

Review

Big bang: The apologetic of Quran and the Will of God

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Muslims believe Quran as the word of God (Allah), sent as verbal revelation to Prophet Mohammad S.A.W. through the angel Gabriel. In the paper from segregate verses of Quran, the main events taking part in the time-line of one of the most widely accepted theories Lambda-Cold Dark Matter ' λ CDM model' which is the current "standard model" of Big Bang cosmology is derived. The six long periods that took part in the creation of universe as mentioned in Quran as "sittati ayyam" meaning six eras, epochs or eons, is studied and explained after fraternizing the results with the Big Bang model. The fact is established after some reasoning that behind the creation of the universe was the Will of God and Hazrat Mohammad (S.A.W.) was indeed the prophet of God (Allah).

Key words: Islam, Quran, Bible, Big Bang, expansion of universe.

INTRODUCTION

Big Bang is the most successful theory that was ever propounded in the history of science to explain the origin of the universe as well as the practical observations like expansion of the universe, cosmic micro wave background radiation, gravitational waves, galaxy formation and evolution, and the distribution of large-scale cosmic structures (Gladders et al, 2007). With the passage of time, the Big bang model gets renovated and The Lambda-Cold Dark Matter model ' λ CDM model' which is the current "standard model" of Big Bang cosmology gets formed. It is frequently referred to as the standard model of Big Bang cosmology because it is the simplest model that provides a reasonably good account of the properties of the cosmos.

After the discovery of the expansion of the universe in 1929 by Edwin Hubble (Hubble,1929), the discovery of microwave background radiation (Penzias and Wilson, 1965) in 1964 by two American physicists at the Bell

Telephone Laboratories in New Jersey by Arno Penzias and Robert Wilson, and the relative abundances of light elements produced by Big Bang nucleosynthesis, the Big Bang theory became the most accepted theory of physics.

Big Bang implies that the universe had a beginning, and therefore needs a Creator. Since to any earthling who is bounded with limits and boundaries, the creation of Big Bang is not possible, it is necessary for one to believe that in the creation of Big Bang there is an intervention of some divine, supreme and omnipotent being; someone usually referred to as God, who choose the initial conditions and state suitable for the creation of the universe that we cannot hope to understand, who created the set of well-defined laws to enable the universe evolve accordingly, and then does not intervene in the universe to break these laws (Hawking, 1988). It would be up to God to wind up the clock and set the

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universe going in any way He wanted (Hawking, 1988).

However, a debate about the origin of the universe was initiated in history by some earlier traditions and the Jewish, Christian and Islamic religions (Hawking, 1993), all trying to prove and defend their religion. In fact, the presence of the God mentioned in the religious divine book becomes certain if it includes and defines well some accepted and established scientific phenomenon, especially if it could explain the origin of the universe very well, since science also needs to appeal to God to choose the initial conditions of the existence of the universe. In this paper, the viewpoint of two top religious books – Holy Bible and Holy Quran, is expressed regarding the standard Big Bang model.

BIBLICAL VIEW OF COSMOS CREATION AND ITS CONTRADICTIONS

Bible receives the first credit in explaining the origin of the universe. In fact, Georges Lemaitre who first proposed the Big Bang theory was himself a catholic priest. Originally, Lemaitre called the initial state of the universe “*primeval atom*” (Lemaitre, 1958); it was called Big Bang as an insult created by Fred Hoyle, the most distinguished British astronomer of the time, in an interview on radio in defending steady state theory of the universe.

Beginning: God’s intervention about the beginning of cosmos is quoted from the Bible in Genesis in the first three verses of Genesis, which says:

“In the beginning God created the heavens and the earth. Now the earth was formless and empty, darkness was over the surface of the deep, and the Spirit of God was hovering over the waters. And God said, “Let there be light,” and there was light” (Genesis 1: 1, 2 & 3).

The above verses indicate that there was a beginning and the Big Bang was also the beginning of the universe. The Big bang is therefore considered as the valid biblical apologetic for creation.

Creation: The creation of heavens and earth is also mentioned in Isaiah Chapters 42 and 48 as:

“Thus says God, the Lord, who created the heavens and stretched them out, who spread out the earth and what comes from it, who gives breath to the people on it and spirit to those who walk in it” (Isaiah 42: 5).

“My hand laid the foundation of the earth, and my right hand spread out the heavens; when I call to them, they stand forth together” (Isaiah 48: 13).

All happened in six days: God took six days to create the earth, the heavens and all that lies between them in

six days. This is mentioned in the first 6 verses of the chapter 2 of Genesis, which says:

“Thus the heavens and the Earth and all the host of them, were finished. And on the 7th day God ended His work which He had done, and He rested on the 7th day. Then God blessed the 7th day and sanctified it, because in it He rested from all his work which God had created and made. This is the history of the heavens and the earth when they were created, in the day that the Lord God made the earth and the heavens. Before any plant of the field was in the earth and before any herb of the field had grown. For the Lord God had not caused it to rain on the earth, and there was to till the ground. But a mist went up from the earth and watered the whole face of the ground” (Genesis 2: 1, 2, 3, 4, 5 & 6).

Followed by the verses of Exodus as;

“For in six days the Lord made the heavens and the earth, the sea, and all that is in them, but he rested on the seventh day. Therefore the Lord blessed the Sabbath day and made it holy” (Exodus 20: 11).

“It will be a sign between me and the Israelites forever, for in six days the Lord made the heavens and the earth, and on the seventh day he rested and was refreshed” (Exodus 31: 17).

Contradictions: Bible justifies it well that universe had the beginning as Big Bang model predicts, however its idea of six days of creation and the age of the universe is totally controversial to Science. Numerous scholars and commentators, believe that ‘day’ (Hebrew ‘yom’), which can be translated quite literally as ‘period,’ refers not to literal days but to eras and ages in which God’s progressive work was being accomplished (Briscoe, 1987). Taking this interpretation of ‘yom’ the biblical prediction of creation of universe in six periods is almost comparable to the accepted scientific theory. However, the cumulative evidence, based on comparative, literary, linguistic and other considerations, converges on every level, leading to the singular conclusion that the designation *yom*, “day,” in Genesis 1 means consistently a literal 24-h day (Hasel, 1994). Various other scholars and commentators, regardless of whether they are concordist or non-concordist, have also concluded that the creation “days” cannot be anything but literal 24-hour days. In this most widely acceptable scenario, the biblical six day creation goes controversial to the established scientific theory.

Broad concordists have also used 2 Peter 3:8, “...with the Lord one day is as a thousand years,” to support the day-age theory. It has been taken by some as a “biblical” mathematical equivalent “one day equals a thousand years” literally. In the light of this “equation”, the six ages/periods were declared to be analogous to the six

days of creation and collectively at least the age of universe must be 6,000 years (Patrides, 1963). There are also some other calculations done by Christian advocates, like St. Augustine who accepted the date for creation of universe to be about 5000 B.C. By adding the ages of people as mentioned in Old Testament, Bishop Ussher figured the date for creation of the universe to be 4004 B.C. But none of approximations matches the age of creation as predicted by the Big Bang model. It is therefore claimed by some Christian apologists advocating the big bang like David Noebel that there is still controversy among Christians "about the age of the universe, [but] not whether the big bang occurred" (Noebel, 2006).

According to the Big Bang model, the creation of universe dates back to 13.8 billion years ago. Geologists even calculated the age of fossils present in rocks to be more than 4.1 billion years old, according to a 2015 study (Bell et al., 2015). In fact, there is a large difference between the dates as predicted by Bible and science about the formation of universe. Interestingly, the biblical date for the creation is not so far from the end of the last Ice age- about 10,000 B.C. (Stuiver and Braziunas, 1993), which is when modern civilization seem first to have appeared. The Bible also does not mention some other main events that took part in the formation of universe – like era when the whole universe was in gaseous state, dark matter, and expansion of the universe etc.

QURANIC PERSPECTIVE OF BIG BANG

Holy Quran addresses some certain but important aspects of Big bang theory in different verses. These scattered verses render information on the successive events that take part in the formation of universe we see in the present time. Therefore, to get the clear idea, the fragments of these scattered verses have to be brought together in a manner that will present successive events regarding the origin of the cosmos.

Beginning of the cosmos

About the beginning, Quran mentions in verse 30 of chapter 21:

"Have those who disbelieved not considered that the heavens and the earth were a joined entity, then We have opened them, and made from water every living thing? Then will they not believe?" (The Prophets: 30)

In the previous verse, the Arabic words *ratq* and *fataq* are used. The word *ratq* can be translated into "entity" "sewn to" "joined together" or "closed up". The verb *fataq* is translated into "We unstitched" "We clove them asunder" "We separated" or "We have opened them". These

meanings imply that the heavens and the earth got beginning.

Creation from the Smoke

Modern cosmology says about the era in Big Bang model when the universe was filled by the highly dense and hot gaseous composition (Schramm and Turner, 1998). According to our current understanding, the galaxies get born when vast clouds of dust and gas collapse under their own gravitational pull, allowing stars to form. Likewise, a star and its planets form out of a collapsing cloud of dust and gas within a larger cloud called nebula. So it would not be fair to say that the heavens and planet earth get formed from gas. Rather the most appropriate word is 'Smoke'- consisting of gas and dust. In Qur'aan an Arabic word 'dhukhan' has been used which means Smoke, to describe initial celestial matter that reforms into different heavenly bodies.

The Quran figures the formation of galaxies and other heavenly bodies from the smoke in the verse 11 of chapter 41 as;

Then He directed Himself to the heaven while it was smoke and said to it and to the earth, "Come [into being], willingly or by compulsion." They said, "We have come willingly" (Explained in Detail: 11).

The six eras/epochs/stages of creation

The Quran states in many verses about the eras involved in the creation of the heavens and the earth, and all that is between them. As per Quran all happened in six eras and is described in the following verses:

"Indeed, your Lord is Allah, who created the heavens and earth in six eras and then established Himself above the Throne. He covers the night with the day, [another night] chasing it rapidly; and [He created] the sun, the moon, and the stars, subjected by His command. Unquestionably, His is the creation and the command; blessed is Allah, Lord of the worlds" (The Heights: 54).

"Indeed, your Lord is Allah, who created the heavens and the earth in six eras and then established Himself above the Throne, arranging the matter [of His creation]. There is no intercessor except after His permission. That is Allah, your Lord, so worship Him. Then will you not remember" (Jonas: 3)

"And it is He who created the heavens and the earth in six eras - and His Throne had been upon water - that He might test you as to which of you is best in deed. But if you say, "Indeed, you are resurrected after death," those who disbelieve will surely say, "This is not but obvious magic" (Hud:7).

Table 1. Description of six Epochs/Eras of creation.

Numbering	Epoch/Era/ Stages	Time after Big Bang	Density (kilogram per metre cube)	Temperature (Kelvin)	Main Events
1	Fundamental particle	$10^{-35}\text{s} - 10^{-4}\text{s}$	$10^{75} - 10^{16}$	$10^{27} - 10^{12}$	Formation of fundamental particles like electrons, quarks, and other particles
2	Lepton	$10^{-4}\text{s} - 10^2\text{s}$	$10^{16} - 10^4$	$10^{12} - 10^9$	Quarks clump into protons and neutrons
3	Nuclear	$10^2\text{s} - 5 \times 10^4\text{yr}$	$10^4 - 6 \times 10^{-16}$	$10^9 - 16,000$	Nuclei of hydrogen, helium, lithium and other light elements formed
4	Atomic	$5 \times 10^4\text{yr} - 2 \times 10^8\text{yr}$	$6 \times 10^{-16} - 10^{-22}$	16,000 - 60	Atoms form
5	Galactic	$2 \times 10^8\text{yr} - 3 \times 10^9\text{yr}$	$10^{-22} - 2 \times 10^{-25}$	60 - 10	First stars and quasars get form and shine, galaxies form and grow.
6	Stellar	$3 \times 10^9\text{yr} - 10^{10}\text{yr}$	$2 \times 10^{-25} - 3 \times 10^{-27}$	10 - 3	Galaxies merge and evolve, formation of solar systems and dark energy begins to dominate.

The same is also mentioned in the chapter ‘the Criterion’ verse 59, chapter ‘The Prostration’ verse 4, chapter ‘The letter Qaaf’ verse 38, and chapter ‘The Iron’ verse 4.

In the above verses, the Arabic word ‘ayyam’ is used which is the plural of ‘youm’, and the ‘youm’ is translated in English as a day, an era, time, period, an event, an epoch, stage (Wehr, 1976; Lane, 1863; Farid, 2006). Mostly, in all translated copies of Al-Quran, ‘ayyam’ is translated as days that is not even the accurate unit to measure the cosmic events on cosmic scale, although the concept of “six days” is comparable to general biblical belief. Therefore, some Muslim commentators like M. H. Shakir, interpret the description of a “six day” creation as six distinct periods or eons. In the Islamic literature, the length of these periods is not precisely defined, nor is the specific evolutions that took place during each period. Here, in the following discussion we have defined for the first time the specific evolutions and the length of these evolutions by incorporating the results with the modern model of Big Bang theory.

Explanation of six eras/epochs/stages

Based on different approaches and events, cosmologists have listed different number of eras/epochs/stages (Karouby, 2012; Bennett et al., 2018) that took part in the formation of the universe. However, in Quran six epochs are mentioned, and from the verses mentioned in the above section an Arabic word “Khalaq” is used which means creation. Therefore, in these verses six epochs in the approach of creation, that is, in respect to making, inventing or producing something that does not exist before, is mentioned, that took place while the formation of universe.

Using this approach of creation in the Standard Big Bang theory, we find the following epochs listed in the Table 1 to evolve in the formation starting from Big bang to the present universe. In the Table 1, s represents

second, and yr represents year. The Table 1 suitably explains the verses mentioned in the Holy Qur’aan about the creation of the universe.

From the table it becomes clear that in the Big Bang theory, the number of epochs/eras involved in the creation of heavens, and earth (solar system) is exactly what is mentioned in the Qur’aan. The six eras/epochs of creation are fundamental particle era, lepton era, nuclear era, atomic era, galactic era, and stellar era. The time taken to complete each era, the density of matter, temperature and the main events that took place during these eras/epochs is figured also in the Table 1. However, these six eras/epochs (Figure 1) are not explained in detail in the Holy Qur’aan since its nature is to give concise and important information as said; also, it is not the book of science but the book of signs (Naik, 2014).

Expansion of the universe

The work of Allah is not over even after the creation of the universe; He is still doing His work by expanding it and by holding the different heavens such that they may not collapse as is mentioned in the following verse:

“And the heaven We constructed with power and indeed, We are [its] expanding it” (The winnowing winds: 47).

In this verse, an Arabic word *mūsi’ūn* is used which has been correctly translated as ‘expanding it’ in all translated scriptures of Al-Quran, and points toward the fact that universe is still expanding. This concept of expanding universe is unique to Quran; it is not mentioned in any of the so called divine books even in the Bible.

Interstellar matter and Dark matter

Interstellar matter: In the space between the star

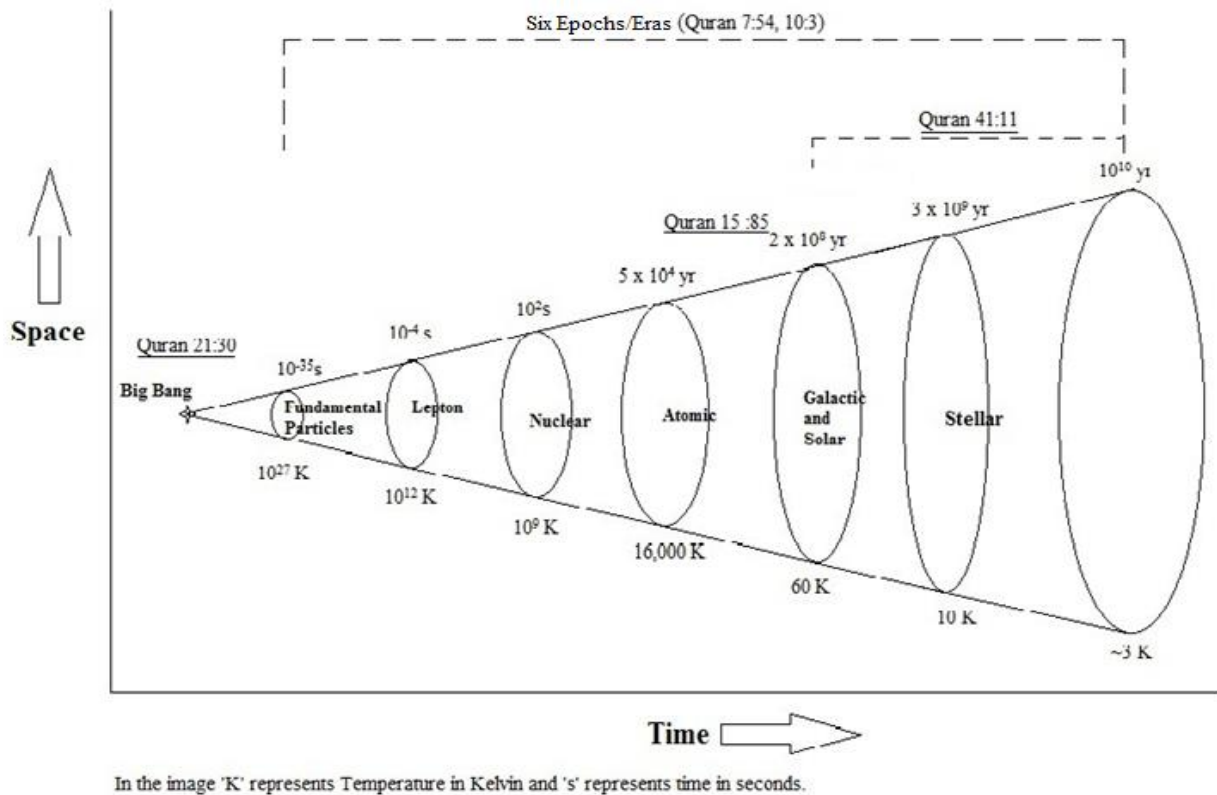


Figure 1. Brief description of six Epochs/Eras/Stages that evolved with time in the formation of universe

systems in a galaxy, a matter known as interstellar matter is present. It consists of gas in ionic, atomic, and molecular form, as well as dust and cosmic rays. The interstellar matter plays the crucial role in formation of new stars, is also responsible for extinction and reddening, and decreasing light intensity of light from a star. The presence of this interstellar matter is mentioned in Al-Quran as the matter that resides between the earth and heavens, in the following verses;

“And We have not created the heavens and earth and that between them except in truth. And indeed, the Hour is coming; so forgive with gracious forgiveness” (The Rock: 85).

“Lord of the heavens and the earth and whatever is between them –so worship Him and have patience for His worship. Do you know of any similarity to Him?” (Mary: 65)

The same is cited in chapter ‘The Table’ verse 18; ‘The criterion’ verse 59; ‘The Dunes’ verse 3; ‘Taa-Haa’ verse 6; ‘The Prophets’ verse 16; ‘The Poets’ verse 24; ‘The Romans’ verse 8; ‘The Prostration’ verse 4; ‘Those drawn up in Ranks’ verse 5; ‘The letter Saad’ verses 10, 27 & 66; ‘The Smoke’ verses 7 & 38; ‘The letter Qaaf’ verse 38; and ‘The Announcement’ verse 37.

Dark matter: Cosmologists have recently added Dark matter as the part of Big Bang theory. The name refers to the fact that it does not emit or interact with electromagnetic radiation, such as light. It influences the universe’s large-scale structure, and holds different galaxies and clusters of galaxies from tearing apart the structure of the universe. Fritz Zwicky (1933) was the first to point towards the existence of this unseen matter “dark matter”, which makes up about 26.68% of the universe (Trimble, 1987). The Al-Quran mentions this dark matter as “the unseen thing that raises the heavens”, in the following verses;

“It is Allah Who raised the heavens without pillars that you [can] see; Then He established Himself above the Throne and made subject the sun and the moon, each running [its course] for a specified term. He arranges [each] matter; He details the signs that you may, of the meeting with your Lord, be certain” (The Thunder: 2).

“He created the heavens without pillars that you see and has cast into the earth firmly set mountains, lest it should shift with you, and dispersed therein from every creature. And we sent down rain from the sky and made grow therein [plants] of every noble kind” (Luqman: 10).

“Indeed, Allah holds the heavens and the earth, lest they

cease. And if they should cease, no one could hold them [in place] after Him. Indeed, He is Forbearing and Forgiving” (The Originator: 41).

BIG BANG WAS WILL OF GOD

Some physicists claim there is no need for God to cause the Big Bang; rather they believe that Quantum fluctuations are responsible for the explosion of initial gravitational singularity that is thought to have contained all of the mass and space-time of the Universe. Quantum fluctuations caused explosion and subsequent inflation, creating the present-day Universe (Wall, 2011); However, as per the quantum fluctuations, they are caused by the temporary change in the amount of energy in a point in space (Malcolm, 1990). This quantum principle led one closer to understand how the universe begins but it gives birth to other questions like why the change occurred?, how to choose the Planck’s constant to be the limit from which the whole idea of quantum fluctuations arises, and who created these Quantum laws? Like Stephen Hawking, the question arise in one’s mind if Big bang is the cause of Quantum fluctuation then why are we not seeing any “Big Bangs” inside the universe Today?, and when every physical law requires space-time (frame of reference as per special theory of Relativity) to execute then how can one believe that ‘First’ quantum fluctuation occurred when there was no space-time?

The breaking of all physical laws itself at the Big Bang leads one to appeal to God to originate the universe and by His will initiate it as He wills. In Quran, this creation is represented by the command and supremacy of God Allah. As per Quran, the creation is not the representation of art but his will; He only has to say, ‘Be’ and it is whenever he wants to create something. Quran represents His will in different verses as;

“Originator of the heavens and the earth. When He decrees a matter, He only says to it, “Be,” and it is” (The Cow: 117).

“And it is He who created the heavens and earth in truth. And the day He says, “Be,” and it is, His word is the truth. And His is the dominion [on] the Day the Horn is blown. [He is] knower of the unseen and the witnessed; and He is the Wise, the Acquainted” (The Cattle: 73)

“Indeed, our word to a thing when We intend it is but that We say to it, “Be,” and it is” (The Bee: 40).

The same is mentioned in chapter ‘Mary verse 35; ‘Yaseen’ verse 82; and ‘The Forgiver’ verse 68. Bible claims the same as the Word of God in the following verses;

“In the beginning was the Word, and the Word was with

God, and the Word was God. He was in the beginning with God. All things were made through him, and without him was not anything made that was made” (John 1: 1-3).

“By the word of the Lord the heavens were made, and by the breath of his mouth all their host” (Psalm 33: 6).

CONCLUSIONS

The findings in this can be summarized as follows:

1) Quran explains that the origin of the universe starts by the will of God ‘Allah’ and then followed by sequence in creation, everything present in the universe get formed. At the initial stage of the universe, He just commanded “Be” and the Big Bang occurred. Then it takes six long Epochs, each carrying different measurements of time to form the heavens, planets, interstellar matter, dark matter, and everything that is present in the universe. The universe has passed through the stage when it was only in the form of smoke. The heavens are connected with each other with the unseen matter, that is, Dark Matter which holds them from ceasing to exist; also, the universe is never at rest, but is still expanding in size. These findings are exact and compatible with the standard model of the Big Bang, that is, ‘ λ CDM model’. Thus, it can be concluded that predictions or claims made in Quran proves to be quite genuine and true.

2) The striking congruence between the Qur’aanic verses and the λ CDM model leaves the human mind with an astonishing question, that how could the illiterate person living in the deserts of Arabia called Hazrat Mohammad S.A.W., know about this standard model of Big Bang without having 2.5 m Hooker telescope of Edwin Hubble; without knowing high standard mathematics of Alexander Friedmann, Stephen Hawking and other great scientists; and without having the advanced satellites like Cosmic Background Explorer (COBE), the Hubble Space Telescope, Wilkinson Microwave Anisotropy Probe (WMAP) and computer simulations to measure the rotation of different galaxies to discover the presence of dark matter and interstellar matter? The only answer that appears clear to mind is that the Hazrat Mohammad S.A.W. was indeed the messenger of Allah like Moses (Musa a.s.), Jacob (Yaqoob a.s.), Abraham (Ibrahim a.s.), etc as is also evident from the following verses of Quran;

“These are the verses of Allah which We recite to you, [O Muhammad], in truth. And indeed, you are from among the messengers” (The Cow: 252)

“Muhammad is not the father of [any] one of your men, but [he is] the Messenger of Allah and last of the prophets. And ever is Allah, of all things, Knowing” (The Clans: 40).

Suggestions

Although very few Muslim scholars have tried to calculate the age of the universe by translating the Quranic word "youm" as day and using some connection with other verses of Quranⁱⁱⁱ in a bid to relate Quran with science but it is a wrong interpretation of the verses of Quran. As per the age of universe, there is not a single verse in Quran that refers to the age of the universe since it is the book of signs not of science for the believers as is also mentioned in the following verse:

"And of His signs is the creation of the heavens and the earth and the diversity of your languages and your colors. Indeed in that are signs for those of knowledge" (Byzantium: 22).

Perhaps to some satisfying extent one can calculate the age of the universe in relation to the scientific calculation by considering the meaning of "youm" as day but it ends with the beauty and depth of these verses and goes in contradiction to the number of verses like the one mentioned above and all those verses that make the brief account of the events that took part during the formation of the universe as mentioned in this paper. It is more convenient to translate the 'youm' as an era, time, period, an event, an epoch or stage rather than a day.

CONFLICT OF INTERESTS

The author has not declared any conflict of interests.

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