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**BIOLOGICAL SCIENCES AND
QUR'ANIC REVELATIONS
THEORY OF HUMAN EVOLUTION**

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BIOLOGICAL SCIENCES AND QUR'ANIC REVELATIONS

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PREFACE

It is a distressing fact that most of the Muslims lack proper understanding about the universal relevance of the Qur'anic Message which was revealed to Prophet Muhammad (SAWS) for the guidance of all mankind. There is considerable misapprehension too about Islam and the Message of the Qur'an in the minds of Non-Muslims. The **Indian School of Excellence Trust (INDSET)** is making a humble endeavour through a series of monographs on Islam and Qur'an to project the image of Islam in its proper perspective and to explain the significance of the Message of the Qur'an in a scientific and systematic way.

This Monograph examines critically the story of the evolution of man from primates as developed by the scientists. The Theory of Human Evolution is highly complicated. There are far too many missing links and therefore not very convincing. In sharp contrast the Qur'an unequivocally declares that the entire mankind has multiplied from a single pair of Adam and Eve and their differences in complexion and physique are to differentiate and distinguish their ethnic identity rather than their rank and status in society. The Qur'an stresses the equality of Mankind.

The Theory of Human Evolution stands on a weak scientific base. Since scientists are seekers of truth they should not hesitate to discard a theory which is scientifically untenable. To persist in pursuing it is dogma not science. This is perhaps the only area where science disagrees with the revelations in the Holy Qur'an. I am confident that eventually the scientists will come round to accept the truth revealed in the Qur'an and will

abandon their fanatic adherence to the Theory of Human Evolution.

We earnestly pray, in all humility, to Allah (SWT) to kindly accept our small services in the cause of Islam and Qur'an and graciously bless our efforts with success (*Aameen*).

وَأَخِرُ دَعْوَاهُمْ أَنْ الْحَمْدُ لِلَّهِ رَبِّ الْعَالَمِينَ

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BIOLOGICAL SCIENCES AND QUR'ANIC REVELATIONS (THEORY OF HUMAN EVOLUTION)

INTRODUCTION

There are forty Qur'anic verses covering the origin of living beings and creation of man. These verses are clear, definitive and unambiguous. They confirm the scientific findings that all living objects have originated from water. However the Qur'an does not support the scientific hypothesis about the evolution of man from primates. According to Qur'an man was created as man, a unique creation of Allah (SWT¹) superior even to angels. He is divinely gifted with the spirit of Allah (SWT) and with qualities unmatched in any other living being.

In contrast to the vivid revelations in the Qur'an regarding the creation of man, the theory of human evolution is full of inconsistencies since it is based on fragmentary evidence including scattered bones and a confused mass of skull fragments. Moreover fossil gaps are of such enormous dimension that the biologists have failed to work out a clear and coherent picture of the evolution of man. They are mainly guided by the law of probability and also by the concept of homology according to which fundamental similarities can be traced to one and single object. Further the theory suggests that the development of human beings is subject to a natural

¹ SWT stands for '*Subhanuhu wo Ta'la,*' meaning 'Pure and Exalted'.

process of selection overlooking the fact that man by virtue of his intelligence and skills is, in fact, in a position to completely alter or transform the process of natural selection. Scientists also ascribe the development of human intelligence, man's power of speech and his capacity to read and write to the process of natural selection. This is rather a mechanistic approach which implies a self propelling change in man thereby denying any divine role in the making of man.

Evolution however seems to be the law of nature. Human civilization, including man, and all natural phenomena are subject to evolutionary process and experience a cyclical phase in their growth. While Qur'an does not support the evolution of man from primates it refers repeatedly to the evolutionary process in nature and cyclical character of the development of human beings and human civilizations. Evolutionary process in nature is evident from the cycle of river regime or cycle of rainfall. Even human races are continually evolving through cross breeding. Human civilization has evolved from the primitive to the modern nuclear age. Human intelligence has advanced phenomenally from total dependence of cave men to natural elements to total human control of the natural environment at the micro-level in this nuclear age.

In the following paras we propose to examine objectively the Theory of Human Evolution in the light of the Qur'anic revelations. We shall also attempt to explain the concept of evolution as revealed in the Qur'an.

INORGANIC TO ORGANIC EVOLUTION

The chemical evolution was originally conceived of by Oparin and Haldane. They assumed "an original atmosphere containing Water, Methane and Ammonia, from which by a series of changes the more complicated forms of organic molecules are evolved" (1). Supporting this viewpoint scientists in general assumed that the "living state arose from the non-living through the process of biogenesis which has now ceased to operate: (2). Laboratory experiments have clearly established that "a pre-biological synthesis of complex compounds was possible (3). The formation of these complex compounds in the primeval state is also strongly supported by stellar evidence pointing to the fact that "as the stars cool, and the disintegrating effects of heat diminish, different chemical elements come into being by reason of more and more complex combinations of some primordial element, the hypothetical "protyle" of Crookes...or "electron" of modern science," (4). Since these complex compounds are basic to the evolution of life "It is not unreasonable to suppose that life originated in a watery "soup" of pre biological organic compounds and that living organisms arose later by surrounding quantities of these compounds by membranes that made them into cells, the starting point of organic (Darwinian) evolution" (5).

This process set in motion a chain reaction for the evolution of more complex form of life and is best expressed in the words of Hawking: "The earth was very hot and without an atmosphere. In the course of time it cooled and acquired an atmosphere, from the emission of

gases from the rock. This early atmosphere was not one in which we could have survived. It contained no oxygen but a lot of other gases that are poisonous to us such as hydrogen sulphide..... There are, however, other primitive forms of life that can flourish under such conditions. It is thought that they developed in the oceans possibly as a result of chance combinations of atoms into large structures, called macromolecules, which were capable of assembling other atoms in the ocean into similar structures. They would thus have reproduced themselves and multiplied. In some cases there would have been errors in reproduction. Mostly those errors would have been such that the new macromolecule could not produce itself and eventually would have been destroyed. However a few of the errors would have produced new macromolecules that were even better in reproducing themselves. They would have therefore had an advantage and would have tended to replace the original macro-molecules. In this way a process of evolution was started that led to the development of more and more complicated, self reproducing organisms. The first primitive forms of life consumed various materials, including hydrogen sulphide, and released oxygen. This gradually changed the composition that it has today and allowed the development of higher forms of life such as fish, reptiles, mammals and ultimately the human race" (6).

The Darwinian concept of origin of life in a warm rich broth of organic chemicals is now being challenged by scholars in view of new scientific evidence coming to light. There is the new theory of life originating in

hydrothermal vents supported by the fact that in the hot water gushing out of these vents are "extensive ecosystem filled with strange organisms, including giant tube worms and blind shrimp". An analysis of their RNA reveals that they also contain "sulphur eating micro organisms that anchor the food chain around the vents and are the closest living link to the first creatures on earth". This spectacular existence of life in the overheated spots led scientists to advance "hot world" hypothesis, a Stygian alternative to Darwin's peaceful origin of Life (7).

Some scientists such as Louis Lerman of Lawrence Berkeley laboratory have hypothesised that "bubbles in the ocean served as miniature chemical reactors" and when "bubble burst they forcibly eject their accumulated molecules into the atmosphere where some scientists feel the most important chemistry takes place. Unlike the "hot world" this concept has not received wide support for most of the scientists feel that "life arose in a less ephemeral chemistry lab than a bursting bubble". The basic concept of the origin of life is also being challenged because of the antiquity of living organisms. As for instance thriving microbial community fossils have been found in rocks as old 3.5 billion years ago i.e. within 1.1 billion year of the origin of the earth. In other words "the chemistry needed to green the planet must have been fast," and also simpler than assumed. (8)

The primary broth theory has now been rejected as it failed to explain mathematically the production of a single protein molecule. As is known, "protein molecule is composed of long chains of amino acids, and the latter

are constructed of 5 basic elements - Carbon, Hydrogen, Oxygen, Nitrogen and Sulphur. In a simple protein molecule about 40,000 atoms of these five basic elements join in complex chains. These could statistically combine in 10^{48} patterns, some of which are lethal to life, while others are not". It is practically impossible to work out "the choice of these five basic elements in their exact proportions and the right pattern out of the available matter of earth (about 105 elements)." (9)

The Scientists are also veering round the view that the organic chemicals for the origin of life might have been provided by the invading terrestrial material from the outer space such as meteorites, asteroids and dust particles. They are also tending to assume that the origin of life had been more under violent circumstances than the calm and peaceful manner assumed earlier. They subscribe to the idea that violent collisions of stellar objects led to the origin of the earth. The meteorites however carry infinitesimally small organic matter to have spawned life. Hence Chyba argues that "a far more important source may have been interplanetary dust particles floating around in the era when earth was forming." (10)

Scientists do believe that life commenced, as a consequence of a series of chemical reactions by certain key organic molecules. They are however puzzled and unable to answer as to how these molecules came to reproduce themselves. Some of them seriously think that clay may provide the answer for the structure of certain clays repeats the same crystal-line pattern over and over

again. They put forth the view that "clay or mineral crystals could have served as molecular moulds that incorporated life's building blocks and organised them in precise arrays". Bernal initiated the idea that clay plays the most important role in creating the first speck of life. The NASA (National Aeronautical Space Authority) confirmed the findings of Bernal and points out that "clay acts as a catalyst in producing proteins and DNA. Clay lattice can store energy in the form of electrons and then can release it when subjected to the stress caused perhaps from the wetting and drying cycle when the tides rise and recede."(11) It is thus becoming increasingly clear that the sun baked clay on the oceanic beaches had a key role to play in the chemical evolution of life from inorganic substances to the organic amoeba, one of the simplest unicellular organisms.

While advancing the concept that organic molecules can spontaneously organise and reproduce them-selves, scientists have so far failed to solve the puzzle whether protein was produced first or DNA in the making of modern cells which are made of proteins but the blue prints for proteins are contained in the DNA. The scientists are now turning to RNA to find a solution to this riddle. They have discovered that some RNA, besides acting as messengers from DNA of genetic codes can also function as catalysers of reaction and could have "perhaps at some point in the past, spurred its own replication". If this hypothesis is proved correct then RNA should be treated as DNA's ancestor, not just an intermediary. Scientists are inexorably leading their experiments to establish the development of a fully functional RNA in a

test tube which can also produce its own protein. They have however failed to obtain the desired results to establish their hypothesis that the origin of life is basically the outcome of errors, accidents and chance but not due to any divine design. (12)

Despite all these remarkable discoveries the origin of life remains an unsolved puzzle and "the more scientists learn about it, the more extraordinary, life seems. Just as the Big Bang Theory has not demystified the universe, so progress in understanding the origin of life should ultimately enhance, not diminish the wonder of it."(13)

DARWIN AND THEORY OF HUMAN EVOLUTION

The concept of lowly origin of man belonging to the order of primates is credited to Charles Darwin. He believed in the similarity of origin of living objects. In the Origin of Species he wrote: "It is a truly wonderful fact - that all animals and all plants throughout all the time should be related to each other in groups and subgroups" (14). Darwin found striking similarity in the bodily structure of man and other animals such as the embryo of man and of dog, that he readily agreed with Huxley to report that : "Without question the mode of origin and the early stage of development of man are identical with those of animals immediately below him in the scale."(15) Darwin also introduced the concept of Natural Selection which he had derived from Malthus's Essay on the principle of population. Malthus advocated the view that since population increased geometrically and food supply

increased only in arithmetic ratio, it naturally led to the death of poor through hunger, disease etc. While this Malthusian theory stands thoroughly discredited, it however led Darwin to evolve the concepts of "Natural Selection" and of the "Survival of the Fittest". In his "Note-book on the Transmutation of Species" Darwin wrote "On an average every species must have some number killed year by year with hawks, by cold & co.... The final cause of all this wedging must be to sort out proper structure. One may say that there is a force like hundred thousand wedges trying to force every kind of adapted structure into gaps in economy of nature, or rather forming gaps by thrusting out weaker ones.... (16). If on the one hand Darwin's Theory highlighted the glaring inaccuracies in the account on creation in the Book of Genesis, it also advocated a mechanistic and automatic system of natural selection leading to the evolution of living beings "With no room for divine guidance and design in the production of living plants and animals, including man on earth."(17)

THEORY OF HUMAN EVOLUTION

The Theory of Human Evolution and the Process of Natural Selection have so profoundly influenced the succeeding generation of biologists and anthropologists that they proceed with preconceived notions and refuse to accept any other view point. This theory places man in company with lemurs, tarsiers, monkeys, and apes "because they have a number of common anatomical features," (18). This Theory as conceptualised by its proponents, may be encapsulated as follows: Homo

sapiens seem to have descended from Oreopithecus (Tuscany), Ramapithecus (Punjab - India) and Kenyapithecus (East Africa) who were all contemporary and lived in the late Miocene or the early Pliocene time (10-13 million years ago). Fossils of pelvis of the Oreopithecus suggest a basin like pelvic girdle resembling that of man and that the animal walked in an erect position. From the fossils of teeth and fragments of jaws, Ramapithecus and Kenyapithecus seemed much closer to man. However nothing can be said with definiteness because "we do not have fossils of possible human ancestors in later portions of the Pliocene period" (19). Despite this vital gap in the fossils record, it is now commonly accepted that the Homo sapiens are the direct descendants of the Southern Man-Apes i.e. Australopithecus, (discovered in South Africa in 1924) that lived there at least five million to perhaps less than a million years ago (20). Of the two species of Australopithecus robustus (Paranthropus) and africanus (transvalensia) man has descended from the gracile Australopithecus africanus. This gave birth to the species Homo habilis (2.6-2.9 million years ago), followed by Homo erectus found in Java and Peking, South and Central Africa and lived between 500,000 - 800,000 years ago, leading eventually to the rise of Homo sapiens during the penultimate "Riss glaciation" or even earlier (about 300,000 years ago) probably in tropical and sub-tropical climates"(21). It seems that Paranthropus (A. Robustus), Homo transvalensia (A. Africanus), and Homo erectus were "contemporaries and undergoing contemporary evolution about 900,000 years ago. All three forms are now extinct and although only one species of

the genus Homo still persists, it has become the dominant mammal" (22).

Since the emergence of Homo sapiens man has not undergone any phyletic evolution. "The last known evidence of human phyletic evolution concerns the H. erectus - H. sapiens transition; this period of transition occupied a considerable time, and because of the incompleteness of the fossil record scholars can only guess many of its details" (23). The scientists further point out that "since their divergence from ape like animals, the ancestors of mankind have progressed chiefly along a single line of evolution.....during at least the past 600,000 years; it has probably consisted of a single species, possessing a common gene pool, and sub-divided into a number of different races" (24). Moreover they observe that "certainly H. Sapiens did not spring fully from H. erectus but through the process of mosaic evolution, crossed the sapiens threshold at varying times in the development of different functional complexes."(25). The scientists also stressed the point that since the rise of Homo sapiens "the greatest selective pressure was for developing further the centres of intelligence. During at least the past 40,000 years there has been little selective pressure for changed anatomical characteristics", (26).

The scientists have attempted to develop a coherent story regarding the evolution of man. They have however failed to do so because of the fragmentary nature of evidence underlying their theoretical formulations. The inconsistency in their argument manifests itself in all stages of evolution from brawn to brain and from

brachiation to bipedalism. This is stressed by the scientists themselves.

As for instance they disagree as regards the Australopithecus ancestry of Homo sapiens. This school of thought "would allow representatives of the genus Homo to occupy the same territory as members of the genus Australopithecus at a relatively early date and would deny the known Australopithecus any part of human ancestry. Evidence for this hypothesis is being derived from the area of Kenya to the east of Lake Rudolf, where in 1970 and 1971 mandibular and post cranial remains (body and limbs, including the Jaw) were recovered from deposits between 100,000 to 600,000 years ago. Stone tools of the Oldowan culture have been recovered from the same area and have been attributed to older deposits. The clear implication of the last view is that divergence between the hominids and the Australopithecines must have taken place in the Pliocene period (27) & (28).

It seems that scientists assume that the development of Homo sapiens took place simultaneously in widely dispersed areas geographically. This is evident from the discovery of skulls of Homo erectus and Homo sapiens in Peking, Java, South Africa and Central Africa. Some of them suggest that Homo sapiens, travelled to Europe and gave rise to the race Neanderthals (29). This is however strongly disputed by Huxley and many anthropologists. They "rule Neanderthal man out of the direct human line and insist that this was a branch that came to naught. It is argued that modern man could not

have descended from "a creature with such huge brow ridges, heavy cheeks and massive jaws"(30). Huxley strongly cautioned: "In no sense can the Neanderthal bone be regarded as remains of a human being intermediate between men and apes"(31). Further a serious anomaly has also been observed in that the classical Neanderthals who resembled the Homo erectus more than any Homo sapiens predecessors" and who lived in the cold climate of Europe-the first humans to do so, suddenly became extinct with the retreat of the glaciers in the late stages of the Pleistocene Ice Age. This anomaly has made the entire issue regarding the evolution of man highly debatable. The biologists do admit that "just when and how Homo sapiens became differentiated from his Homo erectus...forebears remains a matter of debate"(32).

The scientists also believe that the process of Natural Selection has played a great role in accelerating the process of human evolution. However the process of natural selection cannot explain convincingly the change in ape-man anatomy and his shift from brachiation to bipedalism. No rational explanation is available as to how these "creatures who left the forest for the open grasslands and took to walking on two legs", came to being.(33) The protagonists of the theory of evolution do admit that "No one knows precisely why these early hominids, whose lineages gave rise to modern man, took to the ground except that it may have been in search of food supply.(34) This does not seem to be a plausible argument for why should quadrupeds turn into bipeds and take to walking when the environment does not demand it.

The biologists take recourse to rapid genetic changes and natural selection whenever they cannot coherently argue their case establishing credible linkages in the evolution of man from *Homo erectus* to *Homo sapiens*. In the words of Washburn: "A relatively few genetic changes and natural selection could transform the free-striding but small brained ape man into the still free striding but larger brained men of today. Evolution in this way could well have been accomplished in the lesser span allowed by the new timing" (35). Consequently some large apes living on ground were suddenly gifted with a totally human pelvis thereby enabling them to walk upright, and the hands were free to function for tool making and for writing. This genetic change led to the rise of the most intelligent of the biped man-apes.

Washburn has adopted the concept of accelerated genetic change to overcome the time constraint which presents insurmountable difficulty in explaining the evolution of man from *Homo-erectus* to *Homo-sapiens* within a short span of 500,000 years. The pace at which Darwin assumed the process of evolution to operate even a million years would be inadequate.(36). This difficulty was also acknowledged by Washburn: "If each one of the differences between the ape-man and us is based upon a separate element of genetic construction of the individual, it is true it becomes mathematically impossible to change the ape-man into modern man in the time that seems to be implied in the actual record" (37). In order to resolve this difficulty, he assumed that there are probably fewer basic genetic differences between early man and modern man

than those that appear on the surface - the few big genetic differences might well have been achieved within the time available, and that the other smaller differences could have followed almost automatically" (38). He has neither explained the basis of his assumption nor accounted for the acceleration of pace as regards major genetic changes. He has simply made an educated guess.

The entire theory of human evolution is based on fragmentary evidence consisting of specimens of skull and scattered bones. The collection of fossils is enormous "but riddled with contention and confusion, mainly because of fragmentariness of the remains requiring some guess work in reconstruction"(39). No where scientists have been able to obtain full size skeleton of neither the human body nor even a large part of it in the fossil record to build up a coherent story. Even this fragmentary evidence is marred by fossil gaps of considerable time magnitude. One such gap was from the end of Miocene to the end of Pliocene epochs, gap of more than five million years from which very few fossils belonging to the hominid line are known"(40). It is however at the end of this period, when the fossil gap is maximum, we suddenly discover the southern ape-man (Australopithecenes) - the eventual ancestors of Homo sapiens. Even for the Pleistocene period we cannot trace the transition from Homo erectus to Homo sapiens with definiteness because of the sparse and fragmentary nature of evidence. In the words of a scholar "this period of transition (H. erectus - H. sapiens transition) occupied a considerable period of time, and because of the incompleteness of the fossil records, scholars can only guess at many of its details"(41).

The process of phyletic evolution of anatomical change has stopped for the last 250,000 years (42). The cessation of anatomical change is also testified by Dobzhansky where he writes: "for several million years the evolution of our pre-human and early human ancestors exhibited a trend of gradual but rather steady increase of the brain volume. This trend culminated perhaps 200,000 years ago in Homo sapiens and its Neanderthal race, whereupon no further increase of the skull capacity has come to pass, This may have been due to a limit imposed by the difficulties of child birth" (43). No rational basis has been furnished except that it has not happened in man because of the "flexibility of his gene pool" and "intervention of culture between man and his environment" (44). Further all the immediate ancestors of man viz., Homo africanus, Homo habilis, and even Neanderthals are all extinct. In other words, all direct evidence to prove or disprove the validity of the Theory of Evolution has been destroyed. Before we conclude this discussion it seems appropriate to quote extensively from the work of a distinguished scholar, Savage (1969), (45) which will provide a real insight into the thinking of scientists on the Theory of Human Evolution: "This consideration of the biological evolution of mankind can be concluded by some speculations about the kinds of selective forces which guided it. The most significant changes which these changes brought about were the following:

1. "The change from the four footed gait of terrestrial apes to the bipedal gait of man; this required

considerable changes in the structure of man's skeleton, which can be traced whenever fossils are found which include the right parts.

2. The perfection of the hand for tool making. The generalized apes from which the line leading towards man diverged had already evolved hands with opposable thumbs, probably in connection with grasping branches of trees.
3. "Increase in brain size and intelligence. This involved not only mere increase in size of the brain but also particular development of those centres in which intelligent responses are localised. When whole skulls are available, these changes can be followed to some degree.
4. Change in the diet from fruits, hard nuts, and tough roots to softer food, including an increasing dependence on meat: This involved decrease in size of the tearing and biting incisors and canines, the development of regular surfaces on the grinding molars and later the reduction of size of the teeth, as men began to use fire for cooking. These changes are easier to trace through the fossils record than any other, since teeth are preserved as fossils more often than any other parts of the skeleton.
5. "Increase in the ability to communicate with others, and to develop organised community behaviour. Direct evidence for the type of change cannot be obtained from the fossil record, but it can be approached indirectly in various ways".

A perusal of items 1, 2 and 5 from the aforesaid quotation highlights the fact that scientists supporting the hypothesis of the evolution of man, have drawn definitive conclusions from inconclusive evidence. Fossils are just not available to conclusively establish how the bipedal man has evolved from the four footed ground apes and monkeys. Since remains of whole skulls are not available they can only guess about the brain size and intelligence. It seems that even brain has ceased to grow despite phenomenal growth of intellect. This seems to negate the basic hypothesis of the biologists and anthropologists of positive relationship between brain size and intelligence.

The scientists have ascribed to Natural Selection the intellectual and speech evolution of man. It is being pointed out that "at some stages in man's evolution the superior mental power of the brain evolved through natural selection, gave him a wide range of abilities, all of which have a social bearing. Speech enabled him to communicate with his fellows, and reasoning enabled him to envisage deliberate aims," (46). This is a most mechanistic approach and implies a self-propelling change in the cultural evolution of man thereby denying any divine role in the making of man.

In their understanding of the evolution of man some biologists seem to be guided by the law of probability according to which fundamental similarities can be traced to one and single object. They have further observed: "a splendid homology in the bones of the upper arm, fore-arm, wrist, hand and finger, all of which can be matched bone for bone in rat, dog, horse, bat, mule

porpoise or man. The example is all the more telling because the bones have become modified in adaptation to different modes of life but have retained the same fundamental plan structure, inherited from a common structure," (47). It is because of this striking similarity that some scientists trace the origin of man to apes. They however overlook the fact that "the appearance of modern man about 35000 years ago is very sudden. There is no known transition from the Neanderthals to those essentially modern looking people who have been called Cro-Magnon men. Furthermore these new Europeans are definitely not the same kind of generalised Homo sapiens, but clearly belong to the Caucasoid race" (48). In this entire argument the scientists ignore the point that this could as well be assigned to a common Creator Who, while maintaining similarity introduced subtle differences to account for their distinctive characteristics. This sounds more rational and sensible than to argue on common origin because of homologous conditions in human and animal anatomy. This is classically illustrated by the sex differences in the human embryo. The male-female embryo looks exactly alike. The production of female sex hormones by the ovary, oestrogen and progesterone, makes all the difference. These hormones control the whole range of female characteristics and thus cause the male-female appearance to be radically different. In view of these distinct divine interventions in the making of man Graham Cannon, an eminent contemporary zoologist categorically states in his book "Evolution of Living Things" that "All the evidences I have analysed in the previous chapters can lead - in my opinion - to one target and do not deviate from reaching

it. It all ends at the idea of the existence of a Supreme Governing and Directive Force in the core of every living being. This Supreme Power leads the evolution of things not by co-incidental changes, but by selective, well planned and well chosen ones." (49)

The scientists are strongly influenced by the idea of homology. They tend to overlook the dissimilarities in the physical appearances of apes, gorilla and men, and marked differences in their behavioural characteristics right from birth to maturity. The total dependence of human off-springs in early stage of growth on their parents and their slow growth to maturity contrasts sharply with the growth of animals that right from their infancy do not show that degree of dependence on parents. But on attaining maturity man's command of the environment is total and stands in sharp contrast to the total dependence of animal on environment. Despite his superior intellect man is being treated as mechanical robot subject to the law of natural selection. We are fully aware of the fact that man can modify, change and even stop the process of natural selection which presumably is valid only for plant and animal life in their natural environment but is inapplicable against the intellectual genius of man.

The Theory of Evolution fails completely to explain the intellectual evolution of man and the development of the power of speech which are so unique to man and bear no comparison with any living creature. This is forcefully highlighted by El-Naggar: "the uniqueness of man among living beings is not only demonstrated by his upright posture, dentition, large

brain and characteristic genes, but by his intelligence, ability to reason, to perceive and retain knowledge, feel and express his feelings, and upgrade himself towards perfection through knowledge, commitment and free will. These cannot be developed from previous animals, by the very slow rates of ordinary evolution and hence prove the uniqueness of man" (50).

In the light of aforesaid discussion it is abundantly clear that the theory of human evolution is based on fragmentary, contentious and confusing evidence. The missing links are still too many and evidence lead to such conflicting directions that human evolution cannot be conclusively established. While Leaky's findings speak of the antiquity of man, fluorine dating makes his origin rather recent, only 50,000 years ago. Even the accuracy of the dating technique is now suspect, as recently scientists have discovered significant degree of divergence in dating results obtained from Carbon-14 and Uranium Thorium techniques.(51)

Furthermore, the process of evolution is an on-going process and hence traces of this evolutionary metamorphosis from ape to complete human form should still be in evidence somewhere unless the scientists declare that all living beings have reached a state of stable equilibrium and therefore the evolutionary process has ceased to operate. Many evolutionary processes are still operational and observable in a number of natural phenomena. As for instance the hydrological regime or the cycle of erosion is one such phenomenon. Its evolution from the youthful to mature and old age, interspersed

sometime by rejuvenation, can be traced with clarity. The cycle of erosion is a continuing process which can be observed, identified and measured. The ancestors of *Homo sapiens* are extinct and the cycle of physical evolution of man has stopped. Therefore human evolution can be studied only through fossils which are too fragmentary to furnish conclusive findings.

It is surprising indeed that despite obvious flaws in the Theory of Human Evolution some scientists do not hesitate to proclaim that "Man is the product of an orderly, though complex evolutionary process, from primitive primates through generalised human forms to our own species.(52) Fossils gaps and anomalies are clearly discernible as is highlighted in a discussion on the Evolution of Man in the Times Atlas of World History. (53). this conflicting evidence makes the whole theory suspect and leads us to ask the question: Is man not a unique creation of Allah (SWT) distinctly different from the overall evolutionary process as conceptualised by the biologists and anthropologists?

CREATION OF LIVING BEINGS: QUR'ANIC CONCEPTS

It is indeed amazing that the concept of the evolution of life from inorganic substances was proclaimed in the Qur'an more than 1400 years ago. According to Qur'an three distinct categories of living beings - animal, human and *Jinn* have each originated from three distinctly different inorganic substances. Of the three living creations of Allah (SWT) the *Jinn* stand

distinctly apart for they were created out of flaming fire long before the formation of atmospheric gases and far ahead of the emergence of terrestrial life. The Qur'an while distinguishing between the creation of *Jinn* and man points out that *"We created man from sounding clay, from mud moulded into shape. And the Jinn race We had created before from the fire of scorching wind,"* (Al-Hijr; 15:26-27). In another Qur'anic verse this has been stressed again defining clearly the nature and character of both the fire and clay used to mould *Jinn* and man. The Qur'an points out that Allah (SWT) *"created man from sounding clay like unto pottery, and He created Jinn from fire free of smoke"*. (Ar-Rahmaan; 55:14-15)

The Qur'an clearly and categorically endorses that all terrestrial living beings have evolved out of water. *"And We have created from water every living thing,"* (Al-Anbiya; 21:30). Elucidating further, the Qur'an points out that animals were all created from water, were of widely varying types and characteristics. The Qur'an reads *"And Allah has created every animal from water! of them there are some that creep on their bellies, some that walk on two legs, and some that walk on four. Allah creates what He wills; for verily Allah has power over all things"* (An-Noor; 24:45). The Qur'an presumably refers to the chemical evolution of life when it reveals that every living object is created out of water. This is a scientifically established fact.

The chemical evolution of living beings was originally conceived of by Oparin and Haldane. They assumed "an original atmosphere containing Water

Methane and Ammonia, from which by a series of changes the more complicated forms of the present - day forms of organic molecules are evolved.”(46) The scientists have postulated that the chemical reactions must have occurred in the primeval atmosphere leading to the development of first signs of Life. The early atmosphere “was largely composed of methane (CH₄) with some ammonia, hydrogen and water vapour.” (47) As explained earlier the scientists have speculated that living organisms have evolved out of a primary broth: They have hypothesised that life began in the oceans in the presence of primitive atmosphere through the action of naturally occurring lightning, ultra violet radiation from the sun and/or cosmic rays with the formation of amino acids (23 building blocks of protein) and other sub-units of organic substances.”(48) The primary broth theory, as observed earlier now stands rejected and fails to explain mathematically the production of a single protein molecule. As is known “protein molecule is composed of long chains of amino acids, and the latter are constructed of 5 basic elements- Carbon, Hydrogen, Oxygen, Nitrogen and Sulphur. In a simple protein molecule about 40,000 atoms of these five basic elements join in complex chains. These could statistically combine in 10⁴⁸ patterns, some of which are lethal to life, while others are not”. It is practically impossible to work out “the choice of these five basic elements in their exact proportions and the right pattern out of the available matter of earth (about 105 elements)” (49). Crick and Watson were able to identify the structure of atoms by 1958 and soon discovered that “the first stage in the making of a new protein was the production on the DNA of a special form of messenger

RNA (Ribo Nucleic Acid) which contains the necessary information for constructing a particular protein.”(50). Later Bernal initiated the idea that the clay plays the most important role in creating the first speck of life. The NASA (National Aeronautical Space Authority) confirms the findings of Bernal and point out that “clay acts as a catalyst in producing proteins and DNA. Clay lattice can store energy in the form of electrons and then can release it when subjected to the stress caused perhaps from the wetting and drying cycle when the tides rise and recede. The released energy is then available to drive chemical reaction.(51) It is thus become increasingly clear that the sun baked clay on the oceanic beaches had a key role to play in the chemical evolution of life from inorganic substances to organic amoeba, one of the simplest unicellular organisms.

Man shares a common origin with the animals to the extent that it has also originated from water. Man was however created from a clayey inorganic compound derived from water. This clayey substance has been compared with the type of clay potters use to mould their pots *“We created man from sounding clay, from mud moulded into shape”* (Al-Hijr; 15:26).

It may thus be noted that all living beings whether terrestrial or celestial are created out of three different types of inorganic compounds. Consequently each of the three would possess distinctly different growth characteristics, evolutionary processes and life cycle. The Qur'anic verses testify to the scientific findings that organic objects have evolved out of inorganic substances

and that they have stemmed out of a common watery source. In course of time by virtue of a distinct divine design, the inorganic compounds giving rise to animal world and mankind were separated. While water continued to be the source of origin for fish, birds, mammals, etc. man was moulded out of clayey inorganic compound. Hence despite similarities in the anatomical structure of man and animals, their dissimilarities in physical forms and behaviour are notably marked. Moreover the intellectual ingenuity of man, his capacity to articulate rationally, and his skill to express in writing coherently distinguish him from animals and *Jinn* and testify to his being a unique creation existing on earth.

CREATION OF MAN ACCORDING TO QUR'AN

Man shares a common origin with the animals to the extent that both have originated from water. The commonality presumably ends there for there is no further elucidation in the Qur'an as to how animals have evolved. As regards man the Qur'an points to the different formulations of clay of which man is made of. In the first instance it is revealed that man is made of dust: *"The similitude of Jesus before Allah is as that of Adam; He created him from dust. Then said to him "Be": and he was"*, (Al-Imraan; 3:59). This assertion regarding the origin of man from dust is repeated in verses *"Dost thou deny him Who created you out of dust"* (Al-Kahaf; 18:37), *"(Consider) that We created you out of dust"* (Al-Hajj; 22:5) and *"And Allah did create you from dust"*. (Fatir; 35:11) These verses simply imply that man is created of selected basic elements found in the earth. The material was

changed to clay which had absorbed adequate quantity of water: *"He it is Who created you from clay, and then decreed a stated term for you"*, (Al-An'aam; 6:2). This was repeated in *Surah As-Sajdah "He began the creation of man with nothing more than clay"* (As-Sajdah; 32:7). This perhaps represents a thin paste of clay in a wet muddy state, which later was changed to a thick sticky paste like kneaded flour: *"Just ask their opinion. Are they more difficult to create or the (other) beings We have created? Them, We have created out of sticky clay"* (As-Saffaat; 37:11). While pointing out that the creation of the system of the universe including the formation of the earth and the planetary system is far more complex and complicated than the mere creation of man whom Allah (SWT) created from a muddy substance, later changed to a dried clay producing a clanking sound like a baked potter's pot taken out of a Kiln : *"We created man from sounding clay from mud moulded into shape,"* (Al-Hijr; 15:26).

It is indeed fascinating to observe that scientists like Bernal speak of the key role which clay plays in initiating the first speck of life. It has a significant catalytic role in the formation of DNA and proteins. Encouraged by this scientific finding scholars researching on Qur'an and science have ventured to equate various types of clay referred to in the Qur'an with various processes in the origin of living beings. As for instance the thin wet muddy clay (Teen) has been equated with amino acids, a vital substance in originating life, the thick sticky clay like a kneaded flour (*Teen-e-Lazib*) with the formation of protein droplets, and finally the dried mud (*Hama-un-Masnoon*) with coacervates" (54). It is very difficult to

scientifically establish these assumptions. Scientific work should be above the level of mere conjecture. It ought to be substantiated by concrete proof. However it is significant to note that the Qur'an itself categorically points out that man was not created out of ordinary muddy clay but clay of a distinctly different type or highly refined clay. *"Man We did create from quintessence (of clay),"* (Al-Mu'minun; 23:12). Scientists ought to identify this "Quintessence of clay" which has imparted distinguishing qualities to the human DNA, his 100,000 genes and 46 chromosomes, which make man a unique and superb creation of Allah (SWT) (55). Thus the creation of man can neither be a chance nor through evolutionary process. Further the Qur'an asserts that *"We have indeed created man in the best of moulds"* (Al-Tin; 95:4). Thus the creation of this unique being called "man" cannot be by chance. It has been rightly pointed out that all "the molecules that constitute man, when put together in a jar would not make life.....the DNA of a virus contains about 200,000 rungs and a DNA molecule within a human chromosome is made of at least 6 billion rungs. If a rung is misplaced a mutation occurs. Thus from various combination of the rungs only one combination has been suitable for human beings. If in the primary broth each of the various possibilities took place only a few days the probability of simplest DNA to evolve by chance would be well nigh impossible when we consider that there are 2 six billion possibilities of the rungs being rearranged," (56). Thus the emergence of man as the unique creation of Allah (SWT) is with a purpose and design distinctly different from other living beings on earth and in the universe.

The Qur'an does not support the hypothesis of simultaneous evolution of man in varying geographical areas. According to the glorious Qur'an one single person Adam was the prime ancestor of all mankind: "It is He who created you from a single person," Allah (SWT) carved Adam's mate out of his mould and the two were the original progenitors of mankind which are now dispersed all over the globe: "*from this single person (Adam) created of like nature his mate and from them twain scattered like (seeds) countless men and women,*" (An-Nisa; 4:1). The Qur'an also points out to the humble beginning of man from an inorganic clayey compound, and the successive generations from a "fluid despised" "*He began the creation of man with (nothing more than) clay and made his progeny from a quintessence of the nature of a fluid despised,*" (Surah As-Sajdah; 32:7-8). Despite this humble beginning, Qur'an does not include man together with other animals as a part of the overall evolutionary process. Man, being the climax of Allah's creation, was created from "*quintessence (of clay)*" (Al-Mu'minun; 23:12) and "*in the best of moulds,*" (At-Tin; 95:4). Further in order to distinguish man from the rest of the living beings, Allah (SWT) "*Then fashioned him in due proportion and breathed into him of His spirit,*" (As-Sajdah; 32:9). Man has therefore been distinguished from the rest of the terrestrial creation by virtue of the spirit breathed into him by Allah (SWT) and the special clay or "quintessence of clay" of which he is made of. These factors have put man at the apex of the divine creations and have also endowed him with divine qualities.

While science would like us to believe that human intellect, and man's capacity to speak and write are the outcome of natural selection processes, the Qur'an is very clear about these being divine gifts of Allah (SWT), to establish the superiority of man over all living beings including angels. His superiority was clearly established when on the day of his creation man was gifted with knowledge, enlightenment and intellect. Consequently the angels were asked to prostrate before him: "*And He taught Adam the nature of all things: then He placed them before the angels. Then He placed all the things before the angels. Tell me the nature of these if you are right. They said glory to you, of knowledge we have none save what you have taught us,*" (Al-Baqarah; 2:31-32). The nature of all these things was already revealed to Adam. He recapitulated them once asked to do so. Besides intellect and knowledge, man was divinely gifted with the power to speak and skill to write. Right in the first few verses revealed to Prophet Muhammad (PBUH) it has been conveyed in unambiguous terms that mankind was endowed with the power to read and write with pen and intellect to comprehend the meaning and significance of the phenomena of which he possessed no prior knowledge. "*Proclaim and Thy Lord is most bountiful- He who taught (the use of) the pen, taught man that which he knew not*" (Al-'Alaq; 96:3-5). The power to articulate and speak coherently is another unique gift to mankind: "*He has created man. He has taught him speech (And intelligence)*", (Ar-Rahmaan; 55:3-4). It is thus abundantly clear that because of his unique qualities of intellect and articulation both in speech and writing man was not subject to the process of Natural Selection and

“survival of the fittest”. Man with his intellectual ingenuity and technological innovation is even capable of changing the course of natural selection.

CYCLICAL GROWTH OF HUMAN LIFE AND HUMAN CIVILIZATION

The Qur'anic verses repeatedly stress the fact that human life is cyclical in its growth. However strong, man may emerge in this process of cyclical change, he will eventually be overtaken by the old age and will return to the state of dependence he was born with. This stage-wise development seems to be the destiny not only of an individual but of the entire human civilization. The Qur'an explicitly states about this stage by stage development of man: *“It is Allah Who has created in a stage of (helpless) weakness, then gave (you) strength after weakness, then after strength gave (you) weakness a hoary head”*, (Ar-Ruum; 30:54).

We have observed in the foregoing paras that right from the day zygote is formed in the womb of the mother, it passes through specific stages of development such as implantation stage (*'Alaq*), somite stage of embryonic development (*Modgha*) and finally, the foetus stage of development.

Stressing further the theme of cyclical growth the Qur'an points out, that after the pregnancy is established, the evolved human is made to rest in the mother's womb for *“And We cause whom we will to rest in the wombs for an appointed term”* (Al-Hajj; 22:5). The prescribed period

of stay of a fertilized ovum in the mother's womb is approximately nine months as period of gestation which has been determined by Allah (SWT) to ensure proper, mature and full growth of the foetus before its delivery. Hence the Qur'an revealed that this period of Mursalation has been *"determined according to need,"* (Al-Mursalaat; 77:22). Once the child is born, he automatically moves into the cycle of life if not removed early by death. The Qur'an proclaims: *"Consider that We created you out of dust, then out of sperm then out of a leech like clot, then out of a morsel of flesh, partly formed and partly unformed, in order that We may manifest (our power) to you; And We cause whom We will to rest in wombs for an appointed term. Then do We bring you out as babes, then foster you that ye may reach your age of full strength, and some of you are called to die and some are sent back to the feeblest old age, so that they know nothing after having seen much."* (Al-Hajj; 22:5). This cycle of human life is repeated in another verse: *"It is He Who has created you from dust, then from a sperm drop, then from a leech like clot; then does He get you out (into the light) as a child; then lets you (grow and) reach your age of full strength; then lets you become old-though of you there are some who die before and lets you reach a term appointed, in order that ye may learn wisdom."* (Ghaafir; 40:67). The Qur'an sums up this cyclical growth of human life right from the fertilization stage to mature old stage before death in the following verse: *"Seeing that it is He that has created you in diverse stages,"* (Nuh; 71:14). These verses warn us repeatedly that the cycle of life is the destiny of man. He is not going to stay permanently in any single stage of life particularly in the young and youthful stage

of life when man attains his maximum physical and mental strength. This however, should not turn his head, make him arrogant and proud for this will eventually phase out to feebleness when man will again be as dependent as in childhood.

It seems that cyclical growth is a law of nature which is discernible in various natural phenomena, such as the cycle of river regime, cycle of plant growth and of course the cycle of human civilization which has been so fascinatingly highlighted by Ibn Khaldun in his Prolegomena.(57)

The cycle of growth of human civilization is very strongly hinted at in the Qur'an when it proclaims that *"you shall surely travel from stage to stage,"* (Al-Inshiqaaq; 84:19). We are cognizant of the fact that human civilization in its diverse phases is consistently transient. Human civilizations have seen their rise and fall while progressing from the primitive stone-age to the modern and sophisticated nuclear age. The latest and unmistakable testimony has been furnished by the fall of the mighty Soviet Union, once a super power, which now stands totally disintegrated. It is however crucially important that in this evolutionary phase of development, man should never over-look his role as the vice-gerent of Allah (SWT) on earth or an instrument of Allah (SWT) to improve the condition of mankind. Hence man should never detract from this basic role and should not *"strive for diverse ends,"* (Al-Lail; 92:4) for this will detract us from our principal object of life-peace, progress and prosperity

of mankind and submission to the will of Allah (SWT): otherwise it will eventually be disastrous for humanity.

CONCLUSION

In this critical evaluation of the Theory of Evolution we have observed that the basic concept of life developing from inorganic compounds is strongly supported by both scientific observation and the Qur'an. The Qur'an also endorses the scientific view that living objects have originated from water and clay. Evolution enthusiasts have adopted scientific methods to establish this theory but have failed to build a coherent, logical, and systematic story of man evolving from primates. The scientific foundation of the Theory of Human Evolution is rather weak because it is based on incomplete and fragmentary evidence. Scientists, in their enthusiasm to establish its validity, have over stressed similarities while fundamental dissimilarities have been completely ignored. The Qur'an on the other hand stresses on dissimilarities and unique qualities which are endowed to man.

No theory can be considered valid unless it answers basic issues involving the development of man, both physically and intellectually. To ascribe the unique qualities of man viz. intellect, capacity to speak and skill to wield the pen, to the process of natural selection does not sound logical. There seems to be a deliberate attempt to eliminate Divine hand in the making of man. Some biologists visualise man as a slave of a self generating automotive process of natural selection whereas Allah (SWT) has designated man as His supreme creation

capable of acquiring knowledge of the unknown both on earth and in space and altering his environment to suit his needs. The immense intellectual and technological achievements of man stand eloquent testimony to the correctness of the Qur'anic concept regarding the status of man, distinct from animals and angels.

In contrast to the stand point of some scientists the Qur'anic concepts are clear and categorical. Man is moulded out of "*quintessence of clay*" (Al-Mu'minin; 23:12). while the rest of the living beings might have evolved out of ordinary clay. In addition man has been endowed with the spirit from Allah (SWT), a unique distinction indeed. Seekers after truth should not hesitate to discard a theory which cannot be scientifically sustained. They should shed their bias against divine revelations on natural phenomena and direct their researches in the directions furnished by the Qur'an. This may help them to understand the genesis of man and appreciate the meaning and significance of his evolution in the right perspective. Scientists should understand that "human life is something more than the physics and chemistry of atoms and molecules of the inorganic matter."(58). They should also be conscious of the limitations of human knowledge, which is subject to concrete evidence and mathematical equations. While dealing with the origin of living beings or origin of man he is dealing with subjects which cannot be replicated and reconstructed with exactitude since the basic data cannot be retrieved in its entirety. Hence scientists will never know the whole truth both about the origin of life and origin of man.

The Qur'an however does not reject completely the concept of evolution. It categorically asserts that human life passes through stages of development. Every mortal must pass through the cycle of weakness-strength-weakness from infancy to old age. What applies to individuals is equally valid for societies. Hence no one should take pride in his strength for he will eventually be turned powerless and dependent as he was as an infant.

**BIOLOGICAL SCIENCES AND QUR'ANIC
REVELATIONS
(THEORY OF HUMAN EVOLUTION)**

SUMMARY OF THE TEXT

The concept of the evolution of life and of human evolution as revealed in the Qur'an and as visualised by the scientists have been subjected to a detailed analytical discussion in this book entitled: Biological Sciences: Qur'anic Revelations And Scientific Discoveries. The Qur'an endorses the scientific view that all living objects have originated from water. The Qur'an does not offer any further elaboration on the origin of life except that man is created out of dust and a "quintessence of clay" or highly refined clay (Al-Mo'minun; 23:12). The scientific theories on the origin of life are radically changing. The Darwinian concept of life originating from a warm rich broth of organic compounds is being replaced by the origin of life in hydrothermal vents called "hot world" hypothesis. The scientists are now wondering at the antiquity of living organisms, about 3.5 billion years old, - only 1.1 billion years after the origin of earth itself. It lends credence to the view that the chemical process needed to green the planet was not only fast but also simple. The scientists are also veering round the view that dust particles descending from the space might have provided the chemical required for the origin of life. Their idea on RNA is fundamentally changed-from a mere messenger of DNA it is now being considered as a catalyser and ancestor of DNA. The problem of self replication of life building material is still a riddle to the scientists. They are

tend to hypothesise that clay may eventually solve the puzzle. Despite overwhelming evidence in favour of divine intervention, most of the scientists tend to assume accidental or chance origin of life.

The concept of lowly origin of man belonging to the order of primates is credited to Charles Darwin. He believed in the similarity of the origin of living beings. Darwin also introduced the concept of Natural Selection which he had derived from the Malthusian Theory of the Growth of Population. This concept advocates a mechanistic system of Natural Selection leading to the evolution of living beings without any divine guidance.

In their understanding of the evolution of man the biologists seem to be guided by the law of probability according to which fundamental similarities can be traced to one and single object. They, however, tend to overlook the dissimilarities in the physical appearance between apes and man and marked differences in their behavioural characteristics, right from birth to maturity. Despite his superior intellect man is being treated as a mechanical robot subject to the process of Natural Selection when he has developed sophisticated technology to modify, change and even stop this process.

The Theory of Human Evolution is based on fragmentary evidence consisting of specimens of skulls and scattered bones. The collection of fossils is enormous but riddled with contention and confusion.

The Qur'an endorses the scientific view that all terrestrial living beings have evolved out of water (Al-Anbiya; 21:30). While animals were created out of organic compounds formed in water, man was created from a unique dried clayey organic compound (Al-Hijr; 15:26). Scientists like Bernal emphasise the key catalytic role which clay plays in the formation of DNA. In view of this it may not be wrong to stress that while all other living beings might have been created out of clay, man has been created out of highly refined or "quintessence" of clay (Al-Mo'minun; 23:12). Consequently man possesses distinctively different growth characteristics, than other living beings.

The Qur'an does not support the hypothesis of simultaneous evolution of man in varying geographical areas. Allah (SWT) carved Adam's mate out of his mould and the two were the original progenitor of the Homo Sapiens or mankind which are now dispersed all over the globe. While man had humble beginnings he is imbued with the spirit of Allah (SWT) which distinguishes him from the rest of terrestrial creations (As-Sajdah; 32:9). By virtue of this man has been endowed with the power to articulate with intelligence and understanding (Ar-Rahmaan; 55:3-4); also gifted with the capacity to express his ideas in writing (Al-Qalam; 68:1), and promised the knowledge of the things he knew not provided he made an effort to acquire them (Al-'Alaq; 96:3-5). The scientists should appreciate that human life is more than the physics and chemistry of atoms and molecules of organic compounds.

Proponents of organic evolution have indeed adopted scientific methods to establish the theory of human evolution but have failed to build up a coherent, logical, and systematic story of man evolving from primates. Its scientific foundation is weak because it is based on incomplete and fragmentary evidence. No theory can be considered valid unless it answers the basic issues involving the development of man both physically and intellectually.

The Qur'an however does reject the concept of evolution per se. It does point out that human beings evolve through stages of development. We must pass through the cycle of life from weakness-strength-weakness (Al-Inshiqaaq; 84:19; Al-Lail; 92:4).

In the end it is suggested that since scientists are seekers after truth they should not hesitate to discard a theory which cannot be scientifically sustained.

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