VOL: 04 NO: 02, 2024

SRAI JOURNAL OF LINGUISTICS AND SOCIAL SCIENCES

Pre-Darwinian Muslim Scholars' Views on Evolution

Dr. Muhammad Sultan Shah
Department of Arabic & Islamic Studies GC University, Lahore
dr.sultanshah@gcu.edu.pk

Abstract:
Charles Darwin is believed to be the first proponent of the evolutionary theory. This paper theorizes another point of view in this regard. Many a Muslim philosopher had already discussed the concept of evolution in their writings prior to Darwin. The pre-Darwinian Muslim scholars provided sufficient materials to Darwin for his theory of evolution who gave it scientific language. John William Draper, a contemporary of Darwin, called it the "*Mohammadan Theory of Evolution*". Darwin himself knew Arabic and had the direct access to Arabic literature. He was initiated into Islamic Culture in the Faculty of Religion at the University of Cambridge. Thus, it can be said that he derived the raw material of his theory from oriental literature.

Keywords: Charles Darwin, Muslim philosopher, *Mohammadan Theory of Evolution,* Islamic Culture, Arabic literature, University of Cambridge

Charles Darwin (1809-1882) was an English naturalist who propounded the evolutionary theory. He believed that all living organisms have been evolved from common ancestors through the process of natural selection. He was the first scientist who elucidated his evolutionary ideas in scientific terms. However, many Greek and Muslim philosophers had discussed the concept of evolution in their writings prior to Darwin. Here are some pre-Darwinian Muslim philosophers who have expressed their views on evolution:

Al - Jahiz (160-256A.H/776-869 A.D)

Abu Uthman`Amr ibn Bahr commonly known as al-Jahiz was the originator of idea of evolution through his famous work *"Kitab al-Hayawan*" (The Book of Animals). A Mu'tazilite in his belief, al-Jahiz described his thought about evolutionary mechanism and transformation of species that permeated into the work of such Muslim authors as ad-Damiri, al- Biruni, Ibn Tufail and Ibn Khaldun. For al-Jahiz, the will of God served as the antecedent for all mutation or transformations. Dr. Munawar A. Anees(1) and Habib Ahmad Siddiqi(2) both have stressed the point that his idea of evolution provided material to all the evolutionists. According to al-Jahiz, inanimate elevates to plant level and animals are evolved from plants. Man is an evolutionary stage of animals. He has discussed struggle for existence, adaptation and animal psychology (3) that make the pivot of Darwin's Theory of Natural selection (4).

Al-Jahiz was a disciple of al-Nazzam (d.845) whom Sarton has alleged to hold evolutionary idea. Influenced by his teacher, he became a staunch *Mu'tazilite* and founded a separate sect named after his

name *"al-Jahiziah*".(5) He propagated his religious and philosophical ideas. Dr. Muhammad Iqbal has highly appreciated al-Jahiz for his evolutionary ideas and has regarded him the first evolutionist in Islamic world. He writes: "It was Jahiz (d.225 A.H.) who first hinted at the changes in animal life caused by migration and environment generally".(6) George Sarton in "*Introduction to the History of Science*" narrates that the "*Kitab al-Hayawan*" of al-Jahiz contains the germs of many later theories: evolution, adaptation and animal Psychology. (7)

Al-Farabi (259-339/870-950)

Abu Nasr Muhamad ibn Muhammad ibn Tarkhan Awazlagh, commonly known as al-Farabi was an evolutionist but talked much of evolution in sociology. According to al-Farabi evolution is continued in human intelligence. (8) As he had written commentaries on Aristotle's Physics, Meteorology and his writings on the Heavens and universe (9), therefore, he seemed much influenced by Greek philosophers who held evolutionary ideas.

Al-Mas'udi (d. 345/957)

Abu`l Hasan `Ali bin al-Husayn al-Mas'udi was a descendant of 'Abdullah bin Mas'ud, a famous companion of the Holy Prophet (peace be upon him). He possessed Mu'tazilite beliefs. In his book "*Kitab al-Tanbih wa'l Ashraf*" he seemed to agree with al-Jahiz's theory of evolution. (10) He narrates that plants are evolved from metals which in turn gave rise to animals and the animals evolved into human beings. (11)

Imam Raghib Isfahani (d.502 A.H./1108 A.D)

Imam Raghib writes in his book "*Tafsil al-Nishatayn wa Tahsil al-Sa'adatayn*" writes:

First, man was non-living dead matter. Almighty Allah said:" And you were without life and He gave you life". Its elucidation is this that he was not more than soil, clay and mud etc. Then from non-living matter emerged plants as Allah Almighty said:" And Allah caused you to grow as from the earth as plants". It means that he possesses the shape of *nutfah*, *mudghah* etc and becomes animal at this step and it is at that time when he searches such things that are beneficial for him and refrains from harmful things. At last, he becomes man and is appropriated with human characters. (12)

Ibn Miskawaih (325-442 /- 1032)

Abu 'Ali Ahmad bin Muhammad Miskawaih (13) put forth his theory of origin and evolution of life about one thousand years ago. Rightly did he believe in aquatic origin of life (14). He had described the evolutionary theory in al-Jahiz's pattern but in more detail. Ibn Miskawaih presented his theory of biological evolution in his book "*Al-Fauz al-Asghar*" (The Small Achievement) but the difference between his theory and modern evolutionary theories lies in the fact that he has ascribed this supposed process

to the Creator of this universe. In the first chapter, he has presented the Proof of the Maker. Ibn Miskawaih believes that all things owe their existence to Allah.(15)

Dr. Muhamad Iqbal has summed up his evolutionary theory as follows: "According to Ibn Miskawaih plant-life at the lowest stage of evolution does not need any seed for its birth and growth. Nor does it perpetuate its species by means of the seed. The kind of plant-life differs from minerals only in some little power of movement which grows in higher forms, and reveals itself further in that the plant spreads out its branches, and perpetuates its species by means of the seed. The power of movement gradually grows further until we reach trees which possess a trunk, leaves and fruit. At a higher stage of evolution stand forms of plant- life which needs better soil and climate for their growth. The last stage of development is reached in vine and date-palm which stands, as it were on the threshold of animal life. In the date-palm a clear sex-distinction appears. Besides roots and fibers, it develops something which functions like animal brain, on the integrity of which depends the life of the date-palm. This is the highest stage in the development of plant-life, and a prelude to animal life. The first forward step towards animal life is freedom from earth-rootedness which is the gem of conscious movement. This is the initial stage of animality in which the sense of touch is the first, and the sense of sight is the last to appear with the development of the senses the animal acquires freedom of movement, as in the case of worms, reptiles, ants, and bees. Animality reaches its perfection in the horse among quadrupeds and the falcon among birds, and finally arrives at the frontier of humanity in the ape which is just a degree below man in the scale of evolution. (16)

Ibn Miskawaih has done his best to prove his theory with the help of observed facts. Though not in accordance with the modern scientific knowledge, he explains in a very concrete way. He narrates: " Every animal really originates from non-animal, for the seminal fluid is not itself animal. This fluid is made of blood and blood of food and food of plants and plants of elements and elements of the simple atoms and these later of ' form' and 'matter'.(17)

Modern medical science has revealed that seminal fluid contains millions of sperms which are actually unicellular animals because after fusion with ova, they develop into embryo. Ibn Miskawaih's views regarding the evolution of organisms do not correspond to the modern knowledge. For example, an eminent biologist W.R. Thompson says," Biologists still agree on the separation of plants and animals (18) but Ibn Miskawaih has speculated that animals originate from plants.

Al-Biruni (362-448/973-1048)

Abu'l Rayhan Muhammad ibn Ahmad al-Biruni was a great Muslim scientist. He is also reported to hold evolutionary ideas. Some western scholars have tried to read 19th century evolutionary ideas in his writings. J.Z. Wilezynski wrote an article entitled "On the presumed Darwinism of eight hundred years before Darwin"(19), wherein he tried to prove that al-Biruni held evolutionary ideas similar to those of Darwin. In 1878, a French Dieterici wrote "Der Darwinismus im X und XI Fahrhundert" that was

published in Leipzig.(20) Dr. Anees has also pointed out that evolutionary ideas permeated into the work of al-Biruni and other Muslim scientists make an apparent reference to the influence of al-Jahiz.(21)

Although al-Biruni has described four kingdoms of beings (i.e. mineral, plants, animals and man) in his book "*Kitab al-Jawahir fi Ma'rifat al Jawahir*" (The Book Most Comprehensive in knowledge on Precious Stones) and has even underlined difference between plants and animals but he has not mentioned the transformation of one into other. He thinks Adam as the ancestor of all human beings .(22)

Like any true believer in Allah, al-Beruni regards the human race to be the foremost among all God's creatures, being superior and having dignity and the most honoured place in the universe. Humans are considered to be above the beasts of the earth, and everything or being that moves and lives whether the birds of the air, the plants and vegetation, or the fishes of the waters. (23)

Ibn Sina (370-428/980-1037)

Abu Ali Husayn ibn ‘Abd Allah ibn Sina known to the western world as Avicenna believed in traditional gradation of being. According to him three kingdoms (i.e. mineral, plant and animal) are made up of the mixture of four elements- fire, air, water and earth. He has discussed the creation of minerals, plants and animals in a different way. His views can be summarized as follows. (24)

When the four elements mix to a certain degree of perfection and purity, the mineral soul (*ruh 'ardiyah*) possessing the faculty of preserving forms become attached to the mixture. From this wedding, results the formation of the lowest domain of being on earth consisting of the whole of the mineral kingdom.

With a further mixing of the elements, the establishment of a higher degree of purity and a closer approach to equilibrium, a new faculty of the world soul or, one may say, a new soul joins the world of the elements to form the plant kingdom. The vegetative soul (*al- nabatiyah nafs*) has three powers of feeding (*ghadhiyah*), growth (*namiyah*), and reproduction (*muwallidah*), in addition to all the powers of the mineral kingdom.

The life of plants fulfills its purpose in the hierarchy of Being as the link between mineral and animal worlds. The animals are also composed of the four elements but with a higher degree of perfection and purity. When the mixture of the elements approaches even closer to equilibrium, the animal soul (*al-nafs al-hayawaniyyah*) becomes attached to it. The animal, besides all the powers of the minerals and plants, possesses additional faculties which it gains by virtue of the coming into play of this new soul or new faculty of the world soul. The faculties of the animal soul consist of the power of motion (*muharrikah*) and the power of comprehension (*mudarrikah*). The animal, by virtue of these faculties added to those of the plant and mineral kingdoms are able to perform the various biological

functions which belong to their nature. They constitute a degree in the scale of Being between the plant world and man, and through their physical and psychic qualities form a bridge between man and the rest of the terrestrial environment.

Ibn Bajah (d.138/533)

Abu Bakr Muhammad Ibn Bajah or Avenpace as known in the West, believed in gradual development of man. Dr. Stokel writes in his famous book" *History of Philosophy*":"The most important Arabian philosophers in the west are Avenpace, Abu Bucer and Averroes. Avenpace (Ibn Bajah) and Abu Bucer (Ibn Tufayl) dwell in their works on the idea of independent and gradual development of man."(25)

Ibn Tufayl (1100-1186)

Ibn Bajah's disciple Ibn Tufayl has also written on the topic of creation and evolution of life .He was an Andalusian Arab Muslim polymath, an Arabic writer, novelist, Islamic philosopher, Islamic theologian, physician, vizier, and court official who is known as Abu Bucer in the West. Ibn Tufayl's views can be derived from his philosophical novel entitled "*Hayy Bin Yaqzan*"(Alive son of Awake).It is known as *Philosophus Autodidactus* in the Western world. It has been translated in many European languages like Hebrew, Latin, Dutch, English, German, French and Spanish. (26) It is a treatise on natural science that explains the origin of human species. It is actually a tale of two islands. One is uninhabited by man, and on it a child appears, either spontaneously generated or floated there in a box from the other island. Ibn Tufayl calls it *Hayy bin Yaqzan* which is suckled by a gazelle and on the death of this foster-mother is left to his own resources. He has described spontaneous generation of *Hayy* much similar to the process of chemical evolution .Ibn Tufayl referred to the stuff out of which *Hayy* was formed as "fermented clay", a "viscous mass", or clay that laboured and churned like bubbles in boiling water". Under the influence of sunshine and heat, in the midst of it a very little Bubble was formed, which was divided into two with a thin partition. A spirit infused into it by command of God.(27) Sami S.Hawi has compared his view of *abiogenesis* with ancient philosophers and modern biologists in his article "An Islamic Naturalistic Conception of Abiogenesis: The Views of Ibn Tufayl".(28) He has also published his research work entitled *"Islamic Naturalism and Mysticism: A Philosophical Study of Ibn Tufayl's Hayy Bin Yaqzan*" (29) that is an extensive study of this valuable treatise. Some scholars have also pointed out the way Ibn Tufayl had influenced the West. (30) From Ibn Tufayl's doctrine of spontaneous generation certain evolutionary elements can be inferred but we cannot call him evolutionist in the full Darwinian sense. Though he leaves no hints in the treatise concerning the emergence of the multiplicity of types of living beings from others, or "natural selection" but ideas like struggle for existence, competition for food, and the growth of certain organs whose function is to defend the organism, can be traced in his treatise.

According to Sami S.Hawi it is significant to show the affinity between Ibn Tufayl and Darwin on certain basic issues although we cannot maintain that they upheld evolutionism exactly in the same sense. For instance, both writers emphasized the struggle for existence as a basic fact of life. Ibn Tufayl portrays *Hayy* struggling with the members of other species .In the process of competition of food, and other basic needs *Hayy* had to defend himself and contrive ways to avoid any harm that might be inflicted on him by others. Also, the Darwinian dictum, "need creates the organ", is observed by Ibn Tufayl. The need for competition, remarks Ibn Tufayl, generated natural weapons in animals such as tusks, horns, hooves, and the like. *Hayy* had none of these and had wondered why he did not possess such natural defenses. He was tormented and bewildered because of his nakedness or for being a "*naked ape*" to borrow a phrase from Desmond Morris. He also noticed that fawns his age sprout horns from "nowhere" and grew strong and swift. Struggling for his life, his competition with animal and his feeling of helplessness spurred him to control this competition by employing his special "endowments" or else succumb to perdition. His struggle with the physical conditions of the environment was no less laborious. (31)

"Only the fittest survive". Darwin tells us that he adopted this statement from Herbert Spencer, and believed it to be true. If an organism is fit to survive, it must possess capacities for adaptation to the environment. *Hayy,* finding himself desperate because of his helplessness to compete with others, fell back on his distinctive organs and intellectual functions. By doing so, he prevented the environment from "selecting" him out. He took decisive steps towards protecting himself that proved effective and reliable. Nature seemed to have favoured him with certain qualities which rendered him not only fit to survive but also superior to all animals as well. *Hayy* armed himself with artificial weapons by using branches of trees and pointed flint, and started attacking the animal competing with him. He also discovered the art of building and made himself a home .In this he slept securely without worrying about the aggression of other races. He could also store and hide his food from wild beast.(32) It can be concluded that Ibn Tufayl was well aware of one of man's distinctive characteristics in his adoptability to the environment.

Al-Khazini (1115-1130)

In the 12th century, al-Khazini wrote the following on how evolution in alchemy and biology were perceived by natural philosophers and common people in the Islamic world at the time:

"When common people hear from natural philosophers that gold is a body which has attained to perfection of maturity, to the goal of completeness, they firmly believe that it is something which has gradually come to that perfection by passing through the forms of all other metallic bodies, so that its gold nature was originally lead, afterward it became tin, then brass, then silver, and finally reached the development of gold; not knowing that the natural philosophers mean, in saying this, only something like what they mean when they speak of man, and attribute to him a completeness and equilibrium in

nature and constitution - not that man was once a bull, and was changed into an ass, and afterward into a horse, and after that into an ape, and finally became a man"(33).

Ibn Rushd (520-595/1126-1198 A.D.)

Abu'l Walid Muhammad bin Ahmad bin Rushd or Averroes as known in Europe believed in the idea of evolution. He thought that the creation of the universe was neither accomplished with the Divine Command of *"Kun"* at the same moment as orthodox Muslims believe. Nor the creation of the whole universe was completed in six days. Instead creative activity of Almighty Allah never ceases at any moment, and will continue without an end. The things created by Allah undergo different changes with the passage of time. He was greatly affected by Aristotle and wrote commentaries on his books. He believed in ladder of nature (Scala Naturae) of Aristotle. (34) Ibn Rushd's evolutionary ideas are not original. He derived these ideas from Aristotelian work and gave it an Islamic touch.

Ibn Rushd was declared heretical by both the Muslims and Christians alike because he asserted that the human soul in not independent but shares a universal mind. On the other hand, he was admired by the Jews of Spain who spread his philosophy into Europe especially into Italy and France after they were forced out of Spain.(35) According to E.J Brill's *First Encyclopedia of Islam*," the main doctrine of Ibn Rushd's system, that brought the change of heresy upon him, concerning the question of the eternity of the world, the nature of God's apprehension, and His fore-knowledge, the universality of the soul and of the intellect, and the resurrection. Averroes may easily appear heretical on these doctrines; he does not deny dogma, but expounds it is such a way as to bring it into conformity with philosophy. (36)

'Arudi Samarqandi (500—560 A.H.)

Ahmad bin Umar bin 'Ali Nizami 'Arudi Samarqandi in late eleventh century held the idea that plants are evolved from in-animates which transform into animals through successive changes. He narrates that the intermediate step between inanimate and plants in coral and date-palm tree is intermediate organisms between plant and animal kingdoms. According to him, the intermediate stage between animals and human beings in Nasnas(37), which is regarded as half human.

The Ikhwan al-Safa'

The Ikhwan al-Safa' (The Brethren of Purity), a brotherhood of Muslim scientists and philosophers who flourished in the tenth century, held that the Religion was defiled by folly and entangled with error, and only by Greek philosophy it can be cleansed and purified; in which is both wisdom in belief and soundness in study. If one could but unite Greek philosophy with the religious law of Islam, the perfection of faith, they taught, would be reached. With this design they wrote fifty tracts on all branches of philosophy, theoretical and practical, and furnished with them a table of contents,

and entitled them' The Tracts of the Brethren of Purity' (Rasa'il Ikhwan al-Safa') but they concealed their names.(38)

The chain of being described by the Ikhwan possesses a temporal aspect which has led certain scholars to the view that the authors of Rasa'il believed in the modern theory of evolution. The divergence of the Ikhwan from modern theories of evolution should be clear. First of all, according to Rasa'il all changes on earth occur as acts of the universal soul and not by an independent agent acting within bodies here on earth. Secondly, according to the Ikhwan this world is a shadow of another world more real than it, and the "idea" of every thing in this world actually exists in the other, so that there is no question of a species changing into another, because the "idea" of each species is a form which is beyond change and decay. In the words of the Ikhwan:

"The species and genus are definite and preserved. Their forms are in matter. But the individuals are in perpetual flow; they are neither definite nor preserved. The reason for the conservation of forms, genus and species, in matter is the fixity of their celestial cause because their efficient cause is the universal soul of the spheres instead of the change and continuous flux of individuals which is due to the variability of their cause".(39)

The distinction between the traditional doctrine of gradation and modern theory of evolution is clearly stated in these words of Ikhwan themselves. To call the Ikhwan evolutionists is to misunderstand the whole traditional conception of the gradation of beings.

There do exist, however, certain similarities between the views of the Ikhwan and modern theories in that both believe that the date of the beginning of the terrestrial existence of plants precedes that of animals, just as minerals precede the plants. Also, the Ikhwan believe in the adaptation of organisms to their environment, much in the manner of the authors of the nineteenth century. Ikhwan write: "Plants come before (*taqaddama*) animals in the series of beings and serve them as material for the forms of animals and food for the nutrition of their bodies. From this point of view plants would be like a mother who eats raw food, digest it, assimilates it and transforms it into pure milk which is absorbed very gently by those who drink it. The plants subsequently present this to the animals considered as their sons..... Plants occupy an intermediate position — necessary and salutary — between the four elements and the animals. All the parts of the vegetables which the animals consume such as seeds, leaves, fruit, and so on, come from the four elements digested and transformed by the plants".(40)

As minerals serve plants and plant animals, so do animals in turn serve man, who therefore comes to this world later than all of them, since each has come after the kingdom upon which it depends.

Dr. Hossein Nasr concludes the difference between the Ikhwan and modern evolutionists as follows:" In the deepest sense, what separates all these ideas of Ikhwan from their modern counterparts is that for the Ikhwan the hands of God were not cut off from creation after the beginning of the world".(41)

Maulana Jalal al-Din Rumi (1207-1273 A.D.)

According to Rumi, evolution passes through certain stages. The inanimate level is transformed to the animals and then to the level of man. The evolution does not stop here. From man, it climbs to the stage of angels and finally reaches the stage of God. He says:

"I died to the inorganic state and became endowed with growth

and then I died to (vegetable) growth and attained to the animal.

I died from animality and became Adam (man):

Why, then, would I fear? When have I become less by dying?

At the next remove I shall die to man, that I may

soar and lift up my head amongst the angels;

Once more I shall be sacrificed and die to the angel;

I should become that which enters not into imagination.

Then I shall become non-existence: non-existence saith to me,

(in tones loud) as an organ, Verily unto Him shall we return".(42)

Allamah Iqbal (43) has paid homage to Rumi for presenting evolution theory. Referring to Rumi's theory of evolution, he says:

The formation of the theory of evolution in the world of Islam brought into being, Rumi's tremendous enthusiasm for the biological future of man. No cultured Muslim can read such passages as the following without a thrill of joy:

Low in the earth / I lived in realms of ore and stone;

And then I smiled in many-tinted flower;

Then roving with the wild and wondering hours,

O'er earth and air and ocean's zone,

In a new birth,/I dived and flew,

And crept and ran,/And all the secret of my essence drew

within a form that brought them all to view-/And lo, a Man!

And then my goal,/Beyond the clouds, beyond the sky,

In realms where none may change or die,

In angel form; and then away

Beyond the bounds of night and day,

And Life and Death, unseen or seen,

Where all that is hath ever been

As one and whole

Rumi repeats this idea in various forms. Here one can mark a great difference between Rumi's and Darwin's views. To Rumi the process does not end with man whereas to Darwin man is the end of evolution.

Thus to Rumi man's physical organism, like the universe, did not come into existence in a moment; it is the result of a long process of evolution. He says:Why was (the time occupied in) the creation of Adam forty morning?(Because) He (God) was adding (perfections) to that clay little by little.(44)

It is imperative to note that Rumi has beautifully reconciled the idea of creation with his evolutionary views. Despite his being created out of clay man did not get figure at once and despite his physical death, he will lift up his head amongst the angels and even beyond.

Rumi quotes a tradition of the Holy Prophet (Peace be upon him) according to which Adam's clay was kneaded in forty days. (45) It may be remembered here that according to the Holy Qur'an Allah's one day is equal to hundred thousand years. Hence Rumi's theory of slow process of evolution is justified.

Ibn-Khaldun (732-808/1332-1406)

Ibn-Khaldun has described the process of evolution like other philosophers. According to him, the world of creation started out from the minerals and progressed, in an ingenious, gradual manner, to

plants and animals. The last stage of minerals is connected with the first stage of plants, such as herbs and seedless plants. The last stage of plants, such as palms and vines, is connected with the first stage of animals, such as snails and shellfish which have only the power of touch. The word "Connection" with regard to these created things means that the last stage of each group is fully prepared to become the first stage of the next group.

The animal world then widens, its species become numerous, and, in a gradual process of creation, it finally leads to man, who is able to think and to reflect. The higher stage of man is reached from the world of the monkeys, in which both sagacity and perception are found, but which has not reached the stage of actual reflection and thinking. At this stage we come to the first stage of man after (the world of monkeys). This is as far as our (physical) observation extends (46).

At another place Ibn Khaldun has given the detail of his evolutionary ideas. He has tried to explain links between inorganic matter, plants, animals and man. He thinks that the whole of existence in (all) its simple and composite worlds are arranged in a gradual order of ascent and descent, so that everything constitutes an uninterrupted continuum. The essence at the end of each particular stage of the worlds is by nature prepared to be transformed into the essence adjacent to them, either above or below them. This is the case with simple material elements; it is the case with palms and vines, (which constitutes) the last stage of plants, in their relation to snails and shellfish, (which constitute) the (lowest) stage of animals. It is also the case with monkeys, creatures combining in themselves cleverness and perception, in their relation to man, the being who has the ability to think and to reflect. The preparedness for (transformation) that exists on either side, at each stage of the worlds, is meant when (we speak about) their connection.

Above the human world, there is a spiritual world. It is known to us by its influence upon us, in that it gives us the powers of perception and volition. The essences of that spiritual world are pure perception and absolute intellection. It is the worlds of the angels.

It follows from all this that human soul must be prepared to exchange humanity for angelicity, in order actually to become part of the angelic species at any time, in a single instant. It will afterwards resume its humanity (47).

Did Darwin borrow the contents of his Theory?

It is believed that Charles Darwin was the first scientist who propounded evolutionary theory who had not mentioned anywhere that he borrowed the idea from oriental literature. But the facts mentioned above reveal that Darwin took the idea from Muslim philosophers, though in crude form. He presented the concept in scientific language and in the light of his observations. The following points elucidate this point:

1. Early Muslim scientists and philosophers developed theories on evolution, and the transmutation of species, which were widely taught in medieval Islamic schools. John William Draper, a contemporary of Charles Darwin, wrote the following on what he called the "Mohammedan theory of evolution" in 1878:

   "Sometimes, not without surprise, we meet with ideas which we flatter ourselves have originated in our own times. Thus our modern doctrines of evolution and development were taught in their schools. In fact, they carried them much farther than we are disposed to do extending them even to inorganic or mineral things".(48)

2. Muslims developed theories on evolution that later had an influence on Charles Darwin and his inception of Darwinism. Muhammad Hamidullah describes their evolutionary ideas as follows:

   "These books state that God first created matter and invested it with energy for development. Matter, therefore, adopted the form of vapour which assumed the shape of water in due time. The next stage of development was mineral life. Different kinds of stones developed in course of time. Their highest form being mirjan (coral). It is a stone which has in it branches like those of a tree. After mineral life, evolves vegetation. The evolution of vegetation culminates with a tree which bears the qualities of an animal. This is the date-palm. It has male and female genders. It does not wither if all its branches are chopped but it dies when the head is cut off. The date-palm is therefore considered the highest among the trees and resembles the lowest among animals. Then, is born the lowest of animals. It evolves into an ape. This is not the statement of Darwin. This is what Ibn Maskawayh states and this is precisely what is written in the *Epistles of Ikhwan al-Safa*. The Muslim thinkers state that ape then evolved into a lower kind of a barbarian man. He then became a superior human being. Man becomes a saint, a prophet. He evolves into a higher stage and becomes an angel. The one higher to angels is indeed none but God. Everything begins from Him and everything returns to Him"(49). Eloise Hart also describes the evolutionary thought in the *Encyclopedia of the Brethren of Purity* as follows:"

   Another section describes the creation of worlds and the evolution of life in details that would have impressed Darwin. It explains how manifestation unfolds through successive layers, or stratified planes down to the mineral kingdom. Where, in this lowest kingdom, the most developed mineral entities live within its highest strata and blend imperceptibly into the next higher or vegetable kingdom. Likewise the vegetable kingdom contacts, at its highest level, the animal kingdom, whose culmination is man. The most evolved men contact higher spheres and, standing between the angelic and animal orders, serve on earth as vicegerents of God". (50)

   English translations of the *Encyclopedia of the Brethren of Purity* were available from 1812 while Arabic manuscripts of the *al-Fawz al-Asghar* and *The Epistles of Ikhwan al-Safa* were also available at

the University of Cambridge by the 19th century. (51) These works likely had an influence on 19th century evolutionists, especially on Charles Darwin who may have been a student of Arabic.

3. Charles Darwin actually studied about evolution from his grandfather, Erasmus Darwin (1731-1802), who got the whole idea from Muslim philosophers preceded him by centuries. He then collected evidence to support the theory of evolution. This fact has been specially pointed out by contemporary scholars like Dr. Imad Hasan (52) and T.O. Shahnavas(53).

4. Charles Darwin knew Arabic and read directly from the Muslim scientists' books. According to Dr. Muhammad Hamidullah, Darwin learned Arabic in order to understand Islam. In the collection of his letters which have been published, a number of them are addressed to his Arabic teacher. (54) He was himself initiated into Islamic culture in the Faculty of Religion at the University of Cambridge under an orientalist Samuel Lee (1783---1852),who was a professor of Arabic and Hebrew. Darwin had referred to him in his letter addressed to Granary as follows:

"I, was glad to sit by Professor Lee,---the Shrewsbury Carpenter.---I found him a very pleasant chatting man and in high spirits, like a boy, at being lately returned from living on a curacy for seven year in Somersetshire, to civilized society and oriental manuscripts".(55)

So, it is proved that Charles Darwin remained a student of Samuel Lee who was well-versed in oriental sources and he used to meet and discuss the matters of mutual interest with his teacher. So, it is certain that Darwin was familiar with the works of Muslim scholars and philosophers and laid the foundation of his theory of evolution using the raw material borrowed from oriental sources.

References

1. As he had projected cornea, therefore he was called al-Jahiz. For detail consult: Aslam,S., Muslims Scientists and Thinkers http://muslimmedianetwork.com/mmn/?p=2356
2. Anees, Dr. Munawar Ahmad, *Maas Journal of Science*, vol. 8, No.1 (Jan - June, 1992), p.107.
3. Siddiqi,Habib Ahmad, *Musalman aur Sa'ins ki Tehqiq* (Karachi, Mo'tamar al-Alam al-Islami, 1988), p. 276
4. Ibid.
5. Mohammad Iqbal, Dr., *The Reconstruction of Religious Thought in Islam* (p.96. At another place in this book, Iqbal has again referred to al-Jahiz and wrote: "It was Jahiz who was the first to note the changes in bird-life caused by migration. Ibid. p.106.
6. Sarton, George, *Introduction to the History of Science*, vol. 1, p. 597.
7. Nadwi, Ibrahim 'Ammadi, Musalman Sa'insdan(Lahore: Takhliq Markaz, 1983) p.71.
8. E. J. Brill's First Encyclopaedia of Islam.vol. III. p. 53.
9. Nadwi, Musalman aur Sains Ki Tehqiq, op cit. p. 278.
10. Rathor, Iftikhar al-Din Tariq, Islam aur Sains, (Lahore: Ilmi Kutab Khana, 1985) p. 112.
11. Raghib Isfahani, Imam, *Tafsil al-Nashatayn wa-Tehsil al-Sa'adatayn*, (Cairo, n.d.) p.22.
12. Miskawaih means 'little musk-like one' -Bosworth C.E., *The Lata'if al-Ma'arif of Tha'alibi*, (Edinburgh: The University Press, 1968) p. 64.
13. Nadwi, Ibrahim Amadi, Musalman Sa'insdan, p. 132.
14. Abdul Hamid, Khawaja, Ibn Maskawaih-A Study of His al-Fauz al-Asghar (Lahore: Shaikh Muhammad Ashraf, 1946), p. 29.
15. Iqbal, Allamah Muhammad, The Reconstruction of Religious Thought in Islam, p. 107; Also in Development of Metaphysics in Persia, p. 29. Ibn Maskawaih's evolutionary theory may be seen in "Al-Fauz al-Asghar" published in Cairo in 1235 A.H. pp. 78-83.
16. Abdul Hamid, Khawaja, Ibn Maskawaih---A Study of his al-Fauz al-Asghar p. 32.
17. Osman Bakar (Editor), Critique of Evolutionary Theory, (Kuala Lumpur: The Islamic Academy of Science, 1987), p. 37.
18. Isis, Vol. 50, Part 4, (December, 1959), pp. 459-466
19. Nasr, Seyyed Hossein, Islamic Science, (World of Islam Festival Publishing Company Ltd., 1976), p. 71.
20. Ibid
21. Maas Journal of Islamic Science, vol. 8, No. (Jan-June, 1992), p. 107.
22. Al-Beruni, Abdu'l Rayhan Mohammad bin Ahmad, Kitab al-Jawahir fi Ma'rifat al-Jawahir, English translation (Islamabad: Pakistan Hijra Council, 1989) pp. 197, 244.
23. Ibid. p. 245.
24. Nasr, S. H., An Introduction to Islamic Cosmological Doctrines (Harvard University Press, 1964), pp 245-250. Also see Ibn Sina, Risalah-i-Nafs (Tehran, 1952) for details.
25. Abdul Wadud, Phenomena of Nature and the Qur'an, (Lahore: 1971), p. 158.
26. Hebrew translation and commentary was undertaken by Moses of Narbonne in A.D.1349 and Latin version from Hebrew was completed by Pico della Mirandola in fifteenth century that was followed by "Philosophus Autodidactus" by E.Pocoke in A.D.1671. J.Bouwmeeter translated it into Dutch from Latin in A.D.1672 that was followed by H. Reland's translation in 1701.English translations have been

published by Keith the Quaker in 1674,George Ashwell in 1686,Simon Ockley in 1708 and Paul Bronnle in 1904.French rendering was published by Leon Gauthier in 1900 and Pons Boigues translated it into Spanish in 1900.Two German translations have been published by George Pritius in 1726 and J.G.Eichhorn in A.D.1783.For detail please see:

i. Simon Ockley(tr.) & A.S.Fulton(ed.),The History of Hayy Ibn Yaqzan by Abu Bakr ibn Tufail(London:Chapman and Hall Limited,1929)pp.35-36
ii. Sami S.Hawi,Islamic Naturalism and Mysticism:A Philosophical Study of Ibn Tufayl's Hayy Bin Yaqzan(Leiden: E.J.Brill,1974)Appendix II

27. Simon Ockley(tr.) & A.S.Fulton(ed.),The History of Hayy Ibn Yaqzan by Abu Bakr ibn Tufail,pp.45-46
28. Sami S.Hawi, "An Islamic Naturalistic Conception of Abiogenesis: The View of Ibn Tufayl",Islamic Culture Hyderabad,vol.XLIX,No.1(January 1995)pp.23-41
29. Sami S.Hawi,Islamic Naturalism and Mysticism:A Philosophical Study of Ibn Tufayl's Hayy Bin Yaqzan(Leiden: E.J.Brill,1974)pp.282
30. e.g. Nawal Muhammad Hassan, Hayy bin Yaqzan and Robinson Crusoe:A study of an early Arabic impact on English literature(Baghdad:Al-Rashid House for Publication,1980)
31. Sami S.Hawi, Islamic Naturalism and Mysticism :A Philosophical Study of Ibn Tufayl's Hayy Bin Yaqzan,pp.117-118
32. Ibid,p.119
33. Draper, John William, History of the Conflict Between Religion and Science (1876)pp.154-5
34. Siddiqi, Habib Ahmad, Musalman aur Sance Ki Tehqiq, op cit. p. 279.
35. Shahid Athar M.D. (editor), Islamic Medicine, pp. 22-23.
36. First Encyclopedia of Islam (Leiden: E.J. Brill, 1987), vol III, p. 411.
37. Siddiqi, Musalman our Sa'ns Ki Tahqiq, op cit. p. 278.
    Nazami has mention "*Nasnas*" in his famous treatises. For detail consult:

    Nizami 'Arudi Samarqandi, Ahmad b. 'Umar b. Ali, Chahar Maqaleh, edited by Dr. Muhammad Mu'een (Tehran: Kitab Firoshi Zawar, 1333 A.D) pp.14-15.

    For detail description of Nasnas consult:

    Dehkhuda, 'Ali Akbar, Lughat Nameh (Tehran: Tehran University, 1341) 80:484-85

38. Lane-Poole, Stanley, The Brotherhood of Purity, (Lahore: Orientalia Publishers, 1954) pp. 29-30.
39. Nasr, Seyyed Hossein, An Introduction to Islamic Cosmological Doctrines, (USA: The Pelknap Press of Harvard University, 1964), pp. 72.
40. Ibid, p. 74.
41. Ibid
42. Qaisar, Dr. Nazir, Rumi's Impact on Iqbal (Lahore: Iqbal Academy, 1989), pp. 212-213.
43. Iqbal, Dr., Mohammad, The Reconstruction of Religious Thought in Islam, (Lahore, Institute of Islamic Culture, 1986) pp. 147-8
44. Al-Rumi, Jalal al-Din Muhammad, Mathnawi Ma'nawi (Tehran: Mo'assassah Intasharat-I Amir Kabir, 1363) vol. 3, Daftar 5, p.643.
    Also Dr. Khalifa Abdul Hakim, The Metaphysics of Rumi, p. 38.
45. Fruzanfar, Badi' al-Zaman, Ahadith-o-Qasas-i Mathnawi (Tehran: Intisharat-i-Amir Kabir, 1376), p.545

Also Fruzanfar, Ahadith-i Mathnawi, Urdu translation by Dr. Abdul Latif (Lahore: Pakages Limited, 1975), p.286

46. Ibn Khaldun, The Muqaddimah, Translated by Franz Rosenthal (Princeton University Press, 1980), vol. 1 p. 195.
47. Ibid, vol.2, p. 423.
48. Draper,J.W., History of the Conflict Between Religion and Science, (London: Henry S. King & Co, 1875), p.118
49. Muhammad Hamidullah, Dr., The Emergence of Islam, translated into English by Afzal Iqbal (Islamabad: Islamic Research Institute,2004) p.180
50. Eloise Hart, Pages of Medieval Mideastern History http//:en. Wikipedia. orgs
51. Ibid
52. Imad Hasan,Dr., Shajara Code Decoded For detail:www.shajaracode.com
53. Shanavas,T. O., Creation AND/OR Evolution: An Islamic Perspective (Xlibbris Publishers)
54. Muhammad Hamidullah, Dr., The Emergence of Islam, op cit., p.179
55. Darwin, C. R. ,Darwin Correspondence project, Letter 413,Dated 15 May 1838, Also available at www.darwinproject.ac.uk

❖❖❖