established on the land. Then it was that man was introduced by an act of creative power. In the preceding changes a region of Western Asia had been prepared for his residence. It was a table-land at the head waters of the rivers that flow into the Euxine, the Caspian, and the Persian Gulf. Its climate was healthy and bracing, with enough of variety to secure vigour, and not so inclement as to exact any artificial provision for clothing or shelter. Its flora afforded abundance of edible fruits, and was rich in all the more beautiful forms of plant life; while its clear streams, alluvial soil, and undulating surface, afforded every variety of station and all that is beautiful in scenery. It was not infested with the more powerful and predacious quadrupeds, and its geographical relations were such as to render this exemption permanent. In this paradise man found ample supplies of wholesome and nutritious food. His requirements as to shelter were met by the leafy bowers he could weave. The streams of Eden afforded gold which he could fashion for use and ornament, pearly shells for vessels, and agate for his few and simple cutting instruments. He required no clothing, and knew of no use for it. His body was the perfection and archetype of the vertebrate form, full of grace, vigour, and agility. His hands enabled him to avail himself of all the products of nature for use and pleasure, and to modify and adapt them according to his inclination. His intelligence,

along with his manual powers, allowed him to ascertain the properties of things, to plan, invent, and apply in a manner impossible to any other creature. His gift of speech enabled him to imitate and reduce to systematic language the sounds of nature, and to connect them with the thoughts arising in his own mind, and thus to express their relations and significance. Above all, his Maker had breathed into him a spiritual nature akin to His own, whereby he became different from all other animals, and the very shadow and likeness of God; capable of rising to abstractions and general conceptions of truth and goodness, and of holding communion with his Creator. This was man Edenic, the man of the golden age, as sketched in the two short narratives of the earlier part of Genesis, which not only conform to the general traditions of our race on the subject, but bear to any naturalist who will read them in their original dress, internal evidence of being contemporary, or very nearly so, with the state of things to which they relate.

"And God said, 'Let us make man in our image, after our likeness; and let them rule over the fish of the sea, and over the birds of the air, and over the herbivora, and over all the land.' And God blessed them, and said unto them, 'Be fruitful and multiply, and fill the earth and subdue it.'

"And the Lord God formed the man of the dust of the ground, and breathed into his nostrils the breath of life, and man became a living being. And the Lord God planted a garden, eastward in Eden, and there He placed the man whom He had formed. And out of the ground made the Lord God to grow every tree that is pleasant to the sight and good for

food. And a river went out of Eden to water the garden, and parted from thence, becoming four heads (of great rivers). The name of the first is Pison, compassing the whole land of Chavila, where there is gold, and the gold of that land is good; there is (also) pearl and agate. . . . And the Lord God took the man, and put him into the garden of Eden, to cultivate it and to take care of it."

Before leaving this most ancient and most beautiful history, we may say that it implies several things of much importance to our conceptions of primeval man. It implies a centre of creation for man, and a group of companion animals and plants, and an intention to dispense in his case with any struggle for existence. It implies, also, that man was not to be a lazy savage, but a care-taker and utiliser, by his mind and his bodily labour, of the things given to him; and it also implies an intelligent submission on his part to his Maker, and spiritual appreciation of His plans and intentions. It further implies that man was, in process of time, from Eden, to colonise the earth, and subdue its wildness, so as to extend the conditions of Eden widely over its surface. Lastly, a part of the record not quoted above, but necessary to the consistency of the story, implies that, in virtue of his spiritual nature, and on certain conditions, man, though in bodily frame of the earth earthy, like the other animals, was to be exempted from the common law of mortality which had all along prevailed, and which continued to prevail, even among the animals of Eden. Further, if man fell from this condition into that of the savage of the age of stone, it must have been by the obscuration of his

spiritual nature under that which is merely animal; in other words, by his ceasing to be spiritual and in communion with God, and becoming practically a sensual materialist. That this actually happened is asserted by the Scriptural story, but its details would take us too far from our present subject. Let us now turn to the other picture—that presented by the theory of struggle for existence and derivation from lower animals.

It introduces us first to an ape, akin perhaps to the modern orang or gorilla, but unknown to us as yet by any actual remains. This creature, after living for an indefinite time in the rich forests of the Miocene and earlier Pliocene periods, was at length subjected to the gradually increasing rigours of the Glacial age. Its vegetable food and its leafy shelter failed it, and it learned to nestle among such litter as it could collect in dens and caves, and to seize and devour such weaker animals as it could overtake and master. At the same time, its lower extremities, no longer used for climbing trees, but for walking on the ground, gained in strength and size; its arms diminished; and its development to maturity being delayed by the intensity of the struggle for existence, its brain enlarged, it became more cunning and sagacious, and even learned to use weapons of wood or stone to destroy its victims. So it gradually grew into a fierce and terrible creature, "neither beast nor human," combining the habits of a bear and the agility of a monkey with some glimmerings of the cunning and resources of a savage.

When the Glacial period passed away, our nameless simian man, or manlike ape, might naturally be supposed to revert to its original condition, and to establish itself as of old in the new forests of the Modern period. For some unknown reason, however, perhaps because it had gone too far in the path of improvement to be able to turn back, this reversion did not take place. On the contrary, the ameliorated circumstances and wider range of the new continents enabled it still further to improve. Ease and abundance perfected what struggle and privation had begun; it added to the rude arts of the Glacial time; it parted with the shaggy hair now unnecessary; its features became softer; and it returned in part to vegetable food. Language sprang up from the attempt to articulate natural sounds. Fire-making was invented and new arts arose. At length the spiritual nature, potentially present in the creature, was awakened by some access of fear, or some grand and terrible physical phenomenon; the idea of a higher intelligence was struck out, and the descendant of apes became a superstitious and idolatrous savage. How much trouble and discussion would have been saved, had he been aware of his humble origin, and never entertained the vain imagination that he was a child of God, rather than a mere product of physical evolution! It is, indeed, curious, that at this point evolutionism, like theism, has its "fall of man;" for surely the awakening of the religious sense, and of the knowledge of good and evil, must on that theory be so

designated, since it subverted in the case of man the previous regular operation of natural selection, and introduced all that debasing superstition, priestly domination, and religious controversy which have been among the chief curses of our race, and which are doubly accursed if, as the evolutionist believes, they are not the ruins of something nobler and holier, but the mere gratuitous, vain, and useless imaginings of a creature who should have been content to eat and drink and die, without hope or fear, like the brutes from which he sprang.

These are at present our alternative sketches: the genesis of theism, and the genesis of evolution. After the argument in previous pages, it is unnecessary here to discuss their relative degrees of probability. If we believe in a personal spiritual Creator, the first becomes easy and natural, as it is also that which best accords with history and tradition. If, on the contrary, we reject all these, and accept as natural laws the postulates of the evolutionists which we have already discussed, we may become believers in the latter. The only remaining point is to inquire as to which explains best the actual facts of humanity as we find them. This is a view of which much has been made by evolutionists, and it therefore merits consideration. But it is too extensive to be fully treated of here, and I must content myself with a few illustrations of the failure of the theory of derivation to explain some of the most important features presented by even the ruder races of men.

One of these is the belief in a future state of existence beyond this life. This belongs purely to the spiritual nature of man. It is not taught by physical nature, yet its existence is probably universal, and it lies near the foundation of all religious beliefs. Lartet has described to us the sepulchral cave of Aurignac, in which human skeletons, believed to be of Post-glacial date, were associated with remains of funeral feasts, and with indications of careful burial, and with provisions laid up for the use of the dead. Lyell well remarks on this, "If we have here before us, at the northern base of the Pyrenees, a sepulchral vault with skeletons of human beings, consigned by friends and relatives to their last resting-place—if we have also at the portal of the tomb the relics of funeral feasts, and within it indications of viands destined for the use of the departed on their way to a land of spirits; while among the funeral gifts are weapons wherewith in other fields to chase the gigantic deer, the cave-lion, the cave-bear, and woolly rhinoceros—we have at last succeeded in tracing back the sacred rites of burial, and more interesting still, a belief in a future state, to times long anterior to those of history and tradition. Rude and superstitious as may have been the savage of that remote era, he still deserved, by cherishing hopes of a hereafter, the epithet of 'noble,' which Dryden gave to what he seems to have pictured to himself as the primitive condition of our race." *

In like manner, in the vast American continent, all

* "Antiquity of Man," p. 192.

its long isolated and widely separated tribes, many of them in a state of lowest barbarism, and without any external ritual of religious worship, believed in happy hunting-grounds in the spirit-land beyond the grave, and the dead warrior was buried with his most useful weapons and precious ornaments.

> "Bring here the last gifts; and with them
> The last lament be said.
> Let all that pleased and yet may please,
> Be buried with the dead"

was no unmeaning funeral song, but involved the sacrifice of the most precious and prized objects, that the loved one might enter the new and untried state provided for its needs. Even the babe, whose life is usually accounted of so small value by savage tribes, was buried by the careful mother with precious strings of wampum, that had cost more months of patient labour than the days of its short life, that it might purchase the fostering care of the inhabitants of that unknown yet surely believed-in region of immortality. This

> "—wish that of the living whole
> No life may fail beyond the grave,
> Derives it not from what we have
> The likest God within the sou

Is it likely to have germinated in the brain of an ape? and if so, of what possible use would it be in the struggle of a merely physical existence? Is it not rather the remnant of a better spiritual life—a remembrance of the tree of life that grew in the

paradise of God, a link of connection of the spiritual nature in man with a higher Divine Spirit above? Life and immortality, it is true, were brought to light by Jesus Christ, but they existed as beliefs more or less obscure from the first, and formed the basis for good and evil of the religions of the world. Around this idea were gathered multitudes of collateral beliefs and religious observances; feasts and festivals for the dead; worship of dead heroes and ancestors; priestly intercessions and sacrifices for the dead; costly rites of sepulture. Vain and without foundation many of these have no doubt been, but they have formed a universal and costly testimony to an instinct of immortality, dimly glimmering even in the breast of the savage, and glowing with higher brightness in the soul of the Christian, but separated by an impassable gulf from anything derivable from a brute ancestry.

The theistic picture of primeval man is in harmony with the fact that men, as a whole, are, and always have been, believers in God. The evolutionist picture is not. If man had from the first not merely a physical and intellectual nature, but a spiritual nature as well, we can understand how he came into relation with God, and how through all his vagaries and corruptions he clings to this relation in one form or another; but evolution affords no link of connection of this kind. It holds God to be unknowable even to the cultivated intellect of philosophy, and perceives no use in ideas with relation to Him,

which according to it must necessarily be fallacious. It leaves the theistic notions of mankind without explanation, and it will not serve its purpose to assert that some few and exceptional families of men have no notion of a God. Even admitting this, and it is at best very doubtful, it can form but a trifling exception to a general truth.

It appears to me that this view of the case is very clearly put in the Bible, and it is curiously illustrate by a recent critique of "Mr. Darwin's Critics,' by Professor Huxley in the *Contemporary Review*. Mr. Mivart, himself a derivationist, but differing in some points from Darwin, had affirmed, in the spirit rather of a Romish theologian than of a Biblical student or philosopher, that "acts unaccompanied by mental acts of conscious will" are "absolutely destitute of the most incipient degree of goodness." Huxley well replies, "It is to my understanding extremely hard to reconcile Mr. Mivart's dictum with that noble summary of the whole duty of man, 'Thou shalt love the Lord thy God with all thy heart, and with all thy soul, and with all thy strength; and thou shalt love thy neighbour as thyself.' According to Mr. Mivart's definition, the man who loves God and his neighbour, and, out of sheer love and affection for both, does all he can to please them, is nevertheless destitute of a particle of real goodness." Huxley's reply deserves to be pondered by certain moralists and theologians whose doctrine savours of the leaven of the Pharisees, but neither Huxley nor

his opponent see the higher truth that in the love of God we have a principle far nobler and more God-like and less animal than that of mere duty. Man primeval, according to the doctrine of Genesis, was, by simple love and communion with his God, placed in the position of a spiritual being, a member of a higher family than that of the animal. The "knowledge of good and evil" which he acquired later, and on which is based the law of conscious duty, was a less happy attainment, which placed him on a lower level than that of the unconscious love and goodness of primal innocence. No doubt man's sense of right and wrong is something above the attainment of animals, and which could never have sprung from them; but still more is this the case with his direct spiritual relation to God, which, whether it rises to the inspiration of the prophet or the piety of the Christian, or sinks to the rude superstition of the savage, can be no part of the Adam of the dust but only of the breath of life breathed into him from above.

That man should love his fellow-man may not seem strange. Certain social and gregarious and family instincts exist among the lower animals, and Darwin very ably adduces these as akin to the similar affections of man; yet even in the law of love of our neighbour, as enforced by Christ's teaching, it is easy to see that we have something beyond animal nature. But this becomes still more distinct in the love of God. Man was the "shadow and likeness of God," says the old

record in Genesis—the shadow that clings to the substance and is inseparable from it, the likeness that represents it visibly to the eyes of men, and of the animals that man rules over. Primeval man could "hear in the evening breeze the voice of God, walking to and fro in the garden." What mere animal ever had or could attain to such an experience?

But if we turn from the Edenic picture of man in harmony with Heaven—"owning a father, when he owned a God"—to man as the slave of superstition; even in this terrible darkness of mistaken faith, of which it may be said,

> "Fear makes her devils, and weak faith her gods,
> Gods partial, changeful, passionate, unjust,
> Whose attributes are rage, revenge, or lust,"

we see the ruins, at least, of that sublime love of God. The animal clings to its young with a natural affection, as great as that of a human mother for her child, but what animal ever thought of throwing its progeny into the Ganges, or into the fires of Moloch's altar, for the saving of its soul, or to obtain the favour or avoid the wrath of God? No less in the vagaries of fetichism, ritualism, and idolatry, and in the horrors of asceticism and human sacrifice, than in the Edenic communion with and hearing of God, or in the joy of Christian love, do we see, in however ruined or degraded condition, the higher spiritual nature of man.

This point leads to another distinction which, when properly viewed, widens the gap between man and

the animals, or at least destroys one of the frail bridges of the evolutionists. Lubbock and others affect to believe that the lowest savages of the modern world must be nearest to the type of primeval man. I have already attempted to show the fallacy of this. I may add here that in so holding they overlook a fundamental distinction, well pointed out by the Duke of Argyll, between the capacity of acquiring knowledge and knowledge actually acquired, and between the possession of a higher rational nature and the exercise of that nature in the pursuit of mechanical arts. In other words, primeval man must not be held to have been "utterly barbarous" because he was ignorant of mining or navigation, or of sculpture and painting. He had in him the power to attain to these things, but so long as he was not under necessity to exercise it, his mind may have expended its powers in other and happier channels. As well might it be affirmed that a delicately nurtured lady is an "utter barbarian" because she cannot build her own house, or make her own shoes. No doubt in such work she would be far more helpless than the wife of the rudest savage, yet she is not on that account to be held as an inferior being, or nearer to the animals. Our conception of an angelic nature implies the absence of all our social institutions and mechanical arts; but does this necessitate our regarding an angel as an "utter barbarian"? In short, the whole notion of civilisation held by Lubbock and those who think with him, is not only low and degrading, but utterly

and absurdly wrong; and of course it vitiates all their conceptions of primeval man as well as of man's future destiny. Further, the theistic idea implies that man was, without exhausting toil, to regulate and control nature, to rule over the animals, to cultivate the earth, to extend himself over it and subdue it; and all this as compatible with moral innocence, and at the same time with high intellectual and spiritual activity.

There is, however, a still nicer and more beautiful distinction involved in this, and included in the wonderful narrative in Genesis, so simple yet so much more profound than our philosophies; and which crops out in the same discussion of the critics of Darwin, to which I have already referred. A writer in the *Quarterly Review* had attempted to distinguish human reason from the intelligence of animals, as involving self-consciousness and reflection in our sensations and perceptions. Huxley objects to this, instancing the mental action of a greyhound when it sees and pursues a hare, as similar to that of the gamekeeper when he lets slip the hound.*

"As it is very necessary to keep up a clear distinction between these two processes, let the one be called neurosis and the other psychosis. When the gamekeeper was first trained to his work, every step in the process of neurosis was accompanied by a corresponding step in that of psychosis, or nearly so.

* *Contemporary Review*, November, 1871, p. 461.

He was conscious of seeing something, conscious of making sure it was a hare, conscious of desiring to catch it, and therefore to loose the greyhound at the right time, conscious of the acts by which he let the dog out of the leash. But with practice, though the various steps of the neurosis remain—for otherwise the impression on the retina would not result in the loosing of the dog—the great majority of the steps of the psychosis vanish, and the loosing of the dog follows unconsciously, or, as we say, without thinking about, upon the sight of the hare. No one will deny that the series of acts which originally intervened between the sensation and the letting go of the dog were, in the strictest sense, intellectual and rational operations. Do they cease to be so when the man ceases to be conscious of them? That depends upon what is the essence and what the accident of these operations, which taken together constitute ratiocination. Now, ratiocination is resolvable into predication, and predication consists in marking, in some way, the existence, the coexistence, the succession, the likeness and unlikeness, of things or their ideas. Whatever does this, reasons; and if a machine produces the effects of reason, I see no more ground for denying to it the reasoning power because it is unconscious, than I see for refusing to Mr. Babbage's engine the title of a calculating machine on the same grounds."

Here we have in the first place, the fact that an action, in the first instance rational and complex, be-

comes by repetition simple and instinctive. Does the man then sink to the level of the hound, or, what is more to the purpose, does this in the least approach to showing that the hound can rise to the level of the man? Certainly not; for the man is the conscious planner and originator of a course of action in which the instincts of the brute are made to take part, and in which the readiness that he attains by habit only enables him to dispense with certain processes of thought which were absolutely necessary at first. The man and the beast co-operate, but they meet each other from entirely different planes; the former from that of the rational consideration of nature, the latter from that of the blind pursuit of a mere physical instinct. The one, to use Mr. Huxley's simile, is the conscious inventor of the calculating machine, the other is the machine itself, and, though the machine can calculate, this fact is the farthest possible from giving it the power of growing into or producing its own inventor. But Moses, or the more ancient authority from whom he quotes in Genesis, knew this better than either of these modern combatants. His special distinctive mark of the superiority of man is that he was to have dominion over the earth and its animal inhabitants; and he represents this dominion as inaugurated by man's examining and naming the animals of Eden, and finding among them no "help meet" for him.* Man was to find in them helps, but helps under his control, and that not the control

* Literally, "Corresponding," or "Similar," to him.

of brute force, but of higher skill and of thought, and even of love—a control still seen in some degree in the relation of man to his faithful companion, the dog. These old words of Genesis, simple though they are, place the rational superiority of man on a stable basis, and imply a distinction between him and the lower animals which cannot be shaken by the sophistries of the evolutionists.

The theistic picture further accords with the fact that the geological time immediately preceding man's appearance was a time of decadence of many of the grander forms of animal life, especially in that area of the old continent where man was to appear. Whatever may be said of the imperfection of the geological record, there can be no question of the fact that the Miocene and earlier Pliocene were distinguished by the prevalence of grand and gigantic forms of mammalian life, some of which disappeared in or before the Glacial period, while others failed after that period in the subsidence of the Post-glacial, or in connection with its amelioration of climate. The Modern animals are also, as explained above, a selection from the grander fauna of the Post-glacial period. To speak for the moment in Darwinian language, there was for the time an evident tendency to promote the survival of the fittest, not in mere physical development, but in intelligence and sagacity. A similar tendency existed even in the vegetable world, replacing the flora of American aspect which had existed in the Pliocene, with the richer and more

useful flora of Europe and Western Asia. This not obscurely indicates the preparing of a place for man, and the removal out of his way of obstacles and hindrances. That these changes had a relation to the advent of man, neither theist nor evolutionist can doubt, and it may be that we shall some day find that this relation implies the existence of a creative law intelligible by us; but while we fail to perceive any link of direct causation between the changes in the lower world, and the introduction of our race, we cannot help seeing that correlation which implies a far-reaching plan, and an intelligent design.

Finally, the evolutionist picture wants some of the fairest lineaments of humanity, and cheats us with a semblance of man without the reality. Shave and paint your ape as you may, clothe him and set him up upon his feet, still he fails greatly of the "human form divine;" and so it is with him morally and spiritually as well. We have seen that he wants the instinct of immortality, the love of God, the mental and spiritual power of exercising dominion over the earth. The very agency by which he is evolved is of itself subversive of all these higher properties. The struggle for existence is essentially selfish, and therefore degrading. Even in the lower animals, it is a false assumption that its tendency is to elevate; for animals when driven to the utmost verge of struggle for life, become depauperated and degraded. The dog which spends its life in snarling contention with its fellow-curs for insufficient food, will not be a noble

specimen of its race. God does not so treat His creatures. There is far more truth to nature in the doctrine which represents him as listening to the young ravens when they cry for food. But as applied to man, the theory of the struggle for existence and survival of the fittest, though the most popular phase of evolutionism at present, is nothing less than the basest and most horrible of superstitions. It makes man not merely carnal, but devilish. It takes his lowest appetites and propensities, and makes them his God and creator. His higher sentiments and aspirations, his self-denying philanthropy, his enthusiasm for the good and true, all the struggles and sufferings of heroes and martyrs, not to speak of that self-sacrifice which is the foundation of Christianity, are in the view of the evolutionist mere loss and waste, failure in the struggle of life. What does he give us in exchange? An endless pedigree of bestial ancestors, without one gleam of high or holy tradition to enliven the procession; and for the future, the prospect that the poor mass of protoplasm which constitutes the sum of our being, and which is the sole gain of an indefinite struggle in the past, must soon be resolved again into inferior animals or dead matter. That men of thought and culture should advocate such a philosophy, argues either a strange mental hallucination, or that the higher spiritual nature has been wholly quenched within them. It is one of the saddest of many sad spectacles that our age presents. Still these men deserve credit for their

bold pursuit of truth, or what seems to them to be truth; and they are, after all, nobler sinners than those who would practically lower us to the level of beasts by their negation even of intellectual life, or who would reduce us to apes, by making us the mere performers of rites and ceremonies, as a substitute for religion, or who would advise us to hand over reason and conscience to the despotic authority of fallible men dressed in strange garbs, and called by sacred names. The world needs a philosophy and a Christianity of more robust mould, which shall recognise, as the Bible does, at once body and soul and spirit, at once the sovereignty of God and the liberty of man; and which shall bring out into practical operation the great truth that God is a Spirit, and they that worship Him must worship Him in spirit and in truth. Such a religion might walk in the sunlight of truth and free discussion, hand in hand with science, education, liberty, and material civilisation, and would speedily consign evolution to the tomb which has already received so many superstitions and false philosophies.