

## EDITORIAL

### *Evolution?*

---

By chance, or not, in this issue of the *European Journal of Science & Theology*, we have two articles dealing with the evolutionary theory, while one of our editors – the biologist Manzoor Shah – is wondering in his paper [1] if religion is compatible with modern science. By chance, or not, one is a Christian Orthodox point of view and one is an Islamic point of view. By chance, or not, the author of one paper is a priest and the authors of the other article are scientists. What is even more interesting, by chance or not, both articles have similar conclusions.

In his work, Father Dmitry Kiryanov, points out that despite the fact that humanity has a deep connection with the world of animals, the specific characteristics of human beings mark them out from the animal world [2]. According to him a simple natural worldview supposes that man's evolution is nothing but a pointless mechanism and therefore, we can assert that we have no ethical obligations to the created nature. Furthermore, morality is an adaptation that contributes to the biological success of our species, but it was not directly promoted by natural selection, moral codes being instead products of cultural evolution. Kiryanov proposes as possible solution for this dilemma ethics-evolutionary theory, the idea of complementarity developed by Niels Bohr: "...the impossibility of combining phenomena observed under different experimental arrangements into a single classical picture implies that such apparently contradictory phenomena must be regarded as complementary..." [3]

Personally, I do not agree with this complementarity idea. The failure of Bohr's atomic model, for example, might be an argument in this direction. But a more comprehensive, unknown yet, theory/law could explain the so-called 'complementarity'. This is similar to the fact that classical mechanics is a particular case of the relativist mechanics, or a circle is in fact the ellipse with equal semi-axes. For a more artistic vision of this late example I do suggest you to watch the 'Agora' movie (2009).

The Iranian biologists Ghafouri-Fard and Akrami suggest that the evolutionary 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, because none of these seem to have any direct survival value for a species [4]. In the conclusions, they 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. Therefore, it seems that the Islamic point of view comes again with the complementarity concept.

Lecturing the two papers and many other materials on the subject, I came to a first conclusion: there are two kinds of people in the area – those in search of their animal origins and those looking for their divine origins. Therefore, I wonder if this bipolar search of the human origin is a sign of evolution. But no, I think is a matter of taste and Seneca told long ago that “*De gustibus et coloribus non disputandum*”.

In a report presented to the Ministry of Trade and Industry from Finland, in 2003, we find some very well organised and documented considerations on the developing key technologies and their possible impacts on humans [5]. A widely used word in the report is artificial: artificial atoms, artificial blood, artificial tissues, artificial organs, artificial intelligence, artificial pets and finally artificial persons. The subject of artificiality is also discussed from the societal point-of-view. Obviously, the biotechnologies occupy an important place in this trend, cyborgization, biochips, biomimetism and cloning being the keywords.

Cloning is one of the most talked-about issues with genetic engineering in biotechnology. According to the definition of the Human Genome Project researchers, cloning means copying genes and other pieces of chromosomes to generate complete, genetically identical beings. The resulting organisms are identical twins (clones) and cloning can be regarded in fact as a form of asexual reproduction [6]. I wonder if this return to the asexual reproduction is a sign of evolution or is also just a matter of taste.

The above mentioned report introduces the notion of ‘Spartan’ cloning technology as a way of totalitarian regimes to produce a caste of similar warriors. Genetic modifications should firstly be performed (with non human DNA) in order to obtain stronger, more resistant and totally obese specimens. “So the servants of the owner came and said to him, ‘Sir, did you not sow good seed in your field? How then does it have tares?’ He said to them, ‘An enemy has done this.’” (Mathew, 13. 27, 28)

However, the report suggests that Western [democratic] societies are basically more Hellenistic than Spartan. “We have faith in the Cosmos and we *are used to being face to face with death and our mortality*. The Hellenism refers to the thought that a lost human life is not the most important one. The most important is the one still living.” [5, p. 48] The artificial immortality obtained via cloning is also suggested here. Would this be a sign of evolution or we would be just ‘Dishonest to God’? [7]

Interestingly, news about cloned humans is already circulating from different sources. A clinic in Korea announced to have made a human embryo from cloned adult DNA, and there are reports of the project of Advanced Cell Technologies, who inserted human DNA into a cow egg to form human-like cloned embryos for stem cell research [8]. Even more, the company called Clonaid declared that the first human clone was born on 26<sup>th</sup> December 2002. Clonaid is funded by a religious cult called Raelians, who believe that humans were cloned from aliens walking the Earth 25,000 years ago. Later, as a result of

the public reaction, it was announced that the news of the cloning was an ‘elaborate hoax’, just a trick to provide publicity for the religious cult [5, p. 47]. Hoax or not, United Nations has given up its attempt to introduce a worldwide legal ban on some or all types of human cloning. The general assembly voted to adopt a watered-down ‘declaration’ that condemns all forms of human cloning but is not legally binding. Therefore now, if mammalian cloned organisms are among us, human clones seem imminent.

Clones could be treated as interchangeable and people value less what they see as interchangeable. Furthermore, the clones enter under the incidence of the economics laws – a good productivity with a well organised technology will lower their value (price)!

The Finland report also points to another key trajectory - the developments in information management, especially in interfaces and search engines, search robots, and personal ‘avatars’ [5, p. 27]. As we know, culture was always one step further than Science in predicting possible evolutions of the human race [9] and the ‘Avatar’ film (2009) seems to be a very expressive example in this direction.

The subject looked to be of interest for many people from the area of Science & Theology. After seeing the movie and considering its phenomenal reception, Bron Taylor, the Editor-in-Chief of the Journal for the Study of Religion, Nature and Culture, succeeded to prepare in a record period of time, choosing among a quite large number of proposed papers, an issue dedicated to this subject [10].

James Cameron’s film is set on a planet named Pandora, 100 years from now. A remark: in Greek mythology, Pandora is an *artificial woman*, made by Hephaestus at the order of Zeus as part of the punishment of mankind for Prometheus’ theft of the secret of fire. She brought to the people, as a gift in a box all the ills of the world.

This is a fertile planet whose indigenous inhabitants, the Na’avi, are humanoid creatures living in harmony with their spectacular landscape. The humans are trying the colonial approach of the Na’avi creating Na’avi/human hybrid clones as a kind of cultural Trojan horse. These clones/*avatars* have a Na’avi body which is ‘driven’ by a human with an exact DNA match in a state of suspended animation. Eventually, the entire planet proves to be a gigantic network, the Na’avi being able, by its means, to transfer permanently the soul of a human to his Na’avi avatar.

If such a technology would be possible, and applied, there are some questions rising. Is the avatar vehicle alive? Does it have its own soul?

The human soul has historically — both philosophically and theologically — been associated with the essence of the individual. The soul is what makes the person more than a machine, what constitutes individuality. A number of theorists in the early modern period equated the soul with the self, and determined that the brain was the site of the soul. But in 1997 was announced the creation of headless frog embryos in the laboratory. This immediately raised profound religious and philosophical questions about the nature of ‘animalness’

— whether because the clones were “without a brain or central nervous system [they] may not technically qualify as embryos” [11]. Consequently, there are opinions that the human bodies without semblance of consciousness (the avatars might be included here) would not be considered persons, and thus it would be perfectly legal to keep them alive as a future source of organs or for other aims [12].

In a quite recent paper the philosopher Timothy Mosteller wonders if Aristotle would believe that headless human clones have souls [13]. After scrutinizing Aristotle’s tract *On the Soul*, in which the sage meditates on the causes and sources of the living body, Mosteller concludes that yes, Aristotle would have believed that even headless humans had souls — souls which had caused the development of the body, but are *for external, manipulative reasons* prevented from realizing one element of the whole person.

In the Judaic tradition the correspondent of a human clone/avatar is the *golem*. The only case of an artificial humanoid in the Talmud is found in Sanhedrin 65b. There, the Talmud relates that the (person) *gavra* was created via ‘Sefer Yetzirah’ *by recombining the letters of God’s name* [14].

‘Zafenat Paneah’ offers a unique approach to this issue stating that a golem is not in the category of reality and therefore the commandments do not apply to it. It is classified neither as man nor as animal, nor is it legally part of any existing category of forms. Rabbi Isaiah Horwitz discusses in ‘Shelah’ an extreme example — whether it is permissible to have sexual relations with a golem. He proposes that Joseph’s brothers created a female golem by means of ‘Sefer Yetzirah’ and were having sexual relations with her. Since Joseph did not know that this female was a golem and thought she was born through normal human reproduction, he misinterpreted his brother’s actions as illegal fornication and therefore complained to his father about their activities. Thus, it appears from Rabbi Horwitz and others that there is no prohibition of having sexual relations with a golem and even destroying/killing it [15].

I do think that this approach is in fact avoiding the core of the entire problem. We saw that Aristotle would consider such a clone/avatar having a soul. On the other hand, the Jewish tradition considers that such a humanoid is brought to existence by using God’s name and implicitly his divine powers. In this second case is difficult to speak about a soul but surely about the presence in the clone/avatar of the divine spark/energy.

In these conditions the question is: who would be sacrificed by hurting or killing such a human clone? Who is in fact paying the bill? And I believe that the prophet Isaiah has the appropriate answer to this question. “He was despised and rejected by mankind, a man of suffering, and familiar with pain. Like one from whom people hide their faces he was despised, and we held him in low esteem. Surely he took up our pain and bore our suffering, yet we considered him punished by God, stricken by him, and afflicted. But he was pierced for our transgressions, he was crushed for our iniquities; the punishment that *brought us peace* was on him, and *by his wounds we are healed*. We all, like sheep, have gone astray, each of us has turned to our own way; and the Lord has laid on him

the iniquity of us all. He was oppressed and afflicted, yet he did not open his mouth; he was led like *a lamb* to the slaughter, and as a sheep before its shearers is silent, so he did not open his mouth.” (Isaiah 53.3-7) And I am the one who testifies to these things and who wrote them down, and you know that my testimony is true, but you must also know that only the Winner deserves the crown even if this is made of thorns.

Once, at a Science & Theology conference, I noted that reaching a limit is a chance but this leads to uncertainty. Later, I meditated long on this. The Universe we are living in has a lot of limits, boundaries. I do believe that the aim of many such barriers is not to keep us ‘imprisoned’ here but to protect us, to let us live an as much as possible a normal life. Sometimes going to the edge and beyond it, leads not only to uncertainty but also to danger for many others and this is not at all a sign of evolution.

**Dr. Iulian Rusu**

## References

- [1] M.M. Shah, M.A. Shah, B.A. Dar and S. Iqbal, Eur. J. Sci. Theol., **7(3)** (2011) 29.
- [2] D. Kiryanov, Eur.J. Sci. Theol., **7(3)** (2011) 7.
- [3] N. Bohr, *Essays 1958/62 on Atomic Physics and Human Knowledge*, Interscience, New York, 1963, 25.
- [4] S. Ghafouri-Fard and S.M. Akrami, Eur. J. Sci. Theol., **7(3)** (2011) 17.
- [5] T. Ahlqvist, *Keys to Futures Societal Reflections on Developing Key Technologies and Their Impacts on Human Qualifications*, Ministry of Trade and Industry, Helsinki, 2003.
- [6] H. Watt, *Ethics & Medicine*, **18(2)** (2002) 35.
- [7] M. Warnock, *Dishonest to God*, Continuum, London.
- [8] G. McGee, *The Journal of Sex Research*, **37(3)** (2000) 266.
- [9] I. Rusu and G. Petraru, Eur. J. Sci. Theol., **1(1)** (2005) 3.
- [10] B. Taylor, *Journal for the Study of Religion, Nature and Culture*, **4(4)** (2010) 381.
- [11] B. Dolan, *Neurosurg. Focus*, **23(7)** (2007) 1.
- [12] J. Abraham, *Neurol. India*, **47** (1999) 3.
- [13] T. Mosteller, *Theor. Med. Bioeth.*, **26** (2005) 339.
- [14] J. Trachtenberg, *Jewish Magic and Superstition*, Behrman’s Jewish Book House, New York, 1939, 84.
- [15] J.D. Loike, *The Torah u-Madda Journal*, **9** (2000) 236.