

Divine and Scientific Discourse on Creation in Pairs: A Study in the Context of the Qur'ān & Science

Dr. Inam ul Haque

Assistant Professor, Muslim Youth University, Islamabad.

Abstract

This paper presents an analytical study of both the Qur'ānic and natural science's discourse on the fact of "creation in pairs" to enhance understanding of the origins of living beings. The primary focus is on the Qur'ānic viewpoint, which not only provide insight into the creation of the world but also illuminates the pervasive nature of pairing in the universe. A Scientific discussion is included to explore how contemporary research on the subject matter supports this concept, addressing the often-perceived gap between science and Islam. Ayahs from the Holy Qur'an on creation in pairs are cited to illustrate the context and purpose of these verses and their relation to the studies of the subject in natural sciences. This will further bridge the gap between the two discourse, helping to understand the extent to which scientific research aligns with the topic.

Keywords: Creation in Pairs, Qur'an, Science, Biological Sciences, Analysis

1. Islamic View on "Creation in Pairs"

Nearly a thousand ayahs of the Holy Quran are related to science. The Big Bang theory explains that this universe was a big mass that underwent secondary separation to form Galaxies. The division of galaxies formed huge stars, the revolving planets and their moons, and the Sun. However, the Holy Quran rejects the notion that the existence of the universe was a mere coincidence because its origin is unique, as explained in the following verse: (Ibid. P. 9.)

"Do not the unbelievers see that the heavens and the earth were joined together as one Unit of Creation, before We clove them asunder?"¹

This verse includes "رَبَّقَا" which means "fusing and binding together to become a homogeneous whole". Another term included in this verse is "فَفَتَقْنَاهُمَا" which refers to the "action of breaking". This basic concept of creation of the universe has been described in the Holy Quran 1400 years ago. Modern science in the fields of astronomy and modern cosmology has investigated this fact as Big Bang theory. Many scientists have made their contributions to these two fields. For instance, in 1667, Newton developed the concept of universal gravitation; it was his belief that the universe is static and unchanging. In 1915, Einstein developed the "Theory of

Relativity” which posited the relationship between matter, energy, gravity, time and space and rejected the concept of Newton about the universe being static. In 1953, Edwin Hubble presented his investigation and stated that this universe is expanding continuously. In 1965, two American scientists named Arno Penzias and Robert Wilson discovered the “cosmic background radiation” and proved that the origin of the universe is from a unit named “minute cosmic egg” which undergoes a sudden eruption. Due to this explosion, the universe, galaxies and four forces were created including gravity, electromagnetism, strong nuclear forces, and weak nuclear forces. This universe was a single mass of matter and it split into earth and other heavenly bodies following the Big Bang.²

In the Holy Quran, “*Dhukhan*” is a term that has been used which means smoke. The universe came into existence millions of years ago and the Holy Quran appeared approximately 1400 years ago; yet, it informs us of this profound scientific truth regarding the creation of universe within the following Holy verses:

*“Moreover, He comprehended in His design the sky, and it had been (as) smoke: He said to it and to the earth: “Come ye together, willingly or unwillingly.” They said: “We do come (Together), in willing obedience”.*³

The universe was in a gaseous state during the creation of heavens and the earth. Allah first created the sky, then followed by the earth. Following the creation of the earth, water was made abundant. The celestial smoked clouds formed the smoke of sky which is explained to have occurred by nebula in science.

Three things have been explained for this matter. The first word is heaven which indicates the entirety of the universe. The second word is smoke and this is reflecting the initial stage of matter— which has been named nebulae in scientific terms. The third word provides an interpretation that the earth was created before the heaven. This particular Ayat reflects the manner in which Allah has created this universe. Universe was in diffused form which took the shape of stars, galaxies and planets as per Allah’s commands. The entirety of the process of the creation of the universe following contraction and condensation is believed to have taken only 48 hours.⁴

The Big Bang has also introduced the concept of inflation which refers to the creation of this universe while the process of expansion continuously occurs. This scientific fact is highly established with many past and present scientists weighing in on the matter. For instance, Edwin Hubble, an American astronomer, gave evidence based on his observations that this universe is undergoing expansion. Furthermore, Stephen Hawking authored the book, “A brief History of Time”, where he states that the major logical

revolution of 20th century to discover that this universe is undergoing expansion. “Musium” is the Arabic word means “expanding it”, this word refers to the creation of the expanding vastness of the universe. Nature of the creation of the universe has been fully explained by the following verse in the Holy Quran:

“With the power and skill did We construct the firmament: For it is We Who create the vastness of Space.”⁵

Allah Almighty has clarified that the creation of this universe required great power. Everything has been created from energy; thus, specific energy has been distributed within each and every atom. This Ayah has two interpretations and meanings. One of the interpretations is that Allah has created this universe without the assistance of any other being. The other interpretation is that Allah has finished its creation and now He is allowing for its expansion along with the manifestation of its creation.⁶

1.1. “Creation in pairs”: Perspective from *Ayahs* of Holy Quran

“These are eight couples, two of sheep, two of goats. Now ask them: ‘Is it either the two males that Allah has forbidden or the two females, or what the wombs of the two females may contain? Tell me about this on the basis of sure knowledge, if you speak the truth.’”⁷

“And likewise, of camels there are two, and of oxen there are two. Ask them: ‘Is it either the two males that He has forbidden or the two females, or that which the wombs of the two females contain? Or were you present when Allah enjoined this commandment upon you?’ Who, then, would be more unjust than he who fabricates a lie against Allah that he might lead people astray without knowledge? Surely Allah never guides such a wrong-doing folk.”⁸

From a semantics perspective, eight pairs refer to four pairs of male and female of animals that are of domestic use including sheep, goats, camels and oxen. For Arabs, camels are more valuable than goats and sheep. As Syrian borderland and other regions of Arabia have abundant water, the people of the region have a greater need for goats and sheep along with camel.

“Thus, it was until Our command came to pass and the oven boiled over. We said: ‘Take into the Ark a pair of every species; and take your own family except those who have already been declared (as unworthy); and also take everyone who believes. But those who, along with him, had believed were indeed just a few.’”⁹

It is the signal of the deluge which was a historical disaster. Material evidence was found of this deluge from the soil. Water and rain gushed forth from the ground. The word “oven” here has the specific meaning of

“any place from where the water pours forth”. Allah ordered for pairs of male and females of animals to be aboard the ark in order to serve men. This flood destroyed an area of approximately 400 miles long and 100 miles broad. It was confined to lower valley of the Tigris and Euphrates.

“It is He who has spread out the earth and set in it firm mountains and streams, and of every fruit He has made in it two kinds. He draws the night’s cover over the day. There are indeed signs in that for a people who reflect.”¹⁰

“Spread out the earth” is a reference to neither a goddess nor a mother; instead, it references to the creation of the whole universe with there being pairs. “Mountain” is neither the home nor the embodiment of the Divine power, as assumed by superstitious communities. “River” neither refers to the mothers nor protectors as imagined by the polytheistic people. Rivers are often worshiped as such by the cults who regarded them as Divine or fertile mothers; on the other hand, the Nile was worshipped as a male deity in Egypt. In India, the cults of the Ganges, the Jamna, the Sarju, the Bhagirathi, the Nerbada, and other rivers are also well-known for worship purposes. There are always pairs – even in language - such as sweet and sour, large and small, and others.¹¹

Brief arguments for *Tauhid*, Resurrection and Accountability are given below.

Tauhid: The fact that the earth is closely connected with heavenly bodies. The mountains and the rivers are so interrelated in that life is clear proof that all these things have not been created by separate or different gods nor are being governed by the gods with independent power and authorities. Had it been sooner, there could not have been so much harmony, congruity, accord and unity of purpose among them nor could these relationships have continued for such a long time. For it is quite obvious that if there had not been One All-powerful and All-Wise Allah, it could not have been possible and practicable for different gods to sit together and evolve such a harmonious system of the universe without any discord or conflict between its myriads of bodies.

Resurrection: This wonderful planet, the earth, is itself a great proof that its Creator is all powerful and can raise the dead whenever He wills. For it is floating in space round the sun and it has high mountains fixed in it and has large rivers flowing on its surface. It produces countless fruit-bearing trees and it brings about the cycles of the day and the night with precise regularity. It would therefore be absolutely illogical to doubt that such an All-Powerful Creator is incapable of raising mankind to life after death.

Accountability: The earth is clear evidence of the fact that its Creator is All-Wise. Therefore, it cannot even be imagined that He has created man

without a purpose. In the manner that His creation is apparent from the structure of the earth, its mountains, its rivers, the pairs of its trees and fruits, its night and day, it is quite obvious that it has been made into the habitation of man with a purpose and it will not be brought to nought without the fulfilment of that purpose. Mankind shall be accountable to its Creator for the fulfilment of that Divine purpose.¹²

“He who made the earth for you a cradle, and in it threaded for you ways, and sent down water from the sky, and with it We brought forth various kinds of vegetation.”¹³

It is clear that Allah has fertilized that land directly by rain and by the flood of the Nile.¹⁴

“Do not turn your eyes covetously towards the embellishments of worldly life that We have bestowed upon various kinds of people to test them. But the clean provision bestowed upon you by your Lord is better and more enduring.”¹⁵

Special reference is being given to pairs of infidels. The purport does not covet the pomp and prosperity which Allah has bestowed on some of the infidels of this world.¹⁶

“O people! If you are in doubt about the resurrection, [consider that] We indeed created you from dust, then from a drop of [seminal] fluid, then from a clinging mass, then from a fleshy tissue, partly formed and partly unformed, so that We may manifest [Our power] to you. We establish in the wombs whatever we wish for a specified term, then We bring you forth as infants, then [We rear you] so that you may come of age. [Then] there are some of you who are taken away, and there are some of you who are relegated to the nethermost age, so that he knows nothing after [having possessed] some knowledge. And you see the earth torpid, yet when We send down water upon it, it stirs and swells, and grows every delightful kind.”¹⁷

Allah has created man but in stages. He remains in the womb until the time of delivery. Some people die before reaching the age of maturity and some reach a state of decrepitude and dotage where they may lose their memory. This is indicating that all life is created in pairs.¹⁸ This refers to the different stages of development of the child in the womb of his mother.¹⁹

“Then We inspired in him, saying: Make the ship under Our eyes and Our inspiration. Then, when Our command cometh and the oven gushed water, introduce therein of every (kind) two spouses, and thy household save him there of against whom the word hath already gone forth. And plead not with Me on behalf of those who have done wrong. Lo! they will be drowned.”²⁰

Under the supervision and protection of Allah, an ark was made make. Once the subterranean water burst forth, the ark carried on with animals in pairs which were serviceable for mankind. Here, the use of the word pairs is clearly indicating a female and a male animal of the aforementioned species.²¹

*"Have they not regarded the earth, how many We have caused to grow in it of every splendid kind [of vegetation]."*²²

*"He created the heavens without any pillars that you may see, and cast firm mountains in the earth lest it should shake with you, and He has scattered in it every kind of animal. And We sent down water from the sky and caused every splendid kind [of plant] to grow in it."*²³

*"Say, 'I give you just a single advice: that you rise up for Allah's sake, in twos, or individually, and then reflect: there is no madness in your companion: he is just a warner to you before [the befalling of] a severe punishment."*²⁴

In this Ayah, the word "sake" refers to "in the sight of Allah; without passion and prejudice". "In twos or individually" means that "this is perhaps because in large gatherings, passion and prejudice are more likely to prevail." The term "reflect" in this context means "sincerely, seriously"²⁵

*"Allah created you from dust, then from a drop of [seminal] fluid, then He made you mates. No female conceives or delivers except with His knowledge, and no elderly person advances in years, nor is anything diminished of his life, but it is [recorded] in a Book. That is indeed easy for Allah."*²⁶

In this Ayah, the word "dust" refers to "species", "seminal fluid" refers to "individuals", and "knowledge" refers to "He is Omniscient, unlike the heathen gods of very limited and partial knowledge".²⁷

*"Immaculate is He who has created all the kinds of what the earth grows, and of themselves, and of what they do not know."*²⁸

One of the recent scientific discoveries was that everything in nature exists in pairs. Not only plants and animals but also the rock crystals and electricity; each of these have their sets of opposites.²⁹ Human and animals have pairs of male and female. Vegetation and non-living things also have pairs. The composition of matter is from the positive and negative energy. Thus, everything has its own compatible and is in pair.³⁰

*"He created you from a single soul, then made from it its mate, and He has sent down for you eight mates of the cattle. He creates you in the wombs of your mothers, creation after creation, in a threefold darkness. That is Allah, your Lord! To Him belongs all sovereignty. There is no god except Him. Then where are you being led away?"*³¹

In this Ayah, the meaning of a single soul is that all of various types of individuals currently existing have descended from a single undivided stock, and that the white, the black, and the red-skinned people have sprung from one common ancestor. Specific unity of mankind is shown, in the words of a recent authority on anthropology, in the prevailing physical and mental uniformity of all peoples. Mate refers to Eve in the context of this Ayah. Furthermore, man is born from the womb. As an embryo, the individual is covered by a membrane, which is present in the womb; and, in turn, the womb is covered by the belly. This creates the three veils of darkness.³² When referencing to mate, this is not indicating that He created human beings from Adam and then created his wife, Eve; instead of chronological order, the order of presentation is being considered in this Ayah.³³

*"The Originator of the heavens and the earth, He has appointed for you pairs of your own kind, and pairs also of cattle. Thus, does He multiply you? Naught in the universe is like Him. He is All-Hearing, All-Seeing."*³⁴

*"And who created all the kinds and made for you the ships and the cattle such as you ride."*³⁵

Pairs do not imply only of men and women and of males and females of animals and vegetation,. Instead, there are countless other things that have matching partners of one other. By coming together and combining of two matching partners, new things can come into being in the world. For example, among the elements, some can be combined with others and some cannot be. The negative and positive charges in electricity are the matching partners of each other and their mutual attraction is causing wonderful things to happen in the world. If man considers the structure, the mutual relationships, the different forms of cooperation, and the results of the combination of this as well as other countless pairs which Allah has created amongst countless of His creations, it can be seen that there is a necessity to their existence in pairs. He cannot help testifying to the truth that this great workshop of the world is the creation of one and only one Almighty, All-wise Designer, and is functioning only under His care and control. Only a man of intelligence could suppose that all of this happened and is happening, without a Wise being or there is the possibility in it of the agency and interference of more gods than one.³⁶

*"And We spread out the earth, and cast in its firm mountains, and caused every delightful kind to grow in it."*³⁷

*"In all things We have created pairs so that you may take admonition."*³⁸

The meaning of "Pairs" in this context includes things such as light and darkness, subject and object, wet and dry, active and passive, male and female, the living and non-living. The *ayah* might also be hinting at the

universality of the law of sex.³⁹ This universality being that everything in the world has been created on the principle of the pairs. The universe is functioning on the principle that certain things are complementary and matching to certain others, and their combination brings into being countless new forms and combinations. Nothing here is as unique as to have no match; this is attested to by the fact that a thing becomes productive only after it has combined with its matching partner.⁴⁰

*"And that it is He who created the mates, the male and the female."*⁴¹

*"And made of him the two sexes, the male and the female."*⁴²

*"And created you in pairs (as men and women)."*⁴³

As is clear from the ayahs, pairs refers to male and female.⁴⁴ There is supreme wisdom underlying the creation of men and women in pair.⁴⁵

1.1. Brief description on meaning of "Creation in Pairs"

"*Azvaj*" is the Arabic word with the plural of "*zavj*" meaning "pairs," "matches," "partners." In the aforementioned *ayahs*, there are three sorts of pairs in creation:

1. Pairs that grow from the earth, i.e., plants that have species of differentiated sex;
2. Human pairs: males and females. These also include some human characteristics like bravery/cowardice; love/hate; generosity/stinginess, etc.
3. Pairs unknown: mankind did not know anything about the creation in pairs at the time of the descent of the Holy Quran

The Holy Quran is not a scientific treatise but there are more than 1200 *ayahs* which can be interpreted in the light of modern science. The Holy Quran has given great motivation particularly in the field of natural sciences. It may be called the cause of modern scientific and material progress. It is one of the most recent of all scientific discoveries that there is pairing among every living thing in the universe such as male and female. It is also found that rock crystals also have pairs. All things exist in pairs such as sex in plants and animals, by which one individual is complementary to another, and even in the subtle forces of nature. There is also day and night, positive and negative electricity, forces of attraction and repulsion, and numerous other opposites such as love and hate, mercy and justice, striving and rest, and many others; all of these are fulfilling their specific functions. Everything has its counterpart or pair.

Actually one of the most basic principles of the creations of Allah is that the creatures of all kinds are created in pairs. He has created all pairs from what the earth grows (i.e., vegetation), from themselves (i.e. all living creatures including humans), and from what we do not have knowledge of (i.e. from

something that the human mind is incapable of understanding). The pairs are opposites in gender, opposites in functionality, in behaviour and also in characteristics

1.2. Pairs of which humankind has no knowledge

It is the most astonishing fact that pairing exists at the atomic and subatomic levels. It is very clearly mentioned in the Quran. In nature, there is also a pairing among the opposite forces. The basic unit of matter, the atom consists of the nucleus which carries the positive charge as it has a proton in it and is surrounded by an electron which carries a negative charge. Thus, there is apposite energies in matter. And (other) things of which they have no knowledge. Until the first half of twentieth century, mankind had no familiarity with the structure of the atom. Subatomic particles are a recent discovery and there were predictions for the existence of positron, known as antielectron or reverse electron. At the subatomic level, it was the first "electron-positron" pair. Positrons were also detected in cosmic rays by using the cloud chamber - particle detector - in 1932. Cosmic rays are present in the whole universe including on Earth. If we consider the structure of atom, it consists of nucleus which has proton carries the positive charge and neutron which is neutral but the mass equal to proton. The electron revolves around the nucleus (Syed, 2001). Atoms can also ionise. When atoms lose electrons cation, it gains electron anion. The pairing between the cation and anion produces a large variety of inorganic compounds (Qur'an Project Distribution Centre). Particle and antiparticle, Electron and positron, proton and antiproton and neutron and antineutron are all in pairs (Syed, 2001).

2. Introduction

Taking up the subject matter of creation in pairs, one finds many verses in the "Qur'ān" that denote its importance and significance and lead to thinking about how this works in creatures. This phenomenon is evident in humans and animals, but it is not explicit regarding many other species. This explorative and analytical research endeavours to analyse the subject matter in the context of revelation and natural sciences.

3. Scientific View on "Creation in Pairs"

According to current cosmological models, the universe is believed to consist of about 4.9% ordinary (visible) matter, and approximately 26.8% dark matter, while the leftover 68.3% is dark energy⁴⁶. Visible or baryonic matter consists of baryons, which are subatomic particles with the inclusion of electrons, neutrons, and protons, all of these elements are making up the visible universe such as gases, stars, the Sun, and all galaxies. The most common gas available within the universe includes hydrogen gas which is

also responsible for nuclear fusion occurring in stars. Stars contain nature's atomic reactors that allow them to emit light continuously as well as cause them to appear shiny, thus making nuclear fusion the primary source of the universe's energy. The galaxies are also made up of visible matter. There are millions of stars in any galaxy and billions of galaxies; these, in turn, have also ordered themselves into clusters that are bounded that are being held together by the force of gravitation of this cluster. Invisible "dark matter" is present in and around galaxies. There is the force of gravity exerted by dark matter on visible matter. "Dark energy" is spread all over the universe. There has always been a question about "creation", especially as it pertains to the creation of the world. Science, based on theories and observations, has always tried to determine realistic findings through scientific inquiry and methods. The question of creation itself has directed scientists toward the physical cosmological inflation concept of the creation of the universe, which is the "Big Bang Theory". This viewpoint is based on mathematical equations and natural beginnings which clarify the concept behind "beginning from something"

3.1. Big Bang Theory

The most rational and reasonable idea of physical cosmology is the Big Bang Theory. This theory essentially posits that this universe was created due to the explosion of matter of extremely high concentration with infinitely minimal quantity; the belief is that this matter continued to inflate to the point of an immense explosion, which resulted in the formation of stars and galaxies at its conclusion. The concept of the Big Bang does not attempt to provide answers to questions such as what preceded the creation of the universe, how the universe came into being, and what exists beyond the universe. In 1927, George Lemaitre, a Belgian Reverend, was the first one to put forward the idea of the Big Bang. It was a scientific description to explain the origin of the universe and is based on the Big Bang model. The notion behind this model was that time as well as space came into existence when primitive atoms broke up with immense force in a short time.

The term "Big Bang" was first coined by Sir Fred Hoyle while mocking Lemaitre in 1949 during a radio broadcast. By 1948, George Gamow, R. A. Alpher, and R. Herman were able to develop a model to explain the Big Bang theory. This theory posits that all matter within the universe is part of the singularity, which is assumed to be a random quantum event. Before the existence of this universe, there was no matter, energy, or even time; this is why this condition was described as a "state of non-existence". Metaphysics has come to determine that all matter, energy, and the time came into existence simultaneously when this singularity occurred. Big Bang

theory posits that the universe began from the matter becoming extremely hot in its initial stages; during the first phase of this process, it is speculated that the temperature was 5.5 billion degrees Celsius. This matter was extremely condensed and in solid form when it began to break, some 13.7 million years ago.

The theory posits that there was an extreme growth spurt of an elementary particle which then exploded. Due to this sudden burst of energy, the universe underwent another process known as inflation in which the size of the universe doubled by almost 90 times. Following this process, the universe continued to expand as there was gradual cooling. During the initial 3 minutes of the creation of the universe, light elements were formed. At lower temperatures, sub-atomic particles including neutrons and protons formed isotopes of Hydrogen and Deuterium, which in turn combined and formed Helium and other neutral atoms. This was the period of "recombination". For 380,000 years following the Big Bang, it is believed that the concentrated heat from the origin of the universe was not enough that light could shine. Atoms formed plasma and it dispersed light in the form of fog. The universe became transparent due to free electron absorption. Following this process, there was a dark period of the universe, which ended nearly 400 million years after the Big Bang; this period was known as the "re-ionization" phase. In this evolutionary period of about half a billion years, the cluster of gases collapsed to form the very first stars and galaxies and also emitted ultraviolet radiation that resulted in the destruction of hydrogen gas.

All of this data were collected by astronomers through the study of distant, oldest galaxies, and the cosmic microwave background with the help of the Hubble Space Telescope, which launched in 1990. It is believed that our solar system has existed for 4.5 billion years and came into being 9 billion years after the Big Bang. Milky Way galaxy has 100 billion stars with the inclusion of our sun. The Milky Way galaxy has an orbit of about 25,000 light-years. While there is no exact understanding of the manner of creation of the solar system, there have been some hypotheses regarding it. For instance, it is believed that the formation of the solar system began with the solar nebula which consists of massive clouds of gases and rotating dust. The cloud's densest parts started to collapse due to their gravity. This material began to take the shape of a major disk surrounding the Sun eventually.

In the 1920s, a renowned astronomer Edwin Hubble used a telescope, which was newly built in Los Angeles at the Mount Wilson Observatory, and put forward a discovery that the universe is constantly expanding instead of

being static as it was previously believed. In 1998, there was a study on supernovas with the help of the Hubble Space Telescope. The study confirmed that the universe has been undergoing expansion ever since its origin, albeit being much slower in the past. Before this discovery, it was generally believed that the pull between different matters was the reason for the slow expansion of the universe as well as its contraction. At the Carnegie Institution of Washington, an astronomer Vera Rubin conducted a research study on the speed of stars in galaxies. The velocities of stars in the centre and on borders are the same, which is opposite to basic Newtonian physics.⁴⁷

3.2. Biology

Millions of animal species live on the planet which have been thoroughly investigated as well as classified in the past two centuries. It has become evident that these are always in 'pairs' of male and female. All minute living creatures such as viruses, bacteria, and microbes also have their counterparts. All this has been clarified with the help of an electron microscope. One of the best examples to understand the concept of creation in pairs is Deoxyribonucleic Acid (DNA). DNA is made up of thousands of different genes which are made from base pairs of paired nucleotides; these base pairs of nucleotides are responsible for the composition, orientation, and sequence of the genetic information available within DNA. The chromosome is present in a single chain of a molecule of DNA and is composed of various proteins. The molecule of DNA is a meter-long chain of amino acids. It is a pair of spiral strands which are connected via steps. Nucleotides, chemical components, are present in these steps and include Adenine (A), Thymine (T), Guanine (G), and Cytosine (C). The base pairing is always complementary in nature meaning that A and T always bond together and G always has a bond with C due to their shape. The cell is the basic unit of life of all animals, humans, and plants. The cell consists of a nucleus, which is present in the cytoplasm. Chromosomes are present in the nucleus. All the functions of a cell are controlled by chromosomes. In a particular organism, all cells contain the same number of chromosomes but different species have a varying number of chromosomes. For understanding creation in pairs, another example is that of amino acids. Amino acid is the building block of proteins; 20 different types of amino acids form millions of different proteins with various combinations. Each amino acid exists as an isomer of either right-handed or left-handed forms and has an opposite polarised light rotation direction. Due to this, protein also has the same type of existence.

Bacterium exhibit the phenomena of "pairing". It is a unicellular microscopic organism. It reproduces asexually by splitting into pairs of identical cells. This method of cell division is called DNA replication. In this process, the double strand of DNA molecule uncoils and then separates from one other. Similarly, the bacterium cell is also divided into pairs. The two separated DNA strands then resynthesize into a complementary strand. This is one of the methods of asexual reproduction.

Another example is "Chlorophyll". It is responsible for the green pigmentation of plants and their leaves which are also known as the "food factory". This green pigment has two types including chlorophyll A and chlorophyll B. Chlorophyll A converts solar energy, carbon dioxide, and water into food for plants; whereas chlorophyll b, which has a different molecular structure, changes the solar energy into sugar and then starch. Chlorophyll is responsible for the formation of seeds and fruit (The Qur'an Project Distribution Centre).

1.1. Physics

All matter is composed of atoms and can exist in three states that are solid, liquid, and gas. The sub-atomic particles are neutrons, protons, and electrons. Every sub-atomic particle has its "anti-particle", in short, "matter" has its pair in "anti-matter". All anti-particles have photons of the same energy but in opposite directions to the matter within the magnetic field. The sub-atomic particle electron carries a negative charge, while the anti-electron (positron) carries a positive charge. On the other hand, the sub-atomic particle proton carries a positive charge, while the anti-proton carries a negative charge. Both matter and anti-matter are existing in the universe and they destroy each other upon collision; thus, resulting in the production of electromagnetic radiation in the form of neutral light particles, and photons.

1.2. Botany

In the 1890s, it was discovered that plants also possess sex. 1400 years ago, it was revealed in the Holy Quran that plants also have the characteristics of male and female as well as the existence of the processes of pollination and fertilization (Syed,2001).

1.2.1. Plants have opposite sex of male and female

Botany has proved that each plant also has a male and female gender. Some plants are unisex but even so, they have different elements of both males and females. Plant species that reproduce by the process of sexual reproduction have pairs. They have a variety of mechanisms for reproduction. Plants may be dioecious, in which both the male and female sex organs are present on separate plants. They may be monoecious, in

which both male and female sex organs are present on the same plant. Many species of plants reproduce by the asexual method of reproduction. Asexually reproducing plants include moss and ferns as they are reproducing by the formation of spores. Thus, Quranic revelations have already clarified on the matter of creation of plants in pairs.

3.2.1. Fruits have opposite sex of male and female

In higher plants, the end of reproduction is fruit. The first stage of the fruit formation is the flower, containing the male sex organ i.e., stamen and the female sex organ i.e., the ovule. During the process of pollination, the pollen grains transfer to the flower and grow into fruit; upon maturation, the plant sets its seed free. Therefore, all fruits denote the presence of male and female organs. Many species of plants form fruit from non-fertilized flowers; such types of fruit are called parthenocarpic. Examples of parthenocarpic fruits include bananas, some types of pineapple, fig, orange, vine, etc. These fruits also possess definite sexual features.

3.3. Creation of All in Pairs

Electricity also consists of atoms that have positively charged particles called protons and negatively charged particles known as electrons. The Holy Quran has also alluded to the creation of everything in pairs. This is applicable for all of the thing that man currently knows of or will know in the future (Ibid. P.35).

4. Conclusion

Based on the evidence cited in this study, it can be well-established that all things are created in pairs. The study has covered the analytical aspects of creation in pairs from the perspective of science as well as the Holy Quran. In the Holy Quran, Allah Almighty has clearly stated the creation of the universe and human beings; hence, it is established that scientific studies of the universe explore the Qur'anic fact of creation in pairs. Both of the *exegetes* had a scientific educational background; thus, there was also the scientific explanation of the ayahs. For further explanation, there was also the help of other exegeses which has fully explained the study. It is interesting to note that there has been immense material available for this study by the non-Muslims scholars as well which indicates that they have also pursued to attempt to understand the perspective of the Quran regarding creation in pairs to contend with the scientific views. Despite of the these findings of this study, It is to clarify that the according to the Holy Qur'an the creation of pairs and other such contents revolves around the divine guidance. The guidance of creation in pairs is to comprehend that

everything is incomprehensible and fruitless and incomplete without its pair. And duality is in every phenomena only Allah Exalted is one and free from duality.

References

-
- 1 Surah Al-Anbiya, 21:30
 - 2 Maulana Maududi, Tafheem-ul-Quran, vol:3 (Lahore: Tarjaman-ul-Quran, 2015), 150.
 - 3 Surah Al-Fussilat, 41:11
 - 4 Maulana Maududi, Tafheem-ul-Quran, vol:4, 481-483.
 - 5 Surah Al-Zaariyat, 51:47
 - 6 Maulana Maududi, Tafheem-ul-Quran, vol:5, 157.
 - 7 Surah Al-Ana'am, 6:143
 - 8 Surah Al-Annam, 6:144
 - 9 Surah Al-Hud, 11:40
 - 10 Surah Al-Rad, 13:3
 - 11 Maulana Abdul Majid Daryabadi, Translation and Commentary of the Holy Quran, vol. 2 (Lucknow: Academy of Islamic Research & Publications, 2007), 401-402.
 - 12 Maulana Maududi, Tafheem-ul-Quran, vol:2, 444-445.
 - 13 Surah Al-Taha, 20:53
 - 14 Daryabadi, Translation and Commentary of the Holy Quran, vol: 3, 120.
 - 15 Surah Al-Taha, 20:131
 - 16 Daryabadi, Translation and Commentary of the Holy Quran, vol: 3, 139-140.
 - 17 Surah Al-Hajj, 22:5
 - 18 Daryabadi, Translation and Commentary of the Holy Quran, vol:3, 173.
 - 19 Maulana Maududi, Tafheem-ul-Quran, vol:3, 202.
 - 20 Surah Al-Muminun, 23:27
 - 21 Daryabadi, Translation and Commentary of the Holy Quran, vol:3, 208-209.
 - 22 Surah Ash-Shoaraa, 26:7
 - 23 Surah Al-Luqman, 31:10
 - 24 Surah Al-Sabah, 34:46
 - 25 Daryabadi, Translation and Commentary of the Holy Quran, vol:3, 507-508.
 - 26 Surah Al-Fatir, 35:11
 - 27 Daryabadi, Translation and Commentary of the Holy Quran, vol:3, 514.
 - 28 Surah Al-Yaseen, 36:36
 - 29 Daryabadi, Translation and Commentary of the Holy Quran, vol:4, 8.
 - 30 Maulana Maududi, Tafheem-ul-Quran, vol:4, 258-259.
 - 31 Surah Az-Zumur, 39:6
 - 32 Daryabadi, Translation and Commentary of the Holy Quran, vol:4, 73-74.
 - 33 Maulana Maududi, Tafheem-ul-Quran, vol:4, 359.
 - 34 Surah Ash-Shoaraa, 42:11
 - 35 Surah Al-Zukhruf, 43:12
 - 36 Maulana Maududi, Tafheem-ul-Quran, vol:4, 527-528.
 - 37 Surah Al-Qaaf, 50:7
 - 38 Surah Al-Zaariyat, 51:49

-
- 39 Daryabadi, Translation and Commentary of the Holy Quran, vol:4, 266.
 40 Maulana Maududi, Tafheem-ul-Quran, vol:5, 151-152.
 41 Surah Al-Najm, 53:45
 42 Surah Al-Qiyamah, 75:39
 43 Surah An-Naba, 78:8
 44 Daryabadi, Translation and Commentary of the Holy Quran, vol:4, 468.
 45 Maulana Maududi, Tafheem-ul-Quran, vol:6, 226.
 46. Planck Collaboration, Planck 2018
https://www.aanda.org/articles/aa/full_html/2016/10/aa25830-15/aa25830-15.html
 47 Muhammad Tahir-ul-Qadri, Islam Aur Jadeed Science (Lahore: Minhaj-ul-Quran, 2010), 441–447.

Books

1. The Origin of the Universe. STEINER, JOÃO E . 58, 2006, ESTUDOS AVANÇADOS, Vol. 20, p. 245.
2. Stott, Garry McCracken & Peter. Fusion: The Energy of The Universe. 2nd. s.l. : Elsevier, 2014.
3. Modelling clusters of galaxies by f(R) gravity. S. Capozziello, E. De Filippis, V. Salzano. 2, s.l. : Royal Astronomical Society, 2009, Vol. 394.
4. Creation of the Universe: A Religious and Scientific Study. Salihuiddin, Hafiz. s.l. : Dialogue , 2013, Vol. VIII. 2.
5. The Rise of Big Bang Models, from Myth to Theory and Observations. Luminet, Jean-Pierre. s.l. : arXiv, 2007.
6. Big Bang Theory. Pasachoff, Jay M. s.l. : Access Science, 2021.
7. The Creation of the World - According to Science. Kupferman, Ram Brustein & Judy. 3, 2012, History and Philosophy of the Life Sciences, Vol. 34.
8. Was There a Big Bang? . Grinn, Leonid. 1, s.l. : Journal of Big History, 2018, Vol. III.
9. <https://www.washingtonpost.com/archive/opinions/1984/06/03/our-universe-created-from-nothing/dc8282d7-ae75-4149-b3c5-49e4614b2f36/>. The Washington Post. [Online] 3 June 1984. <https://www.washingtonpost.com/archive/opinions/1984/06/03/our-universe-created-from-nothing/dc8282d7-ae75-4149-b3c5-49e4614b2f36/>.
10. Georges Lemaître: the Priest Who Proposed the 'Big Bang' . McCann, Joseph. 418, s.l. : Messenger Publications , 2016, Vol. 105.
11. Dutfeld, Denise Chow & Scott. Space. [Online] 02 February 2022. <https://www.space.com/13320-big-bang-universe-10-steps-explainer.html>.
12. Big Bang: The Etymology of a Name. Kragh, Helge. 2, s.l. : Astronomy & Geophysics, 2013, Vol. 54.
13. Thermonuclear Reactions in the Expanding Universe. Ralph A. Alpher, George Gamow & Hans Bethe. 4, s.l. : American Physical Society, 1949, Vol. 75.

-
14. Minhaj-ul-Quran. Tahir-ul-Qadri, Mohammad. Lahore : Minhaj-ul-Quran Publications, 2005.
 15. About the theory of the Big Bang. Georgievich, Burago Sergey. s.l. : The General Science Journal, 2017.
 16. Harvey, Charles Q. Choi & Ailsa. Space.com. <https://www.space.com/52-the-expanding-universe-from-the-big-bang-to-today.html>. [Online] 18 January 2022.
 17. The Big-Bang Theory: Construction, Evolution and Status. Uzan, Jean-Philippe. 69, Paris : L'Univers, S' eminaire Poincar' e XX, 2015, Vol. 1.
 18. Bromm, Richard B. Larson & Volker. Scientific American . <https://www.scientificamerican.com/article/the-first-stars-in-the-un/>. [Online] 19 January 2009.
 19. Tillman, Nola Taylor. Space.com. <https://www.space.com/35526-solar-system-formation.html>. [Online] 31 December 2021.
 20. Turner, Adam G. Riess & Michael S. Scientific American. <https://www.scientificamerican.com/article/expanding-universe-slows-then-speeds/>. [Online] 23 September 2008.
 21. Deoxyribonucleic Acid (DNA). al., Marc S. Wold et. s.l. : Access Science, 2014.
 22. Genetics of Meiosis and Recombination in Mice. Schimenti, Eweline Bolcun-Filas & John C. s.l. : International Review of Cell and Molecular Biology, 2019, Vol. 298.
 23. Molecular Biology of the Cell. Alberts B, Johnson A, Lewis J, et al. 4th , s.l. : National Library of Medicine, 2002.
 24. A viewpoint: Why chlorophyll a? al., Lars Olof Bjorn et. s.l. : Springer Science + Business Media, 2009.
 25. Antimatter. Halvorson, David John Baker & Hans. 1, s.l. : British Journal for the Philosophy of Science, 2010, Vol. 61.
 26. Exploring the Scientific Miracle of the Holy Qur'an, Wagdi, Mohammad N, 2013.
 27. The Qur'aan and Modern Science: Compatible or Incompatible? Naik, Zakir. s.l. : Islamic Research Foundation, 2000.
 28. Sex Determination in Monoecious and Dioecious Plants. Nelson, Erin E. Irish & Timothy. s.l. : American Society of Plant Physiologists, 1989, Vol. 1.
 29. The Quran: Scientific Exegesis. Wahid, P. A. s.l. : Adam Publishers, New Delhi, India. , 2015.
 30. Pollination and Fruit Setting. Mokwala, Phetole Mangena & Phatlane William. s.l. : InTechOpen, 2019.
 31. Dark Energy: back to Newton? Lahav, Lucy Caldere & Ofer. s.l. : Royal Astronomical Society , 2008, Vol. 49.
 32. Einstein, the reality of space, and the action–reaction principle. Lehmkuhl, Harvey R. Brown & Dennis. 2013.
 33. Islam Aur Jadeed Science. Tahir-ul-Qadri, Muhammad. Lahore : Minhaj ul Quran, 2010.
 34. Hawking, Stephen. A Brief History of Time. 1988.

35. Daryabadi, Maulana Abdul Majid. Translation and Commentary of the Holy Quran. s.l. : Academy of Islamic Research & Publications, 2007.