
MAN EVOLUTION

AN ISLAMIC POINT OF VIEW

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Abstract

The evolutionary theory proposed by Charles Darwin describes the universal common descent for organisms. Evolution of man from lesser beings has been a subject of debate among scholars for a long time and has been thought by many scientists to challenge several religious beliefs. There are four different opinions among Muslim scholars regarding this theory. The first believes that although this theory is just based on some hypotheses, the assumption of instant creation of the man is inferred from the appearance of the Quranic verses and not the explicit texts of verses; and these verses can be interpreted in other ways. The second believes that according to appearance and explicit texts of the Quranic verses, man has been created in a sudden way and it is not possible to interpret these verses differently; so even if the validity of this theory becomes evident, the creation of man will be an exception to it. The third one argues that the ultimate goals in science and religion are different, so is the language of each. As the Quran has been revealed for the guidance of human beings, other deductions from this book may lead to imposition of one's idea to the Quran, and this is not acceptable. Finally, the fourth one discusses that evolutionary theory can be inferred from the Quranic verses. Hence, by discussing different verses of the Quran and scholars' views in this regard we conclude that the Quran is not faced by any challenge from the man evolutionary theory at all.

Keywords: Quran, theory of man evolution, human creation, Islam

1. Introduction

The relationship between science and religion has been one of conflicts and subjects of discourse for a long time. It seems that nowhere in Science is the overlap between scientific ideas and social ideas more clear than with the evolutionary theory [1]. According to some scholars, Biology has especially challenged religious ideas. The evolutionary theory is considered as the most important factor that has caused modern man to turn away from God [2]. This

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theory is regarded as a sensitive issue because of its influence on Anthropology. The assumption of human evolution from subhuman means for many people that man is one object among other objects whose thoughts, actions, beliefs and emotions are the effect of forces outside him; forces whose influence can be determined and even controlled with scientific laws. According to some naturalists, there is no such thing as soul or spirit and no opening to transcendence or Infinite [2]. In addition, the concept of man evolution from lesser creatures, in contrast to the belief in spiritual and divine origin may make the man prone to unethical behaviour. According to these reasons, man evolutionary theory is considered as an important issue in faith communities. Here, we emphasize to clarify a distinction between physical body of man which may be the subject of changes (according to supporters of evolutionary theory) and his spirits.

Today, there are a lot of misconceptions about biological evolution and people of faith, including Muslims, have various opinions and interpretations about the evolutionary theory. Some regard evolutionary theory as a threat to their faith and decline it, while others want to infer evolutionary theory from the Quranic verses. Those trying to refute man biological evolution, regard this theory as an insult to human dignity. But the fact is that, the Islamic concept of human dignity is based on the presence of a non-physical spirit in man and has not dependent on his physical body [3]. Few researches have been done about the conception of Muslim scholars, scientists and ordinary people about man evolution. In a survey of Lebanese college students, both Muslims and Christians, regarding their opinion about evolutionary theory, 35% of Muslims' were for evolution; while 47% were against it. On other hand, 82% of Christian students were for evolution and none was against it. The data showed a strong relationship between students' opinion about this theory and their religion. One possible justification for this distinction was proposed by authors to be the fact that Lebanese Christian students were more liable to consider a non literal interpretation of the Bible, which allows them to adopt more reconciliatory views than Muslim for whom the Quran is the ultimate jurisdiction [4]. In a more recent survey of 3,800 high school students in Indonesia and Pakistan aimed to find their acceptance of evolutionary theory, the majority of students thought evolution was based on reliable evidence and it was well accepted scientifically; but 80% of Pakistani students and 49% of Indonesian students surveyed thought that the first humans on planet Earth were created by God in the present form instantly and not gradually. In addition, the majority of Pakistani students and about one-third of Indonesian students believed that a conflict is seen with the Quran and Science regarding human origins. However, most high school teachers had an unclear understanding of evolution, did not believe in it and had a tendency to include religious explanations in their teaching. On the other hand, Muslim scientists surveyed did not see any disagreement between Islam and evolution [5].

Before the discussion about evolutionary theory, it should be mentioned that there are two distinct ideologies regarding the creation of Universe: theism vs. naturalism. In a specific sense, theism by definition refers to an ideology concerning the nature of a monotheistic God and God's relationship to the Universe; and in this specific sense, God is present and active in the management and organization of the world and the Universe. On the other hand, Naturalism is the belief that only natural laws and forces (as opposed to supernatural ones) handle the world and that nothing exists beyond the natural world [6]. As it is obvious, these two doctrines have different approaches toward evolutionary theory. But even theists themselves have divergent ideas regarding this theory. Theistic evolution or evolutionary creation is a doctrine that considers religious teachings about God compatible with the biological evolution. They believe that God is the creator of the material universe and that biological evolution is simply a natural process within that creation [7]. On the other hand, Van Till's states that the Universe exists now only because its Creator has given it being and sustains it in being continuously. Each of its resources, potentialities, and capabilities are considered as a gift of being that is indicative of the character and intentions of the Creator, the Creator's creativity and the Creator's generosity [8]. However, evolutionary creationists reject the idea that God performed special creative acts in time and they believe in a creation gifted with complete functional and developmental economies from the very beginning [8].

The main goal of this article is to present the Quranic viewpoints about the theory of man evolution and to discuss about the possible contradiction between evolutionary theory and the Quranic verses. Discussing this issue in Islamic discourses is the only way to understand Islamic viewpoint about evolutionary theory rather than imposing personal ideas to the Quran. While rejecting science is not recommended in Islam, accepting any unproven data and attributing it to the religion is not acceptable either.

2. Evolutionary theory

The conception that species have gradually changed during a long time, has seen in ancient Greek writings, where philosophers thought that all living creatures are descendants by true generation of pre-existing forms [9]. However, until the 18th century, most biologists believed in essentialism, which means that every species has essential unalterable characteristics. The modern theory of evolution was first developed by Charles Darwin, in the 19th century. His theory was based on the concept of natural selection and he proposed common descent and a branching tree of life. He called evolution 'descent with modification'. The mechanism of evolution was explained in Darwin's major works 'On the Origin of Species by Means of Natural Selection' (1859) and 'The Descent of Man and Selection in Relation to Sex' (1871) as follows: animal species tend to increase in geometric ratio ; so, there is not sufficient room and food for them. It results in the struggle for existence in which individuals with the best

adaptation to the environment will survive. Structural and functional variations between different individuals of the same species exist; and those with favourable variations will be selected to survive and transmit their favourable variations to their offspring. Those with less favourable variations would be incapable to reproduce themselves and would disappear [9, p. 50]. He proposed a common ancestor for all millions of species of organisms present today, including humans. According to him, each species has become distinct because of increasingly tiny changes to traits that accumulate in descendants by natural selection; and over time, accumulation of these advantageous qualities would transform the individual into a different species. In this process new species emerge. Discovery of inheritance laws by Gregor Mendel (1865), mutation phenomenon by Hugo de Vries (1890), and later, the DNA structure by Francis Crick and James Watson (1953) had great effects on evolutionary theory. Consequently, the 'modern synthesis' of Darwinian evolution through natural selection with Mendelian genetics, led to Neo-Darwinism. According to Neo-Darwinians, there are three requirements before natural selection can take place. These are: existence of reproduction, variations in offspring and parents due to mutation, even if very small ones, and finally, differences in the ability of offspring to survive and to reproduce as a result of mutation [10]. Later, molecular evolution emerged, based on protein sequences, immunological tests and RNA and DNA sequences. The gene-centred view of evolution became prominent in the 1960s, followed by the neutral theory of molecular evolution [11], in which the relative importance of genetic drift versus natural selection was discussed. Briefly, today evolutionary theory is based on mutation, natural selection, sexual selection and genetic drift [12, 13]. Genetic drift is defined as the change of gene variant frequency in a population as a result of random sampling. According to supporters of genetic drift, survival and reproduction capacity of an individual is influenced by chance. Genetic drift may cause gene variants to disappear completely, consequently reducing genetic variation. Scientists have been always discussing the relative importance of natural selection versus neutral processes, including genetic drift. Some scientists as Ronald Fisher believed that the role of genetic drift in evolution is minor [14]. But in 1968, Motoo Kimura proposed his neutral theory of molecular evolution, which claims that most genetic changes spread across a population (although not necessarily changes in phenotypes) are caused by genetic drift [15].

Today, there are many questions about evolution which are the subject of discussion among scientists. Indeed, this theory has shortcomings in the explanation of some biological events. One of its serious problems is the lack of fossil record for many transitional forms between known species of animals. However, the premise of man evolution from a lesser being is what raises conflicts for religious believers. According to what was mentioned in the book 'The Descent of Man, and Selection in Relation to Sex', Darwin believed that the differences between the human mind and the minds of the higher animals is something related to 'degree rather than of kind'. He also considered morality as a result of the natural instinct development, which was beneficial to group

living animals. According to Afzal, this theory is deficient in explaining human characteristics such as self-consciousness, reflective thinking, abstract thought, ethical discrimination, the ability to prevail over simple instinct, aesthetic appreciation, faith in a Higher Power, and so on. From a biological point of view, none of these seem to have any direct survival value for a species [3]. However, recently it has been suggested that neuroscience can elucidate the nature of mystical experiences, their importance in man evolution. Even some scientists believe in a direct biological benefit of complex ideological superstructure of culture mostly in a form of religion in which logic is mixed with emotions based on images of spiritual beings. Spirituality is thought to be a part of culture which is an adaptive mechanism of human groups to support survival and reproduction. In this regard God is considered as a consequence of natural evolution [16]. In fact, some psychologists believe that by understanding the functioning of the creative brain, it is possible to understand the most profound types of aesthetic and religious experiences [17]. Although quite controversial, some evolutionary scientists have suggested that belief in God, which is a common trait in human societies around the world and throughout history, may be built into the brain's complex electrical circuitry as a Darwinian adaptation to encourage co-operation between individuals. In this regard, religious impulses are considered as genetically coded traits that helped the development of human community [18]. However there is little evidence supporting this idea.

Briefly, even well-documented theories may be challenged by observations that are not easily explained by the theory or not compatible with it. These observations may stimulate the new hypotheses and new tests, which may even result in abandoning the previous theory. Besides, any theory may have some insufficiencies in explanation of some aspects of an object.

3. Creation of human according to the Quran

The subject of humans' creation has been mentioned in different Quranic verses in different ways. These verses can be classified in three categories:

1. Verses affirming the creation of human from clay or Earth (Quran, English translation by Abdullah Yusuf Ali, 1934, 30:20, 20:5, 53:59 and 23:12).
2. Verses affirming the creation of human from water or sperm-drop or congealed blood. In this group of verses, it has been mentioned that human has been created from water in general, or special forms of it as sperm drop or blood (Quran 76:2, 16:4, 96:2, and 25:54).
3. Verses affirming the creation of human from a single soul (Quran 7:189 and 6:98). In a verse, it has been mentioned that God has created man from a single person. He also created, of the same nature, the man's mate (the woman), and from them scattered (like seeds) countless men and women (Quran 4:1) [19].

In order to understand these Quranic verses, it is necessary to consider them as a whole. It seems that the second category of verses tend to mention creation of human beings in the process of reproduction; so they just describe humans creation, development and birth from their parents in process of conception. Therefore, there is no ambiguity in these verses and this concept is completely tangible. But the creation of human beings from Earth or clay should be compatible with this category of verses in a way that no contradiction arises between them. The best way to interpret the first group of verses is to consider them as describing the creation of the first human being (i.e. Adam) as mentioned in the Quran when it compares the creation of Jesus with that of Adam (Quran 3:59) [19, p. 50].

There are some verses in the Quran in which creation of man from both clay and water are mentioned. He Who has made everything which He has created most well: He began the creation of man with (nothing more than) clay, and then He made his offspring from worthless water (Quran 32:7 and 32:8).

Briefly, the verses from the first category describe creation of Adam, while the second and the third category notify the creation of other humans and the creation of human progeny from the first human respectively.

Verses describing the origin and emergence of man in Quran are mostly compatible with the assumption of sudden and instant creation of man rather than gradual one, especially when the Quran compares the creation of Jesus with that of Adam, in the way that both have been created from 'clay' [21]. Muslims believe that God is continuously and intimately engaged in an ongoing creation of the Universe rather than creating the world and enabling it to create itself (Quran, 55:29).

4. Discussion

In the search for truth, religion and Science are close allies and not adversaries or antagonists. But their tools for this search are different. By its nature, Science uses known facts to produce general principles and can arrive only at partial truths regarding the observable Universe . Religion uses an intuitive and direct approach to knowledge and arrives at the whole truth, which includes the invisible and transcendent realities [3]. It is of great importance to define the ideal relationship between Science and religion in such a way as to maximize the benefit of each toward society.

Gould believes that the fullest expression of humanity can only be achieved when both Science and religion are allowed to contribute in those domains for which that particular mode of thinking is most appropriate, and restricted from interfering in domains for which it is not [20]. According to Gould, the non-overlapping magisteria (NOMA) principle divides the magisterium of Science to cover "the empirical realm: what the Universe is made of (fact) and why does it work in this way (theory). The magisterium of religion extends over questions of ultimate meaning and moral value. These two magisteria do not overlap, nor do they encompass all inquiry." [20] This view

has its critics. For example, Dawkins argues that it is not so simple to divide these two territories, because few religions exist without miracles relating to the scientific magisterium [21]. Furthermore, since the material and the spiritual, or the physical and the metaphysical aspects, are two sides of one phenomenon, at least to some extent, scientific and religious episteme overlap [3].

Paton, in his book *Modern Predicament*, has told that the scientific viewpoint about human life is partial and limited. Science just discusses the relationship of parts to parts and not the reality as a whole, so explicit assumptions about reality are metaphysical not scientific [22].

Although the main source of Islamic faith is the Quran, Muslim responses to Darwinism and Neo-Darwinism are in a broad acceptance-rejection continuum. This is mostly because of various interpretations of the Quranic verses.

The Quran describes how Allah created Adam: “We created man from sounding clay, from mud molded into shape...” (Quran 15:26) And, “He began the creation of man from clay, and made his progeny from a quintessence of fluid” (Quran 32:7-8). While the creation of Eve is not described in detail, the Quran does make it clear that a ‘mate’ was created with Adam, from the same nature and soul. “It is He Who created you from a single person, and made his mate of like nature, in order that he might dwell with her in love.” (Quran 7:189) She is not mentioned by name in the Quran, but in Islamic tradition she is known as ‘*Hawwa*’ (Eve). It has been mentioned in the Quran that generations of human beings have inhabited the Earth from Adam and Eve. “Oh mankind! We created you from a single pair of a male and a female, and made you into nations and tribes, so that you may know each other (not that you may despise each other). Verily the most honoured among you in the sight of Allah is one who is the most righteous of you. And Allah has full knowledge and is well acquainted (with all things).” (Quran 49:13)

Man evolutionary theory is much more than a theory about the origin of life. It has significant implications for ethics, Sociology, Law, and politics. Considering man simply as a part of nature who has emerged as the result of a continuous process was traditionally believed to contradict with God’s role in creation and human dignity. However, according to many scientists none of these issues are challenged with this theory. For instance, Francis Collins, the Director of National Human Genome Research Institute, believes that “If God, who is all powerful and who is not limited by space and time, chose to use the mechanism of evolution to create you and me, who are we to say that wasn’t an absolutely elegant plan ?” [23]. In fact, he advocates ‘theistic evolution’ and in his book, he proposes the name ‘BioLogos’ as a new term for theistic evolution [24]. He believes that, although the exact mechanism of the origin of life on Earth is not known, the development of living organisms can be part of God’s original creation plan.

Before discussing Muslim viewpoints regarding this theory, it is necessary to describe two terms: the Quranic verses are categorized to explicit and implicit verses. Explicit verses are clear and unambiguous, and not liable to

misinterpretation. On the other hand, implicit verses are considered allegorical. The implicit verses outwardly seem to express a meaning, but which contain a further truer meaning whose interpretation is not known easy. It is also worth mentioning that although macroevolution is the matter of dispute among critics, microevolution of the sort easily observable in nature and is not denied even by hard critics of evolution

There are four different Quran-based opinions among Muslim scholars regarding man evolutionary theory. Each of them has their own supports from the Quranic verses. It is worthy to mention that some other Muslim scholars have different opinions regarding this theory, but from philosophical point of view and not based on Quranic verses, being therefore beyond the scopes of this article. For instance, Nasr considers evolutionary theory as a philosophy rather than science but presented as science; and he believes that it is the most opposed thing to the spiritual understanding of the origin of man [25]. According to him, the evolutionary view of man as an animal is not sufficient in telling the real nature of man; besides it cannot realize the complete states of universal existence which man carries with him [26].

A group of Islamic scholars such as Allameh Tabatabaee, one of the most prominent thinkers of contemporary Shia Islam, believe that the man evolutionary theory lacks enough authenticity; and even if it gains enough validity, it can just describe minor modifications and changes in creatures but not the vast changes leading to emergence of new species. In addition, literal meaning of the Quranic verses is compatible with instant creation of Adam when resembling the creation of Jesus to that of Adam. (The similitude of Jesus in front Allah is as that of Adam; He created him from dust, then said to him: "Be". And he was. (Quran 3:59)) According to some scholars, this similitude is in the way that both of them have been created without any human father [19, p. 66].

However, this assumption is inferred just from the appearance of the Quranic verses and not the explicit texts; so these verses can be interpreted according to other viewpoints as well; and if validity of this theory becomes evident by definite scientific documents, these verses can be interpreted in other way [27, 28]. In Christianity, some thinkers believe that literal interpretation of theological statements is impossible in the face of scientific incompatibility. For instance, one of extremists in this field is Paul Tillich, who declares that "It is almost a truism to assert that religious language is symbolic" [29]. It is worth mentioning that Muslim scholars attributed to this group do not have such an idea that 'all' verses are symbolic, but they believe that the exact meaning of some verses may be primarily unclear.

The second group of scholars including Allameh Jafari, an Iranian scholar, thinker, and theologian, believe that according to both appearance and explicit texts of the Quranic verses and also Torah, man has been created in a sudden and instant way and without any preexisting background, and the creation of human beings is independent of any other creature. So it is not possible to interpret these verses differently; and even if the validity of

evolutionary theory is proved, the creation of human will be an exception to it. It means that according to these clerics, evolutionary theory cannot be applied to humans [30]. The main source of their idea is the Quranic verse 3:59 mentioned before. The difference between the first and the second group is to infer creation of Adam from appearance and explicit text respectively.

The third one argues that the ultimate goals in Science and religion are different, so is the language of each. Indeed, there is no doubt that the Quran is not the book of scientific, geographic or biological theories; it is essentially the book of guidance [31]. Religion tends to answer to important questions about life's purpose, ways to conduct oneself, personal status after death, and the nature of the divine. Through religion, humans will understand the depths of reality beyond scientific exploration. The absolute difference in aims and languages of these two fields is a reason that they are not considered as competitors. The Quran has been revealed for guidance of humans and it should be used just in this way; and other deductions from this book may lead to imposition of one's idea to the Quran, and this is not acceptable. Whenever a scientific issue is mentioned in the Quran, it immediately points to a consequence of it as a tool for guidance and not just to point out a scientific notion [32]. This standpoint is in concordance with the aforementioned non-overlapping magisteria (NOMA) principle of Gould [20].

Finally, a group of Islamic scholars, although in minority, believe that man evolution can be inferred from some Quranic verses. This group includes Ayatollah Meshkini, an Iranian Shia scholar [33] and Hossein al-Jisr [30], a Lebanese scholar. According to them, the Quranic verses affirming creation of all creatures from water are compatible with evolutionary theory: "And God has created every animal from water: of them there are some that creep on their bellies; some that walk on two legs; and some that walk on four. God creates what He wills for verily God has power over all things" (Quran 24:45). Besides, they infer man evolution from this verse because of the fact that creatures walking on two legs are not separated from each other in it. They also believe that according to the Quranic verse 7:11; God has created man in three steps: firstly, physical creation, then giving shape and finally selection of Adam and commanding angels to bow down to Adam. They infer man evolution from these three processes [33]. Hossein al-Jisr wrote in his book that "there is no evidence in the Quran to suggest whether all species, each of which exists by the grace of God, were created all at once or gradually" [34].

Another scholar who can be attributed to this group is an Indian physician, T.O. Shanavas. In his book 'Creation AND/OR Evolution: An Islamic Perspective', he has combined ideas from modern science, the Quran, and pre-Renaissance Muslim history to describe an Islamic theory of creation that is not incompatible with evolution. He considers evolution is an intelligent design originated from a higher power to manifest His infinite knowledge, authority, and grace in a universe of creatures with limited free will [35].

A branch of Muslims, named Sufism, has ideas which have been criticized by other Muslim sects from both Shia and Suuni groups. A famous Sufi philosopher Jalal-uddin al-Rumi (1207-1273), in his book *Masnawi*, had a poem which later was considered by others as his belief in the theory of evolution. There is also a debate whether this belief can be inferred from this poem or not. The following lines are the central theme of his work:

“I died as mineral and became a plant ,
I died as a plant and rose to an animal ,
I died as an animal and I was a man.”

Considering the fact that Rumi lived hundreds of years before Darwin, and was not interested in scientific theories, it is probable to conclude that he did not mean biological evolution in this poem at all. But he discussed the spiritual evolution of a human being [36].

Some Muslim scholars believing in man evolution emphasize that man is composed of both a material body of terrestrial origin as well as from spirit which is of celestial origin, and this Divine Spark is much more important than man's animal or physical self. As a result there is nothing un-Islamic in the belief that man's physical body is formed by means of organic evolution, if we keep in our minds the Quran and man evolution distinction of body and spirit. Man has been endowed with something unique that is beyond his physical body and its purely mechanical functions [3].

5. Conclusion

From an Islamic point of view, science, the study of nature, is considered to be linked to the concept of Tawhid (Monotheism) [34]. In Islam, nature is not considered as a separate entity, but it is an essential part of Islam's holistic view on the world and its creator. Consequently, search for scientific knowledge is considered as holy action by Muslims. In addition, nature is viewed in the Quran as a compilation of signs pointing to the Divine. So, science is considered as a tool to expand one's vision about Tawhid [33]. However, this does not imply an epistemological superiority for it. New scientific findings can be used to deepen one's knowledge about religion. Conflicts, if arise, are either the result of misunderstanding of nature or misinterpreting the Quranic verses especially in the case of implicit verses. So, reconsideration of religious resources will help us to gain a deeper understanding of religion and also of Science. As an example, one of the authors of this article previously showed that there is no encouragement in Islam for consanguineous marriage against apparently traditional custom and false belief [37].

Evolutionary genetics and medicine have had exponential growth in these decades. These fields share a long and distinguished history. Evolutionary medicine is a new approach consisting of the intersections where evolutionary insights bring something new and useful to the medical profession, and where medical research offers new insights, questions, and research opportunities for

Evolutionary biology [38]. Many medical applications of Evolutionary biology are only now recognized.

An interdisciplinary synthesis of these sciences will bring the full power of Evolutionary biology to influence Medicine and public health . On the other hand, discussing different aspects of scientific beliefs based on religion is important in finding new approaches regarding these interdisciplinary sciences.

In conclusion, although evolutionary theory has been thought by many scientists to challenge several religious, ethical, and even scientific beliefs of the time [39], considering all Quranic verses about creation of man, we found that the Quran will not be encountered by any challenge from it at all. That is because the verses compatible with instant creation of man, rather than gradual one, can be considered as implicit ones, or human beings from generation of Adam can be considered as an exception to this theory. However, Muslim scholars accepting evolutionary theory believe that structural unity of living organisms is a result of divine wisdom rather than a blind chance in nature.

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References

- [1] W. Cobern, *Journal of Research in Science Teaching*, **31** (1994) 583.
- [2] M. Maroof Shah and M.A. Shah, *Eur. J. Sci. Theol.*, **5** (2009) 1.
- [3] A. Afzal, *The Qu'ranic Horizons: Quarterly Journal of the Qu'ranic Academy*, **1** (1996) 29.
- [4] Z.R. Dagher and S. BouJaoude, *Journal of Research in Science Teaching*, **34** (1997) 429.
- [5] A. Asghar, J.R. Wiles and B. Alters. *The International Journal of Diversity in Organisations, Communities and Nations*, **6** (2007) 81.
- [6] A.C.Danto, *Naturalism*, in: *The Encyclopedia of Philosophy*. P. Edwards (ed.), Macmillan Co. and The Free Press, New York, 1967, 448.
- [7] R. Numbers, *The Creationists: From Scientific Creationism to Intelligent Design*, Harvard University Press. Cambridge, 2006, 34.
- [8] H.J. Van Till, *Perspectives on Science and Christian Faith*, **47** (1995) 123.
- [9] C.R. Darwin, *The origin of species by means of natural selection*. John Murray, London, 1872, xiii.
- [10] E.V. Koonin, *Cell Cycle*, **8** (2009) 799.
- [11] M. Nei, Y. Suzuki and M. Nozawa, *Annu. Rev. Genom. Hum. G.*, **11** (2010) 265.
- [12] Y.S. Liu, *J. Appl. Genet.*, **50** (2009) 177.
- [13] S. Via, *Proc. Natl. Acad. Sci. USA*, **106 Suppl. 1** (2009) 9939.
- [14] D. Futuyma, *Evolutionary Biology*. Sinauer Associates, Sunderland, 1998, 320.
- [15] M. Kimura, *Nature*, **217** (1968) 624.
- [16] M. Henneberg and A. Saniotis, *Anthropol. Anz.*, **67** (2009) 427.
- [17] A.B. Newberg and E.G. D'Aquili, *Zygon*, **35** (2000), 53.
- [18] J. Stallones, *Conflict and Resolution: Progressive Educators and the Question of Religion*, IAP, Charlotte, 2010, 6.

- [19] I. Kalantari, *Biological Evolution and Creation Verses*, Contemporary Science and Knowledge Cultural Organization Press, Tehran, 2003, 43.
- [20] S.J. Gould, *Rocks of Ages: Science and Religion in the Fullness of Life*, Ballantine Books, New York, 1999, 3.
- [21] R. Dawkins, *The God Delusion*, Bantam Press, London, 2006, 55.
- [22] H.J. Paton, *The Modern Predicament: A Study in the Philosophy of Religion*, Routledge, Oxford, 2002, 377.
- [23] S. Pinker, *Time*, **166** (2005) 34.
- [24] F.S. Collins, *The Language of God: A Scientist Presents Evidence for Belief*, Free Press, New York, 2006, 203.
- [25] S.H. Nasr, *Spirituality and Science: Convergence or Divergence?*, in: *The Essential Sophia*, S.H. Nasr and K.O. Brien (eds.), World Wisdom, Indiana, 2006, 214.
- [26] S.H. Nasr, *The nature of Man*, in: *The Essential Sophia*, S.H. Nasr and K.O. Brien (eds.), World Wisdom, Indiana, 2006, 69.
- [27] I. Kalantari, *Journal of Humanity Sciences Faculty of Isfahan University*, **10** (1987) 104.
- [28] S.M.H. Tabatabaee, *Al-Mizan: An Exegesis of the Quran*, Scientific and Intellectual Organization of Allameh Tabatabaee Press, Tehran, 2000, 380.
- [29] H.D. McDonald, *Vox Evangelica*, **18** (1988) 75.
- [30] M.T. Jafari, *Creation and Human*, Islamic Dar-al-Tabiq Press, Qom, 2000, 90.
- [31] M.R. Negus, *Islam and Science*, in: *God, Humanity and the Cosmos: A Textbook in Science and Religion*, C. Southgate (ed.), Trinity Press, Harrisburg, 1999, 321.
- [32] A. Faramarz Gharamaleki, *Science and Religion Viewpoints on Creation of Human*, Cultural Organization Press, Tehran, 1994, 147.
- [33] A. Meshkini, *Evolution in the Quran*, Islamic Culture Publishing Office, Qom, 1977, 23.
- [34] M. Iqbal, *Science & Islam*, Greenwood Press, London, 2007, xviii.
- [35] T.O. Shanavas, *Creation AND/OR Evolution: An Islamic Perspective*, Xlibris Corporation, Bloomington, 2005, 194.
- [36] A.J. Arberry, *Tales from Masnavi*, Routledge, Oxford, 1993, 271.
- [37] S.M. Akrami and Z. Osati, *Journal of Biosocial Science*, **39** (2007) 313.
- [38] S.C. Stearns, R.M. Nesse, D.R. Govindaraju and P.T. Ellison, *Proc. Natl. Acad. Sci. USA*, **107 Suppl 1** (2010) 1691
- [39] E. Mayr, *Sci. Am.*, **283** (2000) 67.