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ON THE QUESTION OF BIOLOGICAL ORIGINS

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Bismillāh-Raḥmānir-Raḥīm (In the Name of Allah, the most Gracious, the Most Merciful).

There are two basic issues involved in the question of biological origins: the origin of life as such, and the special form of life that we call human life. In biological sciences, a huge amount of data has been gathered over the last two centuries which has been interpreted from various perspectives, the dominant view being the evolutionary process which stipulates that life originated in small-cell form and then became complex through random processes in which only the fittest forms survived. Some theists have inserted God into this process to develop a form of evolution which is often called theistic evolution. And there are a lot of Muslim scholars who also subscribe to this idea of theistic evolution. Of course no Muslim would say there is no Hand of God involved, but they put the Hand of God into a

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form of Darwinian process, generating a great deal of confusion.

Bismi'LLāhīr-Raḥmānīr-Raḥīm

There are few issues today as important for discussion and as insidious in its implications as this theory of evolution. First of all, let me say at the beginning that I have studied not only physics but also geology and paleontology at Harvard, and so it is with this background that I reject the ordinary understanding of the Darwinian theory of evolution even on scientific grounds. Let me say that at the very beginning before turning specifically to the Islamic point of view. The theory of evolution is the peg of the tent of modernism. And if it were to fall down, the whole tent would fall on top of the head of modernism. And therefore it is kept as an ideology and not as a scientific theory which has been proven. I know that this very statement that I make would be rejected by many people, but Muslims have at least to look upon this whole issue from this point of view.

There are different kinds of scientific theories. For example, you have string theory in physics and cosmology and you have quantum mechanics. Now if someone were to oppose them, no one would expel them from their university; no one would have his or her promotion denied because of his or her saying "I do not accept this theory." Evolution, on the contrary, is a totally different matter, because it is an ideology, it is not ordinary science; so if you are a professor of biology in a university, especially in the Anglo-Saxon world, less so in Italy, France, and Germany, and if you oppose the theory of evolution on purely scientific grounds, you are rejected and even ejected from your position, your colleagues think you are insane, you do not get promotions, and so on.

Muslims have to approach this whole issue in light of the status that evolutionary theory occupies in the modern world. And they have to look upon it both from that point of view and the point of view of its scientific claims to explain certain scientific phenomena. Now, I am not at all in agreement with a number of Muslim scholars, for whom I hold a lot of respect in other fields, in their having succumbed to this pressure and have developed what you might call an Islamic version of theistic evolutionism or evolution. This is first of all worse than the Darwinian idea of evolution because it is no longer scientific evolution; it is not even scientific and will not satisfy the agnostic or atheistic biologists. Secondly, it ties the Hands of God through a process that we believe we know, but we really do not know.

And that is even worse. So Muslims have to look upon this issue from the point of view of our own spiritual and intellectual positions—from what the Qurʾān and Ḥadīth say, what our intellectual tradition has said. There are major issues involved here, which the modern mindset glosses over, leaving evolution as the only explanation of the scientific data.

One of them is the question of form and the finality of form. A triangle is a triangle, and nothing evolves into a triangle; until a triangle becomes a triangle, it is not a triangle. So if we have three loose lines that gradually meet, even if there is one micron of separation, that is not a triangle. Only a triangle is a triangle. And life forms also have a finality of their own. The famous French biologist L. Bounoure opposed evolution on the basis of this reality of the finality of forms as well as other considerations.

Now, the traditional idea of form (*morphos*) has lost its status in both Western philosophy and Western science. The only thing that survives is mathematical forms which themselves are abstracted forms. But concrete forms were thrown out of science by Galileo and Descartes. Once you quantify science and say that science is the quantified explanation of things, you can no longer deal with forms which deal with the quality of things. The form of an orange—you cannot study it in modern physics. In fact, what you do is to study the weight of the orange, its sphericity; or in chemistry the amount of acid in its juice, in biology its molecular structure. So what happened to the orange? You do not study that. So the first question is the question of form and what it means in relation to the theory of evolution.

Secondly it is the question of creativity and here we get into deep theological issues. In Islam, two of the Names of God are *al-Ḥayy* and *al-Muḥyī*. God is both Life and the Giver of Life. And no one can go around that truth and say that God created the dinosaurs like this, but at the same time say that the dinosaurs were reduced by certain environmental conditions and that they developed later into this or that animal.

Let me repeat that God is both Life and the Giver of Life, and that for me is something very clear and true without being unscientific. First of all, life is not reducible to non-life. Secondly, God is also the source of all existence, whether alive or not alive, and for that reason also anything that exists cannot be reduced to non-existence by us. Matter can be turned into energy and energy into matter, and there might be black holes in the universe, but what we cannot do in a laboratory is to reduce something to nothing or nothing into something, because God is also *al-Bārī*² and *al-Khāliq* and He is the Giver of Existence. Firstly God gives existence,

and secondly being Himself Life, *al-Hayy*, and the Giver of life, *al-Hayyāt*, He is the source and bestower of all life. In the same way no other power in the universe can bestow existence except the Source of existence. No other power in the universe can bestow life except the Source of life. And therefore we must reject from the Islamic point of view the accidentality of the origin of life.

There are three basic elements to consider: one, the destruction of forms in the ultimate sense; two, the reduction of causality to the horizontal plane—that is to say the denial of the Vertical Causality and therefore Divine Causality; and third, the horizontalization of the vertical chain of Being.

It is meaningless in modern science to say that forms of creatures exist in, you might say, the imaginal or subtle world, in the world above this material world and that at a particular moment in the history of the material cosmos they are crystallized—which is really what the Islamic point of view asserts—and they are crystallized in accordance to the Will of God and His knowledge and always in accordance with the conditions that God has set for a particular cosmos. That is why apple trees do not bear pears.

But that is not the same thing as evolution. In the same way when the spring rain comes, all of the seeds which are under that particular plot of land behind your house begin to come forth and give flowers. Now that is not the evolution of those seeds, except in a very different meaning of this term. It is like our evolution in the foetus in our mothers' wombs. That is, however, another meaning of evolution and not the transformation of one species into another; that is not what is happening. Rather the potentialities within the seeds in the soil are actualized. That kind of idea goes back to Augustine in the West and we have it in many Muslim thinkers. We have it in the cosmology of Ibn Sīnā and others have written about it. That is true, but that is not evolution, as understood in the Darwinian sense. In modern evolutionary theory, the vertical axis, which would explain why certain forms appear in the material world, has been horizontalized and therefore it is only through the matrix of time and matter that modern science understands the genesis of anything including living forms.

So, is there no possibility of any kind of evolutionary process which would transform one species into another?

There is the possibility of micro-evolution, but not of macro-evolution. Now micro-evolution is still within the possibilities of the archetype or form of a particular being in the philosophical sense in the same way

that you and I are human beings, and the Chinese and the Japanese are also human beings. Our eyes are one way; their eyes are another way. If we migrate to Zimbabwe, our skin grows darker; if we go to Sweden, it would grow a bit lighter. But we are all within the possibilities of the human form. That kind of micro-evolution is possible. Flies can become a bit bigger and when there is a certain kind of light, plants can do this and that, and this is mistaken by some for change of species. That is not change of species; that is “evolution” within a single species. Each species has a width, a range, a reality greater than a particular individual in that species. And so other individuals can appear in that species with other characteristics and even change according to environmental conditions, without one species becoming another.

As Muslim thinkers, you and I have to pay attention to all the critiques that have been made of evolutionary theory. And this is not only the religious or the theological. First of all it is the biological. There are many biologists, such as G. Sermonete and R. Fondi, the authors of the book *Dopo Darwin* in Italian, meaning “after Darwin”, and many others such as G. Monastra also from Italy and many in France and Germany who believe that Darwinism has prevented biology from developing and that it does not accord with biological data, that what appears in the paleontological record is a revolution that takes place, not an evolution. Even if you do not want to talk about where new living forms come from you observe that species always appear suddenly and that is why they call this thesis in French *la révolution organicieste*, the organacistic revolution, if you want to translate it into English.

There are many biological critiques made of the theory of evolution by biologists who in the Anglo-Saxon world would usually have been ostracized and marginalized. This is true of a person such as Douglas Dewey, who was a member of the Harvard faculty. As soon as he began to write about the criticism of Darwinian evolution he had to publish his book in Tennessee, rather than in Cambridge, Massachusetts. I am referring especially to *The Transformist Illusion*, his famous book, and since then, two generations have passed and little has changed as far as biology departments in this country are concerned. Many others have written on this subject since then such as Michael Behe, the author of *Darwin's Black Box* and he is having difficulties with his colleagues at Lehigh University. A purely biological criticism can be made without denying micro-evolution, without denying adaptation of species to new ecological conditions without confusing a species with variants within that species. If you and I

go to northern Canada among the Inuit either we adapt or we die, there is no doubt about that fact. It does not take great intelligence to understand that.

Secondly, there is the question of logical criticism. How could something greater come out of something lesser? This criticism is answered by modern biologists and most scientists in general by denying the greater, because it is qualitative; it is done through reductionism. By reducing the great prophets and saints as well as little mosquitoes to simply molecular structures evolutionists think that they do not have to talk about the greater coming out of the lesser. But if they think about it for a moment, how could the greatest works of literature, since we are speaking in the Western language, like Dante or Shakespeare, come out of a bowl of soup of molecules? They do not want to think about it in these terms, as though in a long stretch of time these molecules just happen to get together, and finally produce *The Divine Comedy*. But from the point of pure logic—and also taking into consideration the fact that logical formulae and logical concepts do not themselves evolve—there is a constancy in logic, both in mathematical logic and formal logic and one can make a logical criticism of the prevalent understanding of evolution based on reductionism.

Thirdly, the type of criticism that is very important is the theological, in the sense that the scientific worldview separates what it studies of the world of nature from all that is Divine and then considers this truncated reality to be the only reality. Now for the theologian or the man of religion or the philosopher of religion, there is no way that biology can destroy his view of Divine causality. There is no way that biology can disprove that there is “vertical causation”. No theologian can deny that God said, let there be light and there was light, that He created birds, the whole phyla of birds. So the theologian can always criticize and critique the biological evolutionary point of view by pointing to the reality of the Divine Cause in the created order, and the fact that creative power belongs to God alone and not to matter as the Qur’ān also makes clear.

It must be noted however that unfortunately many Western Christian theologians have already surrendered to evolutionary theory. Afraid that Christianity would be attacked by defenders of a materialistic and quantitative science, they have tried to devise all sorts of theories associated with what is called theistic evolution which, as I just said, is even worse than the purely biological theory of evolution, because that leaves the Hands of God out of His creation in a theological sense while claiming to believe in God, and if these theistic evolutionists do consider God’s role, their

views do not satisfy scientific evolutionists anyway. Muslim theologians must criticize not only biological evolution but also the Christian, and by that I mean the modernistic Christian theological understanding of biological evolution.

Fourthly, you have the question of mathematics, the mathematical critique of evolution, the critique that has already been made by a number of mathematicians including all these people who speak of intelligent design. Although they have been very much attacked by evolutionists, they have recourse to this mathematical argument: according to the mathematical theory of information, you can never get out of the box “A” more information than you put into it. That is a fundamental principle of information theory. Now a biological cell is in a sense like a little box in which information is contained. How can you then get more information out of it than you put into it? This is one of the most powerful scientific critiques of the biological theory of evolution.

But all of these arguments are going to be of no avail unless a very strong intellectual battle is carried out by those who are not afraid of not being given grants, of not getting promotions, not getting invited to conferences, and such things, because their criticisms go against what holds up the modern paradigm itself. What has to change is the modern paradigm. Once that changes, even with rigorous science, you can have a biology that is not evolutionary in the ordinary sense; a biology that accepts higher levels of being without denying the observable realities of life forms, that accepts vertical causality as well as horizontal causality, and that in fact would be much truer to the nature of things. Look how much we have to stretch the imagination to talk about the evolution of the eye, an example that has been often given. How absurd it is that gradually the molecules are rearranged in a blind being in the mud so that one moment it does not see and the next moment it sees!

We know how absurd that is, how much acceptance of absurdity evolutionary theory demands of us. The same is true of the growing of a wing to fly, and learning perfect flight, this kind of thing. We all know that but we all accept it today because anything else would have to have recourse to God, to an intelligent Creator. Rostand, the famous French biologist, once said, “I believe firmly—because I see no means of doing otherwise—that mammals come from lizards, and lizards from fish; but when I declare and I announce such a thing, I try not to avoid seeing its indigestible enormity and I prefer to leave vague the origin of these scandalous metamorphoses rather than add to their improbability that of a ludicrous interpretation”

(Le Figaro Littéraire, April, 1957, trans. by W. Stoddart in T. Burckhardt, *Mirror of the Intellect*, Cambridge, U.K. 1987, p. 36). Yes, it is amazing to accept these absurdities, these unbelievable probabilities which I have mentioned. You know, someone has said that for one living cell to come into being, the probability would be the same as a monkey jumping on a typewriter and producing all the plays of Shakespeare. A lot of examples have been given. But people continue to believe in this absurdity, because if they do not, the modern worldview will collapse.

For the modern world, evolutionism is like a “religious” principle as it was particularly for Marxism. Marxism is based completely on what its followers call the scientific basis of historical evolution. Dialectical materialism was deeply influenced by Darwinism. Now Marxism is gone as a dogmatic theory and there are only a few Marxists around. The rest have become feminists, greens and so forth, but nevertheless, the philosophy it espoused is still to a large extent around, although it is no longer a major ideology claiming world domination.

As for the so-called liberal West, which was against Marxism, its whole worldview began with the idea of progress. The industrial growth—that at the same time produced the devastation of the natural world which we are now facing—is based on this now unbelievable idea of indefinite economic progress and the general progress of Western civilization. No serious thinker believes in progress anymore; only politicians do when they try to get votes, and claim that everything has to be progressing and expanding, getting bigger and bigger quantitatively through what is called development, meanwhile destroying the natural environment in the United States, Canada, and elsewhere. Modern societies are conditioned to continue on this path, making ever bigger cars, using ever greater energy and natural resources, and so forth. This idea is very deeply ingrained in the minds of ordinary modern people; it is usually done through education which is bound to the theory of evolution.

We are taught at school that there is the evolution of animal forms leading to human beings who themselves evolve through progress. Even today in most museums in the West, native people are displayed along with animals. I mean, if you go to the Museum of Natural History in New York, you see the mammoth and similar creatures and then native Americans. And then you have the advanced human beings whose works are demonstrated in the Metropolitan Museum across the park. I am sure that in Canada it is the same way. This all goes back to a kind of anthropology that then posits this naturalistic origin for the human being and

then considers the white man who represents advancement and progress of humanity. One does not talk about this too much now as it was done in the nineteenth and early twentieth centuries when it was widely held in the West where Western man was seen as the crown of this evolutionary development. According to this view Western civilization developed and evolved into a more admirable and advanced state than other civilizations, so that a Frenchman thought that he was more evolved than even a Bulgarian, since he was a western European, though they were both white and both Christian, not to speak of Asians or Africans. This widely held view propped up by the idea of evolution combined with progress is not by any means dead, as we observe in the persistence of racism in the West, and is not going to go away by just criticizing it intellectually. We have to understand its real nature and then criticize it intellectually as well as morally, for wherever this idea has gone it has destroyed the existing traditional structures of thought.

Look at India and what has happened there. We are very fortunate in the Islamic world as far as this question is concerned in that we do not as yet have a Hindu type of divinization of matter based on the theory of evolution and turned into a religious idea as we find in such a person as a Sri Aurobindo, or a Teilhard Chardin in Catholicism. People in the Islamic world who are evolutionists are not important and influential religious thinkers. I do not mean they do not have any impact or influence, but their influence is limited, confined especially to the Indo-Pakistani subcontinent where the British taught evolution in all the schools. Four fifths of Muslim evolutionists come from India and Pakistan. The Arabs and the Persians were protected to a large extent from this prevalent error by the language barrier, but of course there are also Arabs and Persians who believe in evolutionary theory, and also Turks.

Unfortunately, very few Muslims have written on the subject of evolution from a scientific perspective. There are very few works that one can find which present truly Islamic perspectives on modern biology as such. What is the reason in your opinion? Then we have Muslim biologists who have studied in the West, who can come up with explanation of data from Islamic perspectives, but they do not write on the subject. What are the reasons in your opinion?

Before answering you let me say a few words about the paleontological evidence that is usually marshalled to prove evolution. This record does not prove evolution at all. All of the skull shapes whose pictures are usu-

ally shown in the books of biology taught in schools to demonstrate the truth of evolutionary theory, from monkeys to intermediate states, to man and so on, nearly all of these skull sizes can be found among human beings in any large city, all of whom have two legs, and if they kill somebody they go to prison and are responsible before the law. They are variants of a single species. Somebody once said that in a big city like New York one can find all of those different size skulls seen in high school books of biology to demonstrate human evolution. A lot of the pictures and paintings used to demonstrate evolution are a hoax. Yes, 95% of our neurocells are similar to those of monkeys, but this does not prove anything. Arabs and Jews in Palestine and Israel have almost identical DNA, but they are two very different people and they are unfortunately fighting each other. Factors other than the DNA must be playing a role.

To reduce the human being to molecular structures, that itself is a great sin from the Islamic point of view. Not only for the human being, but also the falcon, the wolf, whatever it is, this reduction implies the destruction of the “form” (in the Aristotelian sense of *morphos*) of that creature, the “form” which at once defines that creature and reveals its essence. That is reductionism. The result of the differences in animal and plant forms now explained on the basis of cell structures could be also explained through the natural philosophy of Ibn Sīnā in a logical manner without recourse to cell structure and without denying what we learn from studying cell structures.

What the traditional Islamic thinkers said is that you have levels of existence of life forms starting with plant life, which is superceded by animal life through the creative power of God, while this animal life also includes plant life within itself. Moreover, plant life itself has many levels not caused by temporal evolution but by the descent of archetypes into the temporal order as is also true of animals. We know, for example, that we have vegetal nerves about which Ibn Sīnā speaks. In the animal realm we also have a hierarchy; many Muslim thinkers such as al-Bīrūnī and Ibn Sīnā have written about this matter and have asserted that there are simple life forms and then ever more complicated life forms and that the complicated life forms contain within themselves the simpler life forms.

Obviously human beings have a more complicated life form than the monkey, but possess also some of those characteristics we see in the monkey, but this does not mean that we have evolved from the monkey. That is the whole problem. If you function in a universe of discourse where there is nothing but the material world as claimed by modern science, then

there is no choice but to explain higher life forms as the evolution of lower forms and reducible ultimately to material aggregates. But if you live in a universe in which you accept the unique creative power of God, with which I began my discussion with you, then it is easy to accept that Divine creative power can create something including living forms, can bestow life, and can also endow human beings with the spirit.

In that universe this horizontal relationship between various creatures, from the inanimate to the plant to the animal and from the animal to man does not at all negate the archetypal reality of each of these beings in the higher world, and finally in the Knowledge of God. How can a Muslim deny the verse of the Qur'ān which says that the entire cosmos is in the Hands of God? And if God does not know the ant in the metaphysical sense, because the ant has not essence to be known in a permanent manner but is simply part of the temporal flow and not the result of His creative act, how can He be God from an Islamic perspective? The Qur'ān says so specifically, that God is the creator of all things and that the essence or spiritual reality (*malakūt*) of everything is in God's Hand, and if you cannot accept the Qur'ān, you cannot speak as a Muslim thinker. If God has knowledge of the ant, the ant must have a kind of archetypal reality in the "mind" of God, in the Divine Intellect. To say that there is no such creature whose essence is the reality of the ant, that the ant is simply a stage in evolutionary transformation, is to take a certain part of temporal sequence and call it an ant; before that it was something else and it will evolve into something else. The whole statement of God knowing His creation and having the spiritual reality of all things in His Hand becomes absurd. This is itself a very strong argument against evolutionism from the Islamic point of view.

There is another important matter which would require a separate essay to expound fully but which must nevertheless be mentioned here in passing. According to Islamic metaphysics, God is not only the Creator of the world but also its Sustainer and Nourisher. He has not only existentially created the world, but also re-creates the world and all the forms in it including living beings at every instant. If this ever renewed creative act, which is also the existentiating act, were to cease, the cosmos and everything in it would become nothing. What appears to us as objects existing in time is in reality the repetition of the Divine *Kun* at every instant. Therefore, relying solely on horizontal and temporal causes and neglecting the existentiating Vertical Cause, which is beyond time, is to misunderstand the real nature of created beings and God's relation to His creation. Once one under-

stands this basic truth, the whole question of evolution versus creationism as irreducible alternatives disappears.

Now to turn to your question as to why we have so few Muslims writing about these matters, this is a tragic consequence of our educational system. We train a lot of Muslims to become scientists and many become very good Western scientists, some being among top scientists, but they are not Islamic thinkers. They have had no education in Islamic thought. So they usually combine two things together: religious practice and piety, which their parents have taught them, and also because of their own good nature and faith which God has bestowed upon them, so that they pray and fast and so forth; and Western science that they have mastered through their education in Western or Western-styled schools. In the middle of that, what is missing, is traditional Islamic learning. For example, if you really master the doctrine of substantial motion (*al-ḥarakāt al-jawhariyyah*) of Mullā Ṣadrā, the great sixteenth century Persian Islamic philosopher, you can explain the theory of evolution without being a Darwinian evolutionist. You can believe in both the archetypal realities in God's Knowledge that are reflected in temporal flow and the constant flow and motion of the substance of the material world which bear the imprints of those archetypes. When I was studying Islamic philosophy in Persia, I studied just this one idea of Mullā Ṣadrā for a whole year: the trans-substantial movement in the cosmos. How can God know this flow? Will this not introduce change in God's Knowledge? We studied just that one idea for months after months. This is, needless to say, a complicated issue; it is not for children. We have few people in the Islamic world who can understand such deep theological and philosophical ideas and are, at the same time, good biologists or physicists, and that is a tragedy.

In any case, what we have to resist is this idea of following in the footsteps of Christian theology, which has surrendered itself more and more to evolutionary theories, which change every fifty years anyway. These days we have the theory of S. Jay Gould, of volcanic eruptions of species, and now some theologians are scrambling to bring out a Christian version of that idea. We should not follow that path. There *are* some Christian theologians who have not followed that path, traditional Orthodox and Catholic theologians especially as well as some Protestant theologians. We should remain faithful to authentic Islamic thought and provide an alternative worldview which remains honest and logical, which remains true to any finding of the microscope or of biology, but which does not surrender to the prevalent materialistic and reductionist worldview that is

a truncated worldview, within which there is only one way to explain the diversity of life forms. If suddenly a fish grows wings and starts flying and a blind fish opens up its eyes and sees, and all kinds of things like that, we should not follow the path of providing logically absurd answers which also keep the Hand of God out of His creation. We should remember biological evolution is more miraculous than any miracle that is claimed by any religion for its founder or even for God. If you really think about it, and if you do not become in a sense metamorphosed, mesmerized, or paralyzed by the outward power of current scientific claims, if you really think clearly, you will reach that conclusion.

I was once attending a graduate class at Harvard in paleontology taught by one of the world's great experts on paleontology, and he kept presenting to us the paleontological evidence for evolution: the Cambrian, the Ordovician, and so on, but in each of these periods one saw the sudden appearance of all of these trilobites, other fossils, and in every case there was no continuity of stages of evolution of one form into another. So I asked him, "How is it, that in the Pre-Cambrian, you have practically no fossils in the world, and suddenly you have this explosion of fossils? These forms seem to appear suddenly as they do in other geological periods. He looked at me and said, "Hossein, we do not ask these questions anymore," which meant shut up, and then I said to myself, "Look, this is not for me. I do not care what the consequences will be for my academic success; my mind is made up to try to seek the causes of things!" This then is the evidence, the so-called paleontological evidence for evolution as claimed by classical Darwinism.

Paleontology does not support the theory of evolution as usually taught, and that is why some famous biologists such as R. Sheldrake and S. Jay Gould have proposed other ways for explaining the phenomena of the multiplicity of life forms on earth, departing from classical Darwinism but still calling it evolution although what they propose is based on a different understanding of this term. Their explanations and those of many other biologists are not evolution as it was so strongly defended by its proponents until yesterday. Sheldrake speaks of fields of resonance in relation to the appearance of species. Such a view in a sense is a return to what we believed traditionally, that is, that the forms of all things have a higher state of being and they become crystallized in this world at a particular moment. Moreover, for religious people this occurs according to what God has destined for a particular world, including ours and this does not contradict what is observed scientifically.

What could be the solution—we have talked about this before in a different context, in the context of technologies—but here I would like to focus on the biological origins, what could be done to clear things at least for Muslims? First, how can we have a critique of modern science in general, but specifically modern biology since we are talking about biology, and secondly, how can we make an effort that would bring together scientists and religious thinkers and produce a generation of Muslim thinkers who understand science and Islam in the sense in which you are talking about?

That will not happen unless what is called science today is, first of all, mastered and then integrated into the Islamic worldview. Western science carries with it philosophical and ideological baggage of which most scientists are not aware, especially Muslim scientists, and that is the great problem. Science becomes scientism, as has happened not only in the West but also in so much of the Islamic world—and we have discussed this issue together. I think that scientism is one of the great illnesses of the Islamic world today.

Coming to the human state, let me start with this famous story: Once a person went to ‘Alī, may Allah be pleased with him, and said, “Yā ‘Alī, who was there before Adam?” And he said, “Adam”. “But who was there before that Adam?” And he said, “Adam. And if you continue to ask me this question to the Day of Judgment, I shall continue to say Adam.” This is a very profound saying. Now, the human being has been a human being since the first arrival of human beings in the world. They have not evolved from other beings whose bones bear similarities to theirs. You could go take the bones of a chimpanzee and put his bones next to my bones after I die and there will be similarities, obviously, but that does not mean that the human body has evolved on the basis of purely material factors from the chimp. There is obviously a discontinuity that reveals the manifestation of a higher level of being.

The human being, for example, has always done something special with its dead, as far back as we can go. The famous French anthropologist, J. Servier, an exceptional anthropologist, once wrote a book, *L’Homme et l’invisible* (meaning man and the invisible) wherein he showed, on purely anthropological and paleontological evidence, that the earliest human beings buried their dead or had some other ritual for the dead, which shows that they believed in immortality; they believed in another world and that means that in fact we have not evolved at all in a basic way. There is nothing unscientific about this, nothing that anyone can disprove. Yes,

for example, we make better tools than some people on some island, from Sumatra or Borneo let us say, but so what? If you bring a son of that person to our school, he could make a computer, as we see just before us. It is not that they are different in nature from us; I think that the modern world has amply shown this truth. Differences involve the question of nurture, environment, culture and so forth. We are all human beings. Some are more intelligent, some less so. Different races have different characteristics. I am not a person to deny the reality of races. God has made us like that. Certain races have special gifts in different arts, like the Chinese in painting, like the Africans in dancing or like the Whites in poetry. There is no doubt that there are different races and within each race there is a gamut of degrees of goodness and intelligence (even though goodness is not a scientific category but intelligence is) and different conditions under which these different abilities have been nurtured and used. Some cultures created an advanced architecture and others did not. The ancient Egyptians produced remarkable architecture, but in Sudan, which is a neighbor, there are no pyramids.

Now all of this can be shown scientifically without denying that God created us and having to insist that man has evolved in any basic way. And it is with the creative acts of God that we Muslims must begin. 'Created' means that He created a body into which He breathed His Spirit, which means He bestowed upon us pure intelligence and consciousness among other things. The fact that we can think independent of material things is itself sufficient proof of our immortality no matter what behaviorism says. The fact that our consciousness can reflect upon itself, that we are conscious of being conscious is a characteristic given to us by God. We are conscious before we leave this world and shall be conscious after we leave this world. The human being has a type of consciousness which the animals do not have. We are conscious of our death as well as being born and the question of where we were before birth and where we will be after death. All of these things have to do with the particularity of the human state and although we have continuity with the rest of creation, we also have a discontinuity. The great paradox of the modern world is that modern Western science emphasized the continuity while modern Western culture has emphasized discontinuity, so much as to enable modern man to destroy much of the rest of creation in the name of human welfare. What a paradox!

This is the situation in which we live and I think Muslims—as I have always said in other contexts—have a tremendous responsibility, because

we are one of the very few civilizations left in the world which are not Western, which have also had a vast scientific and intellectual tradition, and who can provide alternatives. Otherwise, where shall we be going? We are going to evolve ourselves into non-existence. Muslim thinkers must cling to the verities of the Qurʾān and the Islamic intellectual tradition, master the modern sciences including biology as well as the Western criticisms of these sciences, and then provide an authentic Islamic interpretation of the data of these sciences without accepting the ideological basis of the interpretation of these data, this ideology being itself founded upon a specific philosophy that is not acceptable to genuine Islamic thought.

One more question. This question of creation and Adam and his children. One comes across Muslim thinkers who say that Adam evolved. With reference to the story in the Qurʾān of Adam being in Jannah, they say Jannah was on this earth, and then they destroy the entire notion of hubūt, and in terms of specific forms of human beings, the traditional understanding of Adam, all of this. What can you say to these modern interpretations within the Islamic world?

This is sheer blasphemy, one of the worst kinds of blasphemy, because it deprives Muslims of their eschatological hope. The *jannah* described by God in the Qurʾān does not look like the earth as we know it even if originally the earth was a paradise (that is something else) and even if, when God first created the earth, it was called the terrestrial paradise in Christian theology. Islam also sees creation in its virgin state as a *reflection* of *Firdaws* or the Garden which is also *jannah* but it was not the *jannah* itself to which the soul of those imbued with goodness will go in the afterlife. Furthermore, God first put man in *jannah* but He also gave him free will. That is why he ate of the forbidden tree and fell down (*hubūt*), here on earth.

So our position here on earth is always going to be a state of fall from perfection. And other religions share this idea like us and assert that we have descended, not ascended. That is the foundation of all ethics. Without our idea of descending from a perfection, there is no foundation for ethics, philosophically speaking. Why should we then be ethical if there is no higher norm?

And so this is a crucial matter and the Qurʾānic verses are extremely clear on this question. Anyone who identifies paradise with some place in Africa where Adam gradually evolved is guilty of the worst kind of heresy theologically speaking. Such people are not serious Muslims anymore. It is so explicit in the Qurʾān that in speaking of the Garden where Adam was

first placed it is describing a state of being which possesses a perfection that the fallen Adam no longer possessed. The word *hubūṭ* is a Qur'ānic term and one cannot change it to anything else. If one does that, there is nothing left of one's relationship with the Islamic tradition.

Hubūṭ, they say, simply means to go from one place to another, without necessarily having any connotation of coming down, that is the Fall. They explain it etymologically and claim that the word itself does not contain the idea of the Fall, as the Qur'ānic verse, "ihbiṭu miṣran..." (2:61).

That is not correct and we cannot accept that for fourteen hundred years Muslims were wrong! And now, someone in the streets of Cairo, who has become totally Westernized, says that *hubūṭ* does not mean fall! This is a form of scientism that has polluted our intellectual atmosphere wherein one can no longer breathe the air safely. Such people have contributed to a mental and intellectual pollution that prevents many people from being able to think clearly anymore in the same way that we cannot breathe easily in our big cities because of physical pollution. I think it is our duty, those who can, to state categorically what the traditional positions are. And that has been my vocation in life. I am not afraid of anybody, not afraid of demotion, or anything like that when I speak of matters that are against the fashions of the day. We have to state clearly what our position is. There is a great intellectual struggle that is going on within the Islamic world especially in the relation between religion and science and we have to do what we can to steer it in the right direction; and that is not a small matter. May God help us in this momentous task.

Jazāka'LLāhu khayran.