
A REASSESSMENT OF HUMAN EVOLUTION

A SPIRITUAL AND MATERIAL EVALU-
ATION OF HUMAN EVOLUTION BASED
ON ISLAMIC CONSIDERATIONS

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Actions are according to their intentions, and to
each man there pertains that which he intended...
Prophet Muhammed
[Hadith taken from Al-Bukhari]

PRELIMINARY REMARKS

Qur'an and accordingly Islamic thought accommodates a certain degree of duality—but never dualism—in what concerns human nature which is the source of the good and evil. The latter appears whenever confusion arises between the spiritual and sensual realms. Man is made up of two distinct sections, each possessing a case history of its own. Both, however, can be traced back to God's ceaseless creativity.

We share the creation of our corporeality with that of the animals: "Then We made the sperm into a clot of congealed blood; then of that clot We made a (fetus) lump; then We made out of that lump bones and clothed the bones with flesh; then We developed out of it another creatu-

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re..." (23/149) —Abdullah Yusuf Ali's commentary: "From a mere animal, we now consider man as a man (better: human). Is it not a Sign of wonder in itself that from dry dust (turab, 22/5) or inorganic matter should be made protoplasm (moist clay or organic matter); from it should grow a new animal life; and out of it should grow human life, with all its capacities and responsibilities? Man carries within himself Signs of Allah's wisdom and power, and he can see them every day in the universe around him" [§ 2874].

"After that, at length ye will die" (23/25) —A.Y.Ali: "Our physical death in this mortal life seems to make a break. But if it were the end of all, our life becomes meaningless. Our own instinct tells us that it cannot be so, and Allah assures us that there will be a resurrection for judgement" [§ 2875].

Then again: "Proclaim! (or Read!) in the name of thy Lord and Cherisher, Who created..." (96/1). "Created man out of a (mere) clot of congealed blood" (96/2) —A.Y.Ali: "The lowly origin of the animal in man is contrasted with the high destiny offered to him in his intellectual, moral, and spiritual nature by his 'most bountiful' Creator. No knowledge is withheld from man. On the contrary, through the faculties freely given to him, he acquires it in such measures as outstrips his immediate understanding, and leads him ever to strive for newer and newer meaning" [6205].

Although there is only one Reality, this, certainly, is not monolithic and homogeneous. Science tackles merely a minuscule section of Reality. Indeed, it constantly enlarges its domain. Still, a huge sphere lies beyond its field of relevancy. That sphere, moreover, has been considered unreal since the mid-seventeenth century by the European mechanist-materialist world-view. This is, after all, the root of the Modern European Monism. On the other hand, the classical Islamic standpoint urges the thinker-researcher to pay due respect to both aspects of Reality, that is, to the phenomenal as well as transphenomenal, to the spiritual-moral as well as the material-corporeal ones. Both of these aspects of Reality were usually treated by the same person. Thus the typical Classical Muslim thinker-researcher used to be a savant-scientist (*alim*). Obviously some among them tended more toward logico-empirico-physical research — like Avicenna (Ibn Sina [980-1037]), Avempace (Ibn Bajjah [1106-1138]) or Averroes (Ibn Rush [1126-1198])—, while others tended toward mystical meditations —such as Jalal al-Din al-Rumi (1207-1273), Muhiy al-Din Ibn Arabi (1165-1240) or Suhrawardi (1154-1191). Furthermore, Ghazali (1058-1111) was master in both realms.

I.

Act only on that maxim whereby thou canst
at the same time will that it would become
a universal law.

Immanuel Kant

There are certain ideas that may be accepted as historical landmarks. One such idea is René Descartes (1596-1650) statement, "Cogito ergo sum" which first exerted its indelible influence over Modern Europe and eventually over the whole world. According to this statement 'thinking' is the end result of spiritual activities, whereas 'existence', on the other hand, is the status of extended materiality. Above all, it is our senses that suggest to us the existence of both our own selves as well as the existence of others. But it is, indeed, through thinking that we become conscious of the matter of existence and it is again on account of thinking that we become conscious of our deficiencies with regard to perfection. Finiteness and deficiency are attributes of the extended and material existence that Descartes calls "Res extensa". Here material and energy processes are the order of the day. These processes are investigated by the thinking self which Descartes names "Res cogitans", and they are investigated in accordance with the logical mechanism of "Res cogitans". Is there, then, a parallelism between prevalent energetic-material procedures of "Res extensa" and "Res cogitans" logical mechanism? We must assume that this is so, otherwise we shall be abandoned in skepticism. Under such conditions human affairs would come to a standstill. Thus this initial assumption on the basis of which we approach the energetico-material world is in itself a metaphysical stance. Consequently, it can neither be proved nor disproved. It is a belief of uttermost importance; it is a belief without which we are mentally, and therefore physically paralyzed.

We conceive the world in a time-bound sequence. With the rational side of our "Res cogitans" we dissect, analyze and induce facts occurring, and then the opposite is done: synthesis and deduction. These latter mental operations are further steps in terms of abstraction. Science, consequently is a procedure of abstraction; and philosophy is the highest stage of that. Philosophy's two principal parts, metaphysics and ethics, perform, among other things, the function of a bridge between religion and science.

Man's psycho-mental faculties constitute his "Res cogitans" side, whereas his morphologico-physiological features constitute his "Res extensa" part. Therefore we see that Man is a being participating in two worlds, the spiritual world and the corporeal-material world. In principle, Man stri-

ves to come to terms with his spiritual side by virtue of religion and its offshoot, morality; and he tries to deal with the corporeal-material domain with his reasoning capacity. These two sectors, that is, "Res cogitans" and "Res extensa", are, of course, not sealed hermetically from one another. They constantly interact with each other. However, this does not preclude the fact that they are divergent in nature. While Man shares the latter feature with other living beings and even with all things in the Universe, the former represents the hallmark which is accounted to be exclusively his own. This dual nature of Man arises even from the time of his creation and is described in verses (Ayat) 26, 27, 28 and 29 of chapter (Sura) 15, "Al-Hijr":

We created man from clay. From mud moulded into shape (26); and the Jinn race, We had created before, from the fire of a scorching wind (27). Behold! thy Lord said to the angels: 'I am about to create man, from sounding clay from mud moulded into shape' (28); 'When I have fashioned him (in due proportion) and breathed into him of My spirit, fall ye down in obeisance unto him' (29)¹.

In his commentary, Abdullah Yusuf Ali (1872-1948) interprets the above-mentioned Quranic verses in the following manner:

Taking Verses 26 and 29 together, I understand the meaning to be: that man's body was formed from wet clay moulded into shape and then dried until it could emit sound (perhaps referring to speech); that it was then further fashioned and completed; that into the animal form thus fashioned was breathed the Spirit of Allah, which gave it a superiority over other Creation: and that the order for obeisance was then given (§ 1966).

Among other passages, says Abdullah Yusuf Ali, where the creation of Adam is referred to are the following: 2/30-39, 7/11-25. Note that here the emphasis is on three points: 1. The breathing of Allah's Spirit into man, i.e. the faculty of God-like knowledge and will, which, if rightly used, would give man superiority over other creatures; 2. The origin of evil in arrogance and jealousy on the part of Satan, who only saw the lower side of man (his clay) and failed to see the higher side, the faculty brought in by the Spirit of Allah; 3. That this evil only touches those who yield to it, and has no power over Allah's sincere servants, purified by His grace (15/40,42) (§ 1968)².

Man, accordingly, can be viewed as having much in common with other living beings in terms of his bodily constitution or, expressed in a rather scientific manner, his morphology and physiology. Our scientific understanding about Man's biotic status indicates to us that we possess some similarities with other living beings in general and animals in particular. However, this fact does not yet tell us, in the strict epistemological sense, whether Man shares with other living beings a common ancestry.

Even the claim that living beings evolved from non-living things has not yet been clearly and convincingly established. Despite arguments such as those of the Russian biochemist Alexander Ivanovich Oparin (1894-1980) who put forward in his book *The Origin of Life on Earth* the idea that life evolved due to random chemical processes occurring in the ocean, which thus became a biochemical soup conducive to early life forms,³ and those of Stanley Lloyd Miller, who in 1951 experimented in the laboratory of the University of Chicago where he produced four aminoacids, the principal elements for life, Frank B. Salisbury calculated with the aid of a computer that the probability of the emergence of life during the evolution of 300 aminoacids from inorganic molecules of medium size is only 10^{600} .⁴

Furthermore, the biological genesis of the human species (*Homo sapiens sapiens*) is no less unclear and unknown than that of living beings in general. Seen from the biochemical and, to a lesser degree, morphological-physiological aspects, the human being is, naturally, a member of the biosphere. Genetically, he stands in close relationship to certain species; mainly the chimpanzee, with the genetic difference between these two species being only 1.2 percent⁵. It is intriguing to notice that the chimpanzee is genetically closer to the human, than to its other fellow ape kins, such as the orangutan, to which it stands in a ratio of 2.2 DNA variation⁶.

In spite of the remarkable morphological, physiological and genetic similarities between the human species and other living beings, particularly chimpanzees, Marcel Schutzenberger, a computer expert at the University of Paris, has calculated that the probability that mankind evolved from an alien species is less than 1 in 10^{1000} .⁷

Man's biological affinity with other living beings, particularly with apes, has been exaggerated to the extent that it is claimed that Man evolved from them or shares a common origin with them. This claim may be correct; as well as it may not be so. The empirical evidence at hand is not enough to save us from the antinomical impasse of asserting that either Man originates in a definite previous—and now extinct—living being or that he did not emerge from any other biological species. In fact, even if it can never be sufficiently established that the human species, in its biotic sense—i.e. evolutively—is linked to another one, this will not contravene in any sense the Quranic edict, because, as we have already seen, Man shares the material building blocs of his corporeal makeup with all other living and non-living things. In addition to this, it should be stressed that the order of creation in the Qur'an, unlike the Biblical version, is not specified. We are not explicitly told what was created in each of the six consecutive periods of creation⁸. Indeed, the Qur'an stresses that the Creation is not an act that happened once and for all. God created unceasingly and continually. Therefore the six consecutive periods may

be taken as merely the first fundamental phases of the present Universe wherein primeval matter was turned into those beings eventually perceived.

Commenting on verse 117 of the second chapter (Sura "Al-Baqara") which goes as follows: "to Him is due the primal origin of the heavens and the earth⁹...", Abdullah Yusuf Ali explains that

... the forms and shapes as we see them now were called into being at some time or other and will perish. When they perish, they dissolve into primeval matter again, which stands at the base of all existence. We go further back. We say that if we postulate such primeval matter, it owes its origin to Allah, Who is the final basis of existence, the Cause of all causes. If this is conceded, we may proceed to argue that the process of Creation is not then completed. 'All things in the heavens and on the earth' are created by gradual processes. In 'things' we include abstract as well as material things. We see the abstract things and ideas actually growing before us. But that also is Allah's creation, to which we can apply the word *khalaqa*, for in it is involved the idea of measuring, fitting it into a scheme of other things. Cf. 54/49; also 25/59. Here comes in what we know as the process of evolution (Sura 2, §120).

As we come to know God, we perceive and conceive of His Creation due to what He reveals us in His Message as well as the observations we carry out with our eyes and reason. All that is beyond these two sources remains mainly unknown and unintelligible.

When it is stated that the Essence, or the Absolute Being in His self-revealing, outward aspect, says Syed Muhammad Naquib Al-Atlas, manifests Himself in different forms, and that the forms manifested are His particular facets and modes describing Him, as Attributes of the Essence, each distinct from the other and from His Being, we mean by 'distinct', therefore, the *difference* that emerges out of the different aspect of each of the Attributes. In this manner and by each self-manifestation, and by virtue of the essential property of distinctness inherent in each Attribute, *a reality* from among the realities of the Divine Names becomes manifest (*zahir*) and exists in the Divine knowledge. This is why... the fundamental nature of reality is difference¹⁰.

The perception of manifest differences resides in our morphologico-physiological as well as mental constitution. Whether this constitution might enable us to comprehend Creation's intrinsic meshes is an open question. We know, nevertheless, that some chosen wise men come close to Creation's intrinsic meshes as a result of their mystic experiences. As they pass along the phases of development of their own selves (egos) they try to explore the traces of that process, of the so-called evolution in the Universe and particularly in Nature. Evolution, nonetheless, is not the right term to be used in this context. Whereas evolution is a fortuitously

running material procedure, the eminent Muslim sages speak about perfection (*takammul*). This idea of spiritual perfection was also accepted by the Muslim scholars and philosopher-scientists when they attempted to explain biological transformations.

The following inimitable lines of Mawlana Jalal al-Din Rumi (1207-1273) have generally been considered as the best example for the spiritual perfection of the self:

First man appeared in the class of inorganic things,
 Next he passed therefrom into that of plants.
 For years he lived as one of the plants,
 Remembering naught of his inorganic state so different;
 And when he passed from the vegetative to the animal state
 He had no remembrance of his state as a plant,
 Except the inclination he felt to the world of plants,
 Especially at the time of spring and sweet flowers.
 Like the inclination of infants towards their mothers,
 which know not the cause of their inclination to the breast...
 Again the great Creator, as you know,
 Drew man out of the animal into the human state.
 Thus man passed from one order of Nature to another,
 till he became wise and knowing and strong as he is now.
 Of his first souls he has now no remembrance.
 And he will be again changed from his soul¹¹.

The modern view holds firm to the claim that, as alluded to by Syed Muhammad Naquib Al-Attas, "everything existing is a progression, a development or evolution of what lies in latency in eternal matter. The world seen from this perspective is an independent, eternal universe; a self-subsistent system evolving according to its own laws¹².

Progress and development are already present in the Quranic context. But there they serve as the means, as the leading agents toward a meaningful, blissful purpose, in the manner Mawlana Rumi shows in his above-cited lines. Within the modern secular framework, however, the thought of evolution has brought despair and vacuity; and has ultimately drawn away the floor upon which we were standing.

II.

So act as to treat humanity, whether in your own person or in that of any other, in every case as an end and never as merely a means only.

Immanuel Kant

Throughout the post-Platonic Classical period and during the successive Judaic, Christian and Islamic eras, philosophy managed, in the form of *ethics* to maintain a visible link to, and keep a strong sense of, its progenitor, *wisdom*. Notwithstanding this, in Europe from the sixteenth century onwards *philosophy*—and *science* in its wake—drifted apart from its source, wisdom, and thereby also from *religion*. During this period, in the Islamic world too, philosophy lost its capacity for innovation and creativity.

This process whereby philosophy-science become separated from its source began with the works of Aristotle and reached its fulfillment during the post-Cartesian era. The works of Aristotle, Rene Descartes, and particularly Immanuel Kant, all contributed to determine its limits and to the definition of philosophy-science as the search for knowledge. The question then arises: what kind of knowledge did they mean?

Briefly, their definition limited the meaning of knowledge to refer only to that which pertains to the appearance of phenomena. Thus, if we were to contrast this to our understanding of the mystically imbued concept of wisdom, we conceive that philosophy-science merely attempts to describe specific appearances, and we can further see that in doing this and in therefore glossing over the surface, we are thus restricted from approaching the underlying levels, even though in principle, these are unknowable. In this respect Kant's legacy to post-Kantian philosophy is the claim that all knowledge of the physical world—including human affairs—is a matter of 'phenomenal' interpretation by way of *a priori* mental categories; any human claim to knowledge of *noumena*, that is, of things as they are *essentially*—including inferences from noumenal reality to such supernatural realities as God—will not stand up to critical inquiry. Because Kant arrived at the *a priori* categories by a process he called "transcendental deduction", his legacy is usually referred to as Transcendentalism. Kant's preferred label is "critical philosophy", which emphasizes the devastating impact he thought his approach would have on the philosophical systems of his day.

Kant's philosophy is notoriously difficult. His objectives and motivations are enormously complex. But there is more: Kant's goal is thus not purely or mainly destructive; his aim is to lay the groundwork for a rehabilitated, intellectually respectable metaphysics, one that would secure the foundations of natural science, mathematics and morality, and show how the principles underlying each of these fields could be compatible.

"Kant even defended religion provided that it is constructed within the limits of transcendental deductions of 'synthetic *a priori*' concepts and principles presupposed by phenomenal experience"¹³...

Religion is indeed just that. From the primary, peerless, unique principle, which is *a priori*, or in other words, exempt from all possibilities of acquisition through sensory experiences, a complete set of credo ensues.

This credo, in turn, has two principal aspects: one of them is a clear-cut concatenation of categorical imperatives on morality; and the other is a sequence of suggestive reports and accounts about the Creation and make-up of the Universe and all that it comprises.

The main concern of the first aspect of the credo is that it is absolutely *a priori* and *noumenal*. There is unquestionably no duplicate of this throughout the Universe, it finds its evident manifestation only in Man, which suggests that if other moral beings should be discovered on another planet, then, they must necessarily be some sort of human beings. The term 'morality' encompasses, already, all imaginable facets of humanness, such as intellectuality, consciousness and conscientiousness; and these three main qualifications of Kant take their origin from the principal human attribute, *freedom*. The relationship between morality, freedom and humanness can be stated thus: There can be no morality without freedom, and no humanness without morality.

Man, as "Res cogitans", the 'spiritual being', which also includes the aspect of 'morality', is, therefore, necessarily free. He derives this right from his spiritual origin which the Qur'an describes in the following manner:

When thy Lord drew forth from the Children of Adam from their loins—
 Their descendents, and made them testify concerning themselves, (saying):
 'Am I not your Lord (who cherishes and sustains you)?'—
 They said: 'Yea! We do testify!'
 (This), lest ye should say on the Day of Judgment: 'of this we were never
 mindful' ("Al-A'raf", Sura: 7/172).

According to the dominant opinion of commentators, says Abdullah Yusuf Ali, each individual in the posterity of Adam had a separate existence from the time of Adam, and a Covenant was taken from all of them, which is binding accordingly on each individual. The words in the text refer to the descendants of the Children of Adam, i.e. to all humanity, born or unborn, without any limit of time. Adam's seed carries on the existence of Adam, and succeeds to his spiritual heritage. Humanity has been given by Allah certain powers and faculties, whose possession creates on our side special spiritual obligations which we must faithfully discharge: ... [1146].

The latent faculties in Man are enough to teach him the distinction between good and evil, to warn him of the dangers that beset his life. But to awaken and stimulate them, a personal appeal is made to each individual through the 'still small voice' within him. This, in its uncorrupted state, acknowledges the truth and, as it were, swears its Covenant with Allah. There is, therefore, no excuse for any individual to say, either 1. that he was unmindful, or 2. that he should not be punished for the sins of his fathers, because his punishment (if any) comes from his personal responsibility and is for his own rejection of faith and the higher spiritual influences [1148].

makes his intentions sincere
 and rectifies his heart.
 The ancient name for this
 is Purity and Truth (a Chinese name for Islam)
 to be able to conquer self
 can be called Purity,
 and to return to the Rites determined by Heaven
 can be called Truth;
 neither to conquer self
 nor to return to the Truth
 can only be called hypocrisy (in Arabic: *nifaq*).
 A man has a body and he has also a heart;
 when the body meets objects
 emotion and desire are joined;
 the heart in relation to human nature
 is like the spirit of Heaven (in Arabic: *ruh*);
 if the promptings of desire prevail
 a man rejoins the birds and beasts;
 but if reason masters desire
 he becomes a True Man (in Chinese: *Chen-jen*; in Arabic: *al-Insan al Kamil*).
 A man who cultivates goodness
 must endeavor to be sincere (in Arabic: *muhlis*),
 to realize himself in the way of the Prophet
 and constantly live the Truth...¹⁵.

Just as at the dawning of our spiritual being, at any moment during our worldly existence we are free to accept or reject to acknowledge God as Reality. We may not be free in respect of our actions toward the world, wherein we undergo a variety of compulsions and a chain of cause and effect¹⁶. But we are absolutely free and responsible in our rejection or acceptance of Absolute Reality, an act which takes place in consciousness; the rest is cause and effect.

Many Muslim thinkers claim, based on the Qur'an, "that Creation is a continuous process, each instant being a new act of Creation—'Every day He is in act'(55/29)...

Creation thus envisaged is not a process, but an instantaneous act; and the changes which natural and human history imply are the successive revelations of that act in time, which, along with extension, number, and other conditions of existence, exist for man, but not for God. The links between apparently 'successive' creations may appear to be cause and effect on the 'horizontal' human plane, giving rise to the theory of evolution, for example; but not *in divinis*. On the Earth night becomes day, Continents form, mammals appear, empires rise and fall, Alexander conquers as far as the Indus, Napoleon retreats from Moscow. These are events over millennia; for God they are all in the eternal present, along with Adam's Fall and the end of the world¹⁷.

Thus we can see that evolution, the knowledge of which we infer from our empirical data extracted from Nature, agrees with what we are told by the Qur'an. Indeed, if we accept that Nature is God's creation, then no incompatibilities should ever occur between the results of any accurately performed research and the dicta of the Message. If this is the case, all research data should necessarily conform to the dicta; otherwise the data, being erroneous, must be revised.

The Message tells in a certain figurative manner and time-transcending mode all that there is in the Cosmos (al-Alam), and how it has come to be. Thus, whenever we come across hitherto unexplored 'terrains' and unknown facts we may begin, with our knowledge of the Message, to comprehend what the relevant Quranic Verse intends to convey to us. Apart from those great mystics who are endowed with a superior sense of intuition, it can be affirmed that, in general, scholarly advances achieve an understanding of the mechanisms of both socio-cultural and physical facts—"Res extensa"—and thus enhance our comprehension of certain aspects of the Message. Hence, to get firsthand information of such phenomena we must explore Nature. Only after that will it be possible to gain, with the help of the Message, a deeper insight into the world. *Science* is the tool which enables us to extract information from the physical world—"Res extensa". However, such investigation of the physical world will be of no help to our spiritual side—and its practical application, morality. This is because neither of these have any link whatsoever to the physical world. In this case, our straightforward guide is the Message itself.

The Message constantly appeals to our Reason, which in turn regulates our moral behavior. It is Reason which sets limits on all our aspirations and endeavors, and thus to transgress these limits is not only a violation of Reason but also an infringement of the Message. This holds good in the case of our scientific inferences also. There are many instances, and one of them is our assumptions about biological evolution, where scientific findings and technological achievement render us over-confident and as a result we lose one of the main upholders of decent behavior, humility¹⁸. This, unfortunately, is exactly what modern secular West European civilization is propagating throughout the twentieth-century world.

In the present day, just as people in general find themselves in a socio-psychic situation where they are unable to check their lust and craving for money and consumerism, science and technology are also unrestrained. Every aspect of science deals, depending on its own axiomatic system and methodology, with a tiny bit of the world of facts. On obtaining a conclusion from his research, the thinker-researcher has a tendency to exuberantly and exaggeratedly apply the acquired result of relative and restricted relevancy to a truth of universal validity, the most pertinent example of this being the contemporaneous so-called theory of

evolution, which is represented as having unlimited strength and scope of explanation.

Epistemologically, evolution can only be a scientific theory if it

is taken to be a statement of fact. Readily documentable experimental cross-breeds have produced genetically different species; indeed, totally new life-forms are likely to be generated by using recombinant DNA techniques. The controversial part here is to assume, simply and without qualification or proof, that the entire history of biological development on a global scale is a matter of brute fact in this sense.

Beside the recombinant DNA techniques, the evidence of the historical development of transformation of species is overwhelming... The fossil record is clear; older species are always found in the lower layers of rock or in (independently determinable) earlier formations. In the fossil sequence most clearly—but also in comparative anatomy—species taken by biologists to be evolutionarily later always have skeletal, organ, even tissue similarities with respect to earlier fossils or living species, as (and in the fashion) one would expect of descendants relative to ancestors. The taxonomy of known species is most simply organized on the basis of the assumption of descent with modification, and there are geographical discontinuities and variations of species that are barely plausible on any non-evolutionary theory. All this—though overwhelming in the view of almost all scientists—is nonetheless indirect, but cumulative, evidence. Direct evidence, from plant and animal breeding and in laboratory colonies of experimental bacteria and insects, only serves to confirm and make still more plausible the indirect evidence. Finally, there is ample parallel evidence of non-biological development of higher chemical elements from lower...¹⁹

Here we arrive at a crucial point: as all particular propositions are the expressions of particular experiences, any experience which has obviously demonstrable traits cannot validly encompass similar experiences which still lack such necessarily evident features. To forcefully apply experiences which are endowed with evident traits into questions from which we can, in principle, not expect any similar response, will inevitably lead us to the Kantian state of *antinomies*.

A clear example of the above is the disputable conclusion that Eric R. Kandel and Robert D. Hawkins drew from their neurobiological and cognitive psychology research:

Indeed, as we have learned from Carla J. Shatz (*The Developing Brain*), early results from cell biological studies of development suggest that the mechanisms of learning may carry with them an additional bonus. There is now reason to believe that the fine-tuning of connections during late stages of development may require an activity-dependent associative synaptic mechanism perhaps similar to LTP. If that is also true on the molecular mechanisms

with aspects of development and growth—the study of learning may help connect cognitive psychology to the molecular biology of the organism more generally. This broad biological unification would accelerate the demystification of mental processes and position their study squarely within the evolutionary framework of biology²⁰.

The last sentence appearing in the foregoing excerpt leads us not only to an antinomy, but also to a paradox. The two authors apparently regard the whole Reality only in terms of "Res extensa" or, expressing this in Kantian terminology, as "phenomena". In the case we should accept the entire Reality as "Res extensa", then, there is nothing to "demystify". This is because "Res extensa", in principle, is only open to explanation by use of the mechanical laws. Hence there is no part of it that we might categorize as 'mysterious'. It is like an open page waiting to be read. However, if we accept the existence of "Res cogitans" or, as expressed—in Kant's terms, the realm of "noumena"—then the tools and devices with which we try to solve the problems of "Res extensa", cannot help us to "demystify" the riddles we come across in "Res cogitans". In the former instance we are confronted with a paradox and in the latter with an antinomy.

As a last resort, we could even link the cognitive faculties—the information gathering and processing capacities—to the neurophysiology of our brain, and hence find an appropriate place for them within the due course of evolution. But then, what about the main human attribute, that aspect of Man which makes us specifically *human*? That attribute is of course *spirituality*, whose most overt and down-to-earth manifestation is *morality*.

At this point and within the foregoing context I want to cite from the work of one of the most eminent philosopher-scientists, Sir John Carew Eccles, who in turn quotes some of the thoughts expressed by the distinguished ethologist David Lack. In his book published in 1961 *Evolutionary Theory and Christian Belief*, Lack claims that the fact that

evolution has occurred by natural selection means that it has not been 'random', but is the result of natural laws. Whether or not these laws have rigidly determined the course of evolution, and whether or not this course has been divinely planned, are metaphysical questions outside the scope of biology.

According to Eccles, Lack then goes on to make three statements of uttermost importance in view of the present subject matter:

Secular humanists may argue that Christian belief should be rejected, but they themselves are in as great a dilemma, since it seems impossible to justify high moral standards or abstract truth from the evolutionary processes.

If morality, truth and individual responsibility are valid, but outside science, then Darwinism can never give an adequate account of Man's nature. Science has not accounted for morality, truth, beauty, individual responsibility or self-awareness... in which case a valid and central part of human experience lies outside science²¹.

Indeed, science has so far been incapable of dealing with concepts such as beauty, individual responsibility or self-awareness; nor do we possess any confirmable account about their evolutionary antecedents.

In London in 1970 I met by chance a lady who was one of the few survivors of the National Socialist concentration camps, and who recounted to me her experiences there. From that time until now, I have not come across stronger evidence of morality's uniquely humanness.

The event in question took place in the late summer of 1944. The narrator was at that time a seventeen-year old girl. One by one all her family members, relatives, friends and acquaintances had marched past her to their death. She could, especially, not get rid of the image of her younger brother's facial expression when he was taken away to die. He was only eleven years old at that time.

There was almost nothing left of his already small face except two enormous black eyes whose lustre had faded. His countenance was blank. Without emitting a single sound or showing any sign of emotion he sleepily staggered away led by three guards. I stood there rendered insensible. I felt as if a leaden lump slipped slowly down my throat. Sometime later I thought that there could be no worse fate to befall a person in his or her life than all those events I had lived through. But how wrong I was! The worst was yet to come.

Early one morning two soldiers and a corporal entered the dormitory where I was staying with some other girls and women. They ordered me to go out into the yard, so I did. There was a batch of soldiers standing around idly. It was a bright sunny morning and I could feel the warmth of the sun deep in my bones. It felt so enlivening! I felt that I could have performed somersaults, if it were not for the uneasy presence of the leering and abusive soldiers. They were frenziedly casting derisions upon me and I was unable to understand why this was happening to me.

When I look back at that time and reconsider all those shocking events which not only befell me, but, in various degrees, millions of other people, I cannot help thinking that these and all other similar sorts of incidents were, at any rate, manifestations of destiny. Of course they are such horrible events that even while we acknowledge that they might have been decided by fate, we cannot, nay, should not be deterred from fighting against them. We can do this by using physical force or by applying a stronger device to halt them; that is, by beseeching God to stand by us.

That morning, the frenzied bunch of soldiers continued to assault me and in spite of my fierce resistance they tore off my light summer clothing. Suddenly

I was standing there naked. I desperately attempted to cover with my hands the private parts of my body. They, in turn, tried hard to loosen and remove my hands with the butt of their rifles. What a strange sight: it was as if they could not degrade themselves to use their hands; as though I were contaminated! At the worse moment of my desperation I turned to the Almighty: I implored Him from the deepest core of my being and with all of my existence not to leave me there in that most disgraceful and shameful state. At that instant, I do not know why, I somehow turned my head left. A man in uniform, an officer, was approaching us from a distance of say fifty or sixty meters. His soft golden hair was shimmering in the sunlight and undulating in the breeze. From the midst of a bronzed handsome face a pair of colored eyes gazed into mine. Then, he abruptly ordered the soldiers to allow me to dress.

This truly was the worst ordeal I have experienced in my entire life. For a long time after my release from the camp the anguish of my experience haunted me. I had recurrent nightmares in which I found myself stripped of my clothes.

Presently I am completely recovered. I am working as a voluntary aide at a rehabilitation center where I specialize in the treatment of tortured children. There is no more even the slightest morsel of hatred or vengeance in my heart against those torturers. To nourish feelings like hatred, animosity and vengeance is a pitifully futile task; and I simply do not have the desire nor the energy to carry along such feelings. I leave those depraved villains to God's unswerving justice.

In connection with this narrative, two extraordinary events juxtapose: the officer's appearance out of the blue and his unanticipated involvement in her plight; and the tremendous affliction she endured because of being stripped of her clothes. Here what concerns us is not the mysteriously sudden occurrence of the officer; but:

1. His unexpected attitude towards the narrator and

2. Especially, the narrator's perception of her experience of standing outside naked on a warm sunny day as an ordeal. Normally, we would think, in a situation where no physical pain or strain is involved, there could be no reason whatsoever that such a feeling of revulsion should take place. Could there be, seen from the logical and empirical aspects, any biological roots to such feelings or emotions? How best could this type of experience be explained in terms of biochemistry, physiology and genetics? What appropriate place could we ascribe for it within the evolutionary process?

Man, due to his lack of certain innate mechanisms—generally labeled as instincts²²—is compelled to find out and choose the directions he will take, then to abide by his choice. Therefore at first sight he stands there alone. Yet he is not forsaken. As long as he heeds that unassuming voice deep inside himself (and other than his own) he will never find himself abandoned like a motherless child. Let us return for a while to that

remarkable story told by that outstanding lady: it illustrates that at the moment of greatest distress, there was no other way of salvation for her except to turn to God and to plead with Him not to leave her alone. How much this attitude of hers reminds us of this wonderful Verse from the Qur'an:

"It was We Who created man, and We know what dark suggestions his soul makes to him: for We are nearer to him than (his) jugular vein" ("Qaf", 50/16)²³.

Thus, 'Tragedy' occurs for the person who turns a deaf ear to this Verse in particular and to the Message in general²⁴.

While *science* is the domain where information is gathered and treated, and *philosophy* is where mainly knowledge is systematized and hence cognition formed; *religion* is the principal source of morality and morale. In this context it is appropriate to cite Mawlana Jalal al-Din Rumi's subsequent quaidrain: "A being is, indeed, not human, if he has no share in decency. There is a difference between Man and animal by decency. Open wide your eyes and look at the entire Divine vocabulary; All you will see is that the whole Quranic verses do not mean anything but decency²⁵."

To summarize the arguments put forth so far throughout this paper, it is maintained, inspired mainly by the Qur'an and the subsequent Moslem scholarly tradition, that human beings participate, predominantly, in two domains of existence: the material—that is, physico-biotic—, and the immaterial—that is, spiritual-moral one. Both of these emerge out of the same essence: God's existence. While the former can be investigated within the framework of the 'selfless' process—as, say, evolution—, the latter rejects by its very substance this physico-natural account. Within the context of his spirituality Man becomes a 'self-conscious' being whose chief exponent is Reason, while thanks to this reasonableness, Man is, in principle, moral and can be rational. Hence his morality is not based on feeling—which characteristic he also shares with certain animal species—but on Reason—which is exclusively a human characteristic—and which is not contingent but absolute. Again, to agree with Immanuel Kant, we can assert that because Man can be rational—this must also mean that he can be irrational—, he is capable of formulating value judgments and discovering moral rules—choice and discovery being closely related—which are binding on all people for all times. Reiterating what we said before: As humans, our moral duties depend not on feelings but on Reason. "They are unconditional, universally valid, and necessary, regardless of the possible consequences or opposition to our inclinations²⁶."

Thus Man, in his capacity as a free-choosing, yet at the same time responsible—hence restricted—and reflecting—therefore knowing—being, is, in the words of the Qur'an not only God's distinguished and

privileged creature, but much more: he is the Almighty's "vicegerent on Earth" ("Al-Baqarah", 2/30, 31, 32)²⁷ and "successor, heir or inheritor" ("All-An'am", 6/165).

So, morality and religiousness are closely interrelated; and in his position as a religiously moral being, Man, from the Quranic perspective is not a byproduct of evolution.

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I am acutely aware of the defects of this paper, especially where it is concerned with areas outside my special competence. But the general subject and specifically vital problem seemed to me worthy of study. It is my hope that further scholarship will correct, expand and refine many of the questions here stated.

- 1 The Holy Qur'an.
- 2 The Holy Qur'an. Commentator: Abdullah Yusuf Ali.
- 3 Refer: Alexander Hellemans and Bryan Bunch: "The Timetables of Science", p: 472.
- 4 Refer: Francis Hitching: "The Neck of the Giraffe/ Darwin, Evolution, and the New Biology", pp: 49, 50.
- 5 Refer: Michael P. Ghiglieri: "The Social Ecology of Chimpanzees", p: 84.
- 6 Refer: Michael P. Ghiglieri: *Ibidem*.
- 7 Refer: "Mathematical Challenges to the neo-Darwinist Interpretation of Evolution", monograph no: 5, edited by R.S. Moorhead & M.M. Kaplan; Wistar University Press, Philadelphia, 1967; cited by Francis Hitching: "The Neck of the Giraffe", p: 65.
- 8 Refer for the interpretation of the word 'yaum' as 'period' instead of 'day' to Maurice Bucaille: "The Bible, the Qur'an and Science", pp: 135 & 169.
- 9 "... He decreeth a matter, He saith to it: 'Be', and it is."
- 10 Syed Muhammad Naquib Al-Attas: "On Quiddity and Essence".
- 11 Mawlana Jalal al-Din Rumi: "Masnawi", pp: 216, 217. 3637-41, 3646-88, book: IV; quoted by Allama Muhammad Iqbal: "The Reconstruction of Religious Thought in Islam", p: 97.
- 12 Syed Muhammad Naquib Al-Attas: "Islam and the Philosophy of Science", p: 5.
- 13 Paul T. Durbin: "Dictionary of Concepts in the Philosophy of Science", p: 327.
- 14 Some other Quranic verses which speak about Man's genesis and various transformations are:
 "Maryam" (Sura 19): "Man says: 'What! When I am dead, shall I then be raised up alive?'"(66). "But does not man call to mind that We created him before out of nothing?"(67).
 "Al Waqiah" (Sura 56): "We have decreed Death to be your common lot, and We are not to be frustrated"(60). "From changing your Forms and creating you (again) in forms that you know not"(61). "And you not celebrate His praises?"(62). "See you the seed that you sow in the ground?"(63). "Is it you that cause it to grow, or are We the Cause?"(64).
 "Were it Our Will, We could crumble it dry powder, and you would be left in wonderment..."(65).
 "How did Man first emerge?" asks Allama Muhammad Iqbal (1875-1938). This suggestive argument he maintains is embodied in the Verses of the passages quoted above did in fact open a new vista to Muslim philosophers. It was Abu Othman Al Jahiz (776-869) who first hinted at the changes in animal life caused by migrations and environment generally. The association known as the 'Brethren of Purity' further amplified the views of Jahiz. Abu Ali Ibn Miskawah (941-1030), however, was the first Muslim thinker to give a clear and in many respects thoroughly modern theory of the origin of Man—"The Reconstruction of Religious Thought in Islam", pp: 96, 97.
- 15 See: Cyril Glassé: "The Concise Encyclopedia of Islam", p: 190.
- 16 For Kant, too, freedom and necessity are compatible. Kant maintains that in the domain of phenomena, that is, Nature, a complete determinism reigns. There is absolutely no place for freedom. It is the intrinsic principle of the noumenal, that is, human real. To wind up the discussion, we can say,

freedom is not a "physical question", but belongs to the field of morality, or it may be better stated that morality springs from freedom. The much-publicized antagonism between freedom and determinism is merely illusive. This still does not mean that Reality is split into two distinct isolated realms. It simply means that Man is not free within the causal nexus; and he is free because he does not belong entirely to the domain of Nature. With him the world has received fresh possible beginnings of new causalities. In this sense freedom appears to be a new beginning which only becomes possible in the realm of freedom. In nature we do not come across such beginnings—cf. the Quranic dictum of the ever repeating beginnings of Creation. It seems that 'continuation' exists there. In his material-corporeal character Man is submitted to the laws of nature. On the other hand, owing to his intellectuality he can be regarded as free. The relationship between the realms of freedom and necessity is given in the unitary reality to which the apparent two-worldliness belongs—see: José Ferrater Mora: "Diccionario de Filosofía Abreviado", pp: 257, 258 (translated from Spanish into English by myself).

- 17 Cyril Glassé: "The Concise Encyclopaedia of Islam", p: 219.
- 18 "No soul can believe, except by the Will of Allah, and He will place Doubt (or obscurity) on those who will not understand ("Yunus", Sura 10/100)."
"To creatures endued with Will, Faith comes out of an active use of that Will. But we must not be so arrogant as to suppose that is enough. At best, Man is weak and in need of Allah's grace and help. If we sincerely wish to understand, He will help our Faith; but if not, our doubts and difficulties will only be increased. This follows as a necessary consequence, and in Quranic language all consequences are ascribed to Allah, the Cause of causes"—Abdullah Yusuf Ali [148].
- 19 Paul T. Durbin: "Dictionary of Concepts in the Philosophy of Science", pp: 91, 92.
- 20 Eric R. Kandel & Robert D. Hawkins: "The Biological Basis of Learning and Individuality", p: 60.
- 21 See: John C. Eccles: "Evolution of the Brain", p: 235.
- 22 Instinct is a "genetically acquired force that impels animals to behave in certain fixed ways in response to particular stimuli..." —Michael Allaby: "The Concise Oxford Dictionary of Zoology", p: 238.
- 23 "Allah created Man, and gave him his limited free will. Allah knows inmost desires and motives of Man even better than Man does himself. He is nearer to a man than the man's own jugular vein. The jugular vein is the big trunk vein, one on each side of the neck, which brings the blood back from the head to the heart. The two jugular veins correspond to the carotid arteries which carry the blood from heart to the head. As the bloodstream is the vehicle of life and consciousness, the phrase 'nearer than the jugular vein' implies that Allah knows more truly the innermost state of our feeling and consciousness than does our own ego" —Abdullah Yusuf Ali [4952].
- 24 The special sense within which we use the term 'Tragedy' is described by Syed Muhammad Naquib Al-Attas in the following manner:
"The inquiring spirit of Western culture and civilization originated with disenchantment towards religion as that civilization understands it. Religion in the sense we mean... has never really taken root in Western civilization due to its excessive and misguided love of the world and secular life and of man and preoccupation with man's secular destiny. Its inquiring spirit, basically generated in a state of doubt and inner tension, is the result of the

clash of conflicting elements and opposing values in the sustained dualism, while the doubts maintain the state of inner tension. The state of inner tension in turn produces the insatiable desire to seek and to embark on a perpetual journey of discoveries... Absolute values are denied and relative values affirmed; nothing can be certain, except the certainty that nothing can be certain. The logical consequence of such an attitude towards knowledge, which determines and is determined by the world-view, is to negate God and Hereafter and affirm man and his world. Man is deified and Deity humanized, and the world becomes man's sole preoccupation so that even his own immortality consists in the continuation of his species and his culture in this world. What is called 'change' and 'development' and 'progress' in all their aspects as far as Western civilization is concerned is the result of the insatiable quest and perpetual journey spurred on by doubt and inner tension. The context in which the notions of change and development and progress are understood is always this-worldly, presenting a consistently materialistic world-view that can be termed as a kind of humanistic existentialism. The spirit of Western culture that describes itself as Promethean is like the Camusian Sisyphus who desperately hopes that all is well... The pursuit of knowledge, like the struggle to push the stone from the plains up the mountain where at the top it is destined to roll down again, becomes a kind of serious *game*, never ceasing, as if to distract the soul from the tragedy of unattainment. No wonder then, that in Western culture *tragedy* is extolled as being among the noblest values in the *drama* of human existence! —"Islam; the Concept of Religion and the Foundation of Ethics and Morality", pp: 47-48.

25 I translated this quatrain of Rumi myself. I have rendered the meaning of 'adab' into English as 'decency'. 'Adab' according to Syed Muhammad Naquib Al-Attas "is knowledge that preserves man from errors of judgment. *Adab* is recognition and acknowledgment of the reality that knowledge and being are ordered hierarchically according to their various grades and degrees of rank, and of one's proper place in relation to that reality and to one's physical, intellectual and spiritual capacities and potentials —"The Concept of Education in Islam, p: 37.

26 Louis P. Pojman: "Introduction to Philosophy", p: 587.

27 "It would seem that the angels, though holy and pure, and endued with power from Allah, yet represented only one side of Creation. We may imagine them without passion or emotion, of which the highest flower is love. If Man was to be endued with emotions, those emotions could lead him to the highest and drag him to the lowest. The power of will or choosing would have to go with them, in order that Man might steer his own bark. This power of will (when used right) gave him to some extent a mastery over his own fortunes and over nature, thus bringing him nearer to the God-like nature, which has supreme mastery and will... The perfect vicegerent is he who has the power of initiative himself, but whose independent action always reflects perfectly the will of his Principal..." —Abdullah Yusuf Ali [47].

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UNA RECONSIDERACIÓN DE LA EVOLUCIÓN HUMANA
UNA EVALUACIÓN ESPIRITUAL Y MATERIAL
DE LA EVOLUCIÓN HUMANA
DESDE LA PERSPECTIVA ISLÁMICA

Las acciones van de acuerdo con sus intenciones,
y a cada hombre corresponde lo que él mismo se
propone...

Profeta Mahoma
Hadith, tomado de Al-Bukhari

El Corán, y en consecuencia el pensamiento islámico, acepta un cierto grado de dualidad, pero nunca dualismo, en lo relativo a la naturaleza humana como fuente del bien y del mal. Este último aparece siempre que surge la confusión entre la esfera de lo espiritual y la esfera de lo sensual. El hombre está constituido de dos partes distintas, cada una con su propia historia. Sin embargo, el origen de ambas se remonta a la incesante creatividad de Dios.

Compartimos la creación de nuestra corporalidad con los animales: "Y entonces, Nosotros convertimos el esperma en un coágulo de sangre cuajada; entonces, de esa sangre hicimos un grumo (feto); entonces, de ese grumo formamos huesos y cubrimos los huesos con carne; entonces desarrollamos a partir de ello otra criatura..." (23/14). Comenta Abdullah Yusuf Ali: "A partir de un simple animal, ahora consideramos al hombre como hombre (mejor: humano). ¿No es acaso un Signo de asombro en sí mismo que a partir de polvo seco (turab, 22/5) o materia inorgánica sea hecho protoplasma (arcilla húmeda o materia orgánica); que a partir de éste crezca una nueva vida animal; y que de ésta crezca la vida humana, con todas sus capacidades y responsabilidades? El hombre lleva dentro de sí los Signos de la sabiduría y el poder de Alá, y puede verlos todos los días en el universo que lo rodea" [§ 2874].

"Después de eso, finalmente moriréis" (23/15). Comenta A.Y.Ali: "Nuestra muerte física en esta vida mortal parece un rompimiento. Pero si fuera el fin de todo, nuestra vida no tendría sentido. Nuestro propio instinto nos dice que no puede ser así, y Alá nos asegura que habrá una resurrección para el juicio" [§ 2875].

Y otra vez más: "¡Proclamad! (o ¡Leed!) en el nombre de vuestro Señor y Amador, Quien creó..." (96/1). "Creó al hombre a partir de un (simple) coágulo de sangre cuajada..." (96/2). Y dice A.Y.Ali: "El humilde origen del animal que hay en el hombre contrasta con el elevado destino que se

le ofrece en su naturaleza intelectual, moral y espiritual por su generosísimo Creador. No se niega ningún conocimiento al hombre. Por el contrario, a través de las facultades que se le otorgan libremente lo adquiere en la medida que supera su entendimiento inmediato, que lo lleva a empeñarse cada vez más en la búsqueda de nuevos sentidos" [6205].

Aunque existe una sola Realidad, ésta, sin duda, no es monolítica ni homogénea. La ciencia aborda apenas una mínima parte de la realidad. En efecto, constantemente amplía sus fronteras. Empero, hay una enorme esfera más allá de este campo de relevancia. Más aún, desde mediados del siglo XVII, la visión del mundo europea, mecanicista-materialista ha considerado irreal a dicha esfera. He ahí, después de todo, la raíz del monismo europeo moderno. Por otra parte, el punto de vista islámico clásico exhorta al pensador-investigador a dar el debido respeto a ambos aspectos de la Realidad, es decir, tanto a lo fenoménico como a lo transfenoménico, a los aspectos espirituales-morales tanto como a los materiales-corpóreos. Estos dos aspectos de la Realidad solían ser abordados por la misma persona. Así, el típico pensador-investigador musulmán clásico solía ser un sabio y científico (*alim*). Por supuesto, algunos de entre ellos se inclinaron más hacia la investigación lógica, empírica y física, como Avicena (980-1037), Avenpace (1106-1138) o Averroes (1126-1198), en tanto que otros se inclinaron hacia las meditaciones místicas, como Jalal al-Din al-Rumi (1207-1273), Muhyi al-Din Ibn Arabi (1165-1240) o Suhrawardi (1154-1191). A más de esto, Ghazali (1058-1111) fue un maestro en ambas esferas.

