

## THE ASCENT OF MAN.

BY THE EDITOR.

AN old pious Irish woman (so the story goes) called at the library for Darwin's *Descent of Man*, but returned the book speedily, saying, "I thought it was on a 'dacent' man, but I am dis'pinted, it is mere gibberish about apes and that kind o' things."

Whatever errors the good old Irish woman may be guilty of in spelling, the truth is that in spite of the science of its author, the book is one-sided and attempts only to trace the physiological connection of man with a series of lower animals. If the theory of evolution holds good (which is no longer doubted by any true scientist), the descent of man is continuous since the beginning of life on earth. There is no break in the ladder of life, but when we trace the genealogy of man, we ought not to forget the Apostle's word,<sup>1</sup> who when addressing the Athenians on the market-place of their city, quoted from some of the Greek poets<sup>2</sup> the line :

“Τοῦ (sc. Θεοῦ) γὰρ καὶ γένος ἔσμεν.”

(For God's offspring are we.)

The idea that we are the offspring of God is Greek, not Hebrew, but the sentiment has become part of our religious ideas. At the time of Christ monotheism had attained its most rigid form among the Jews, and any orthodox rabbi would have scorned the idea of attributing to God offspring in any sense of the word. In the same way Mohammed who had imbibed similar traditions under similar circumstances in opposition to the Christian idea of divine sonship, declared, for the same reason, most emphatically that "God is neither begotten nor a begetter." But the Apostle Paul, being born and raised in Tarsus, was (more than he himself knew) accustomed to the Gentile ways of thinking, and so he was not offended at the Gentile belief that claimed a divine origin

<sup>1</sup> Acts xvii.

<sup>2</sup> The words occur in fragments of Aratus and of Cleanthes.

for man. But to prove it according to the method of the age by quoting Scriptures, he had to fall back on a Gentile authority. Paul quotes not the Bible but a pagan poet, and thus it came to pass in the Gentile Christian Church that the legend of the creation of man from the clay of the ground was given a Gentile interpretation. The whole creation had been made by God, but now we are specially told that the human body was formed by God himself, and God himself blew into the nostrils of the clay figure the breath of life. Whatever the rabbinical meaning of the legend may have been, it was interpreted by Christian exegetists after the precedence of St. Paul in the spirit of the Gentile conception to denote a unique or separate and indeed a divine origin of man. The idea that man had been made of dust and that finally he should return to dust was now limited to his body, as Longfellow says :

"Dust thou art, to dust returnest,  
Was *not* spoken to the soul."

Darwin's views were bitterly combated, although it would seem more dignified if God had fashioned the first man (not directly from a clod of soil), but indirectly after a long preparation of the material, through a series of intermediate stages of lower animals, from the infinitely more refined organism of an anthropoid brute. We can still insist that man, though his body consists of the same material as the dust of the earth, holds a unique position among the rest of creation. The sway of conservatism, however, is great, and so the people trained in the old views of thought clung with tenacity to a literal belief in the story of Genesis. In spite of all that Darwin said in favor of the kinship of man to the rest of the animated creation, almost half a century passed before the doctrine of evolution gained ground and became universally recognised; and there was no other objection to it, but the implication as to man's descent from lower forms of life, and the denial of the legend that God had formed him directly from the dust of the earth.

At present there may be no one trained in modes of scientific thinking who does not unhesitatingly accept the doctrine of evolution with all that it implies; but having understood the physiological solution of the origin of man, it may be wise to look at the argument of the reactionary party, whose main contention consists in ridiculing the idea that man was descended from the ape.

When the writer of these lines was a child, he knew a pleasant grey haired teacher of a country parish school, who used to tell the story that when he once explained to his children the first chapter of the Bible, one of the boys, the son of a rich farmer, rose and

said: "Mr. Teacher, my father says we are descended from the ape." Our sage old pedagogue cut all further perplexities off by saying: "It would not be proper here to discuss the private affairs of your family." Thus he imputed the blame of a lowly origin to the families of those who believed in evolution, and had the laugh on his side, but what remained for the others? A direct origin from the dust! They were of the earth earthy.

Reactionary minds who upheld a literal belief in the legend of man's creation from the dust of the ground, went too far when they disclaimed the doctrine of the evolution of all higher life from simple beginnings, but they were right in one point, viz., in the sentiment that man is not of the earth earthy, but that the very feature which constitutes man's manhood is of a nobler origin, and that after all man, in this sense, can claim the privilege of divine sonship.

Let us investigate the nature of the problem and understand what constitutes the distinguishing feature of man and in which way the humanity of man made its first appearance on earth.

The difference between man and the brute is reason, and reason, the faculty that sees the general rule in a special example, enables man to foresee the possible or probable course of events, to make plans, to avoid danger, and to sow the seeds in summer with the expectation of reaping the harvest in the fall. All other creatures must adapt themselves to surroundings; man alone can adapt the surroundings as well as all other conditions to his wants.

The question is, whence did the faculty of reason come? Was it innate within the germs of the physiological ancestors of man or did it come to him from without?

We must remind the reader here of the fact that the term "evolution" is really a wrong word. When a common origin of all life on earth was first advocated by naturalists, which was done in the middle of the eighteenth century by Kaspar Friedrich Wolf (1733-1794), and later on by Haller (1708-1777), Gottfried Reinhold Treviranus (1776-1837), Lamarck (1774-1829), Geoffrey Saint-Hilaire (1772-1844), Goethe (1749-1832), Von Baer (1792-1876), and others, there were two theories offered in explanation; one was called "evolution," or in German *Auswicklung*, i. e., unfoldment (literally, "outrolling")—a theory of development from within, the other "epigenesis," or the theory of development by additional growth from without. According to the theory of evolution, the nature of the higher animals was assumed to be predetermined by the mysterious disposition of their original life-

plasma, in about the same way as the chicken, with all its limbs, its bodily and intellectual faculties, is somehow pre-existent in the ovule of the egg. However, according to the epigenesis theory, new properties are acquired by experience, and thus it would appear that external conditions determine the further development of life. The term "evolution" was used in those days in its original meaning of something being unfolded (rolled out) from a latent state into a visible and plainly perceptible form, but since Darwin's time, we use the word in place of "epigenesis"; for the theory of epigenesis has practically been established on the basis of observation and experiment, and the Germans speak no longer of *Auswicklung*, but of *Entwicklung*. The majority of naturalists of this age hold that the growth of higher life is not directly due to the latent qualities of ancestors, but is the result of new acquirements conditioned by extended experiences under definitely given surroundings. The progress which mankind is making still in its onward march to the higher planes of existence is due to the lessons of life and not to the mysterious potencies of primordial germs.

The chicken's egg is different from the primordial life plasma. Its ovule contains in the latent form of dispositions the experiences of all its ancestors—a kind of race-memory which will reproduce the chick-type by evolution in the original sense of the term.<sup>1</sup>

If the doctrine of epigenesis be true, we must insist that those features which constitute the manhood of man are not contained in a latent form in its brute ancestors, but they are a new acquisition which comes from without, not from within. Of course we must understand that only that animal which has passed through all the preceding degrees can be graduated to the higher sphere of life, and in this sense the experiences of the lower animal are still preserved and must be presupposed in all future advance.

Reason originates through language. Abstract thought becomes possible by naming things. Names stand for whole classes and thus a speaking animal is able to classify his experiences and distinguish the general features of phenomena from that which is particular and incidental. The uniformities of nature, however, are only the manifestations of those factors which scientists formulate as natural laws. They in their totality constitute the world-

<sup>1</sup>This statement is subject to certain restrictions which we do not care to discuss in detail in this connection. The ovule contains the memories of the chick-race, but its growth takes place by repeating the process of epigenesis.

The egg does not contain feathers, or eyes, or a bill, or feet, but certain life-impulses which under proper conditions will change the yolk into the several organs of a chick's body. Thus in the limited sense of the word, the term "evolution" would be misapplied even here.

order, and they, in short, are the divine presence that pervades the entire domain of the creation. Reason is nothing but the tracing of these uniformities, and thus human reason is the divinity of the cosmos reflected in consciousness. In this sense the divine is the more realised in a living creature, the higher its life rises in the scale of evolution, and we can truly say that the upward movement acquires its rationality from above, not from below.

The characteristic feature of evolution is not as Mr. Herbert Spencer has it, a change from homogeneity to heterogeneity, but the gradual approach of an acquisition of truth. Those creatures who have a clearer, and broader, and a more correct conception of the world-order that pervades all things, and whose attitude in life is correspondingly adjusted, range higher than those whose souls are only dimly lit up by reason or obscured by error and passion. Not complexity is the test of progress, but rationality. And our conception of truth ought to be, not a mere theoretical insight into certain laws, but truth practically applied; truth respected, cherished, and followed; truth loved, and truth lived out. Truth in this sense, i. e. truth that has become part of our souls, is not mere rational knowledge, but justice, and goodness, and loving kindness.

Truth, and reason, and goodness are not made of the dust. Reason is a perception of the relational facts, and it supports the ideals of life. Truth and goodness appertain to the immaterial, the purely formal, the spiritual. None of these qualities can be said to be qualities of matter; they do not reside, in whatever latent form it may be, in atoms or molecules. They develop by experience; they are added unto the budding life; they are the product of an epigenesis, which originates under the guiding influence of the cosmic order with all that it implies, and if there is any sense in the expression "divine," that certainly, and that alone, is worthy of the name.

Progress in our days is not made because man *likes* to advance and learn new lessons, but mainly because he *must* progress and discover. Man *must* make new inventions because competition and the struggle for life force him to do better than others and rise higher. It is as if nature were whipping man onward and forward, and there are only a few individuals that have acquired a natural impulse to work, to advance, and to inquire. There are very few indeed that labor for the sake of progress and for the love of it.

We may assume with great probability that the most important step, taken by life in its higher advance, viz., in its transition from brute existence to human existence, was done under compul-



sion and under the penalty of perdition for the unsuccessful. The rational being, called man, is probably the survivor only of a great number of man-apes that died out because they were unable to take the step and fulfil the stern demands made on them by circumstances.

The origin of mankind must most presumably be sought in the North, not in the South; in a place where life is hard, not where life is easy, and we may assume that by some catastrophe, a number of ape-man families were cut off from the sunny regions of the southern countries, and had to fight their way in a dreary northern climate, where they would unflinchingly perish unless they acquired the necessary altruism to help one another, and the indispensable intelligence to protect themselves against the inclemencies of hostile conditions.

The word of Christ that "the Kingdom of Heaven suffereth violence, and the violent take it by force," does not apply to the origin of Christianity alone but is generally true and will find its application whenever an important advance is made in the development of mankind. It must have proved true also when the first intelligent and intelligible sounds were uttered in the little circle of a primitive ape-man family, when cries and shouts changed to words, rendering possible an intercommunication of mind with mind, and begetting in them a purer, a clearer, a more definite, and a truer conception of the world.

Life is like the tree that grows upward. Its roots grow down into the depths of the earth. Its nourishment is from below, but the power that quickens it and imparts to it the strength to rise higher, is the energy furnished by the sunbeams and comes from above.

While it is true that man's body consists of matter and is of the earth, his spirit is spiritual and reflects the divinity of the world which represents itself to the naturalist as the cosmic order of law-ordained conditions. Without taking exception to the truths established by comparative zoölogy, which proves the kinship of man with the lower animals and traces its bodily form back through a series of brute ancestors, assuming the existence of the intermediate type of the so-called pithecanthropos or ape-man, we may rightly say that St. Paul's idea of man's divine sonship holds good and will remain true forever.

Having established the two sides of the ascent of man, his rise from below and the help that came to him from above while he was learning the lessons of life, we shall better appreciate the signifi-

cance of the period of transition in which man was just emerging from the brute state and soaring with mighty impulse upward to the higher plane of spiritual life and rational comprehension. No doubt this primitive ape-man must still have been a ferocious creature, and we can very well imagine that he was daring and bold and savage. It must have been dangerous for any weaker mammal to cross his path or to fall a prey to his ruthless hands, for he was still thoughtless and inconsiderate. He had to make his living from roots and berries and nuts, perhaps also by eating the flesh of some birds and animals that he might catch, and life must have been hard on him. Yet we must not forget that the tenderer feelings of friendship, conjugal affection, and parental love must have been at least as strongly developed in him as they are in many



LATERAL VIEW OF THE NEANDERTHAL SKULL.<sup>1</sup>

After Schwalbe.

brute animals, for the probability is that the most essential features that the ape-man acquired in his ascent came not only from his keener intelligence, but also, perhaps even mainly, from an increased refinement of his sentiment.

The doctrine of evolution would have been accepted without much opposition, had it not been for its implication with the descent of man from some brute ancestry. All possible arguments have been exhausted to weaken the theory proposed by Darwin and his successors. How much has been said and written about the "missing link," as if the acceptability of the doctrine of evolution depended solely upon the verification of the transition from

<sup>1</sup> Casts of both the exterior and the interior of the Neanderthal skull can be had, securely packed, of Charles H. Ward, Anatomical Laboratory, 594 Lyell Ave., Rochester, N. Y.; both for \$4.50, or either cast for \$2.25.

the brute animal to the intelligent *homo sapiens*. The truth is that there are innumerable missing links in the scale of life, and it will forever be impossible to point out every single phase through which man has passed since he started from the beginning.

In the meantime many discoveries of primitive human remains have been made which indicate that there was indeed no gap between the highest ape types and the lower races of man, which corroborates the assumption that man is descended, not from the ape, but after all from some animal kin to the ape.

In the year 1857 a human skeleton was discovered in a limestone cave (commonly called the "little Feldhofner Grotto") in the Neanderthal near Dornap, between Düsseldorf and Elberfeld. And how hot were the controversies about the character of the bones as well as the formation of the skull! Virchow, so liberal in



FRONT VIEW OF THE SUPRAORBITAL REGION.<sup>1</sup>

After Schwalbe.

politics and reactionary in science, advised caution and declared that these bones might be the remains of an imbecile and degenerate individual.

Professor Virchow claimed that no conclusion could be drawn from one isolated instance; but in the meantime other skeletons and skulls of a similar type have been discovered, which prove that the Neanderthal man was not an isolated individual, but the representative of a race that must have inhabited the caves of Europe

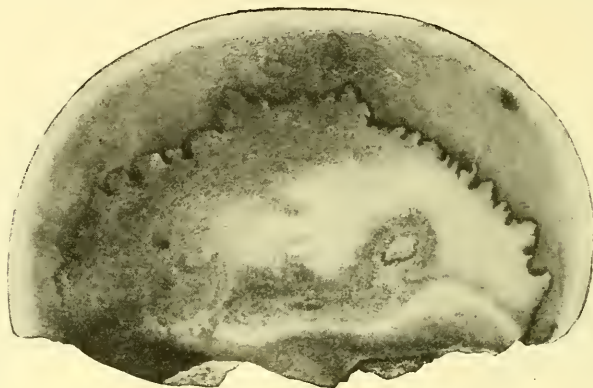
<sup>1</sup>The fracture in the right temporal region is plainly visible and is obviously due to a vigorous blow which, however, may have been made at the disinterment.

A groove is visible over the extreme part of the right eye, slanting over the supraorbital ridge, and ending in an incision. These marks have been the object of much discussion. The incision appears to be the passage for the supraorbital nerve, for it has its analogon, although in a much weaker form, on the right side; but the depression appears on one side only, and thus it is possible that it is the result of an injury received and cicatrised during life. Some of the little holes can be definitely identified as passages for blood-vessels, and none of them seem to be caused by disease.



at the time when mankind had just risen into existence. The skulls of Egisheim, of Brux, and of Cannstatt all characterised by an approach to the ape type, and two skeletons discovered by Messrs. Froipont and Lhoest in 1897 near Spy, Belgium, belong also to a race that was not very distant from the Neanderthal man. The cave in which the latter were found contains in the drift, flint implements of the crudest kind, and bones of the rhinoceros, the cave bear, the cave hyena, and other remnants of the earliest stone age.<sup>1</sup>

Renewed investigations of the Neanderthal skull have justified the theory that it belongs to a primitive man. These new discoveries in connection with renewed and careful investigations of the skull have dispelled all doubts concerning the nature of the Neanderthal remains. We may say without fear of contradiction



OCCIPUT OF THE NEANDERTHAL SKULL.<sup>2</sup>

After Schwalbe.

that the discussion has passed the critical stage, and all anthropologists of reputation agree that we have here the specimen of a primitive race whose forehead still preserves the orbital ridges of lower animals and the facial angle of which is considerably lower than that of the lowest negro type, being only slightly higher than

<sup>1</sup> Prof. G. Schwalbe of the University of Strassburg in Alsace has devoted an especial monograph to the subject, which he has published in the *Bonner Jahrbücher*, No. 106, pp. 1-72, under the title "Der Neanderthalschädel." The article has also appeared in a special reprint.

<sup>2</sup> On the right parietal bone we discover a cicatrised hole made by a pointed instrument, which looks, as says Virchow, as if it were made by a "bayonet," or "a sharp stone," or "any other pointed weapon," perhaps a lance, or an arrow. It was healed during the lifetime of our subject.

The occipital bone shows further a rough depression which Virchow suspected to be the result of a disease, but anatomists (among them Recklinghausen) declare that similar formations are not of unfrequent occurrence among normal skulls.

The *linea nuchea suprema dextra* is strongly marked. We notice further an unusual development of those parts from which the neck muscles originate.

that of anthropoid apes. The Neanderthal skull measures  $62^\circ$ , the two skeletons of Spy  $57.5^\circ$  and  $67^\circ$ , while the highest apes reach  $56^\circ$ . The facial angle of the human race of to-day averages from  $80^\circ$  to  $85^\circ$ .

While the forehead of the Neanderthal man is narrow and low, the occiput is well developed, and though judging from his bones he must have been a strong creature and presumably ferocious in fight, he may not have been lacking in kindly sentiments, as indi-



cated by the width of his cranium. And what a story do the remains of the Neanderthal man tell! One ulna received an injury which was healed during the life time, but must have considerably

<sup>1</sup> The left ulna shows that the individual to which this bone belonged received a severe injury during lifetime the cure of which was left solely to nature. The right ulna is normal and its surfaces of the *processus coronoides* are well preserved, but on the left ulna a fracture is visible. Here the *incisura radialis* is filled up with newly formed bone substance and thus brought this spot, destined to receive the *capitulum radii*, into direct contact with the *humerus*, the bone of the upper arm. The result must have been that the arm could not be fully extended.

Above the left ulna we reproduce the end view of the pathological *processus coronoides*. The cicatrised injury appears on the left side.

hampered the use of his arm. The right parietal bone of the skull shows the mark of a cicatrised injury which appears to have been made with a pointed weapon, an arrow or a lance. A furrow in



A RESTORATION OF THE NEANDERTHAL MAN.<sup>1</sup>

the right superciliary ridge is another irregularity which seems to have been caused by some violent blow and must have been an

<sup>1</sup>This picture is a retouched photograph taken of a model made by Guernsey Mitchell according to the instructions of Prof. Henry A. Ward of Chicago.

ugly gash over the right eye. Finally we notice a fracture near the right temple which was presumably done by the spade of the laborer who unearthed these ancient bones. Otherwise it would justify the post-mortem statement of a violent death.

Accordingly the life of the Neanderthal man must have been one of fierce struggle either with rivals of his own type or with the cave bear and other ferocious beasts, perhaps with both, and finally he succumbed in the battle for life, perhaps also in a fight with his own or his tribe's enemies.

The artist Gabriel Max has dared to reconstruct an image of the ape-man, and having devoted many years of study to the shape of the anthropoid simians as well as to the doctrine of evolution, he has thrown his ideas on canvas and dedicated his picture to his friend Ernest Haeckel of Jena.

The picture is at first sight repulsive. There we have a couple of the ape-man, kin to the species found in Neanderthal, Cannstatt, and Spy, who must have been more savage than the savages. The symptoms of his brutish nature still show in his bodily appearance and yet the more we look at the picture the more it gains on us!

Verily, we discover a close resemblance of the scene represented by Gabriel Max to pictures of the holy family. And considered rightly, the similarity is by no means fortuitous, for here we have indeed a holy family. It is an uncultured primitive couple of a speechless tribe of forest men, yet the hope of progress and a brave determination to take up the battle of life for the sake of the babe that is born to them becomes visible in the mother's eyes.

Gabriel Max was equal to the great task of showing man at the beginning of his career in a low state, but he understood how to make us comprehend that we behold here, not the downfall to a state of degradation, but the rise to a higher and nobler development of life. We can plainly see that these creatures, half animal, half man, contain in their aspirations the grand possibilities of humanity. The picture is of extraordinary exactness if judged from the standpoint of anthropology, but even if it were not, the main idea of the artist comes out clearly and is vividly pictured before us—a brute rising into manhood! This much is certain, that the artist has understood how to portray the ancestors of man not as mere brutes, but as aspirants for a higher life, at a moment when their souls were blossoming out into that fuller mentality, which, with its intellectual depth and moral breadth, we call human.

Gabriel Max was prepared for his task in a two-fold manner; first by his study of the physiology and anatomy of the ape and his



knowledge of the doctrine of evolution, and secondly by his previous work in the line of Madonna paintings. The influence of the latter is so strong that the weak point noticeable in all the Christian representations of holy families (the depression of the ideal father into a mere foster-father) is still apparent here. The father of the babe looks too much like St. Joseph, like an old reliable servant and an uninterested guardian, not like a husband and parent, who takes a personal interest in his wife and child and would burn with rage at any danger that might disturb the peace of his little family circle.

In concluding this sketch of the ascent of man we will only insist on one important truth which is frequently misunderstood, viz., that man rose from a brute condition by virtue of superior qualities, not by brutishness and viciousness. Professor Huxley, strange to say, insists on the immorality of nature, and he is fain inclined to attribute the rise of man to his tiger-like fierceness and fox-like cunning, which, it is claimed, man learned in the stern school of life. But there is a flaw in Professor Huxley's reasoning, and while we are fully aware of the fierceness of the struggle for existence we cannot account for the gradual rise of nobler and moral instincts, except by the fact that they gradually improved his condition and made him what he is to day. The infuriated savage may be cruel to his enemies but we must not forget that the fury with which he takes up the combat is prompted by the love of his fellows, of his wife and child, or of his whole tribe, and the rise of mankind would not have taken place without a growth of the more refined sentiments of sympathy, kindness, and love.

Man's ascent is due to a rise, not a fall. Civilisation has not been brought about by an oppression of the weak or by fraud and rascality. It is the product of honest work, of a hard yet fair struggle, of noble aspirations.