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The Quest for Scientific Knowledge through the Quranic Verses: Representation of Embryology in the Holy Quran

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Abstract:

Ever from the dawn of mankind, we have attempted to understand nature and our existence. For many people, science is the only legitimate source and ideal presentation of true information whilst others view religion as another authentic source. There was a sense of tension between science and religion because of this paradoxical viewpoint. Islam is no different. In light of the Quran, the primary text of the Islamic faith, this study investigates this exaggerated struggle. In essence, the study is a critique of scientism, which is defined as "the philosophy that takes for granted the idea of science being the nonpareil font for real lore." It primarily raises the question of how human-obtained scientific truth and Quranic scientific revealed truth relate to one another. The purpose of the research is to map people's perceptions of the Quran's conductivity as a genuine, accurate, and trustworthy source to explore difficult contemporary issues and preserve its coexistence with science in an era of scientific advancement. In addition to data collected from a questionnaire for Muslim physicians, the study offers a scientific-linguistic examination of a few chosen Quranic passages pertaining to embryology to guarantee a thorough comprehension. The study's conclusions demonstrate that the Quran creates a vision of the scientific mind and show that the idea of conflict is strongly disapproved of from an Islamic standpoint. Furthermore, it demonstrates the enormous possibility for harmony between the Quran and science, notwithstanding their different domains.

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Introduction

Religion and science are two fundamental historical and cultural sources for man's guidance, and both of them have the most influence on all aspects of man's life. In fact there exist a variety of views about their ways of interaction. Some hold the conflicting view whereas others claim that they are in harmony, and yet others claim that they are completely independent from each other, having no point of connection.

Since each religion brings about a new challenging discussion with science, Islam and its scriptures are not exception in this case. Therefore, this research will examine the mentioned dichotomy within the framework of the Quran, the fundamental scripture of Islamic faith. The phrase "science–Quran relationship" is often associated with the evaluation of the Quran's content or validations of its authority through scientific theories (this is called *ijaz*).

The importance of the debate lies upon the fact that both Quran and science construct a mindset and offer an intellectual or cognitive understanding to approach a rational truth. The research interest in such topic was not a spur-of-moment. The Quran relation to science has always drawn people's attention.

However, what mostly triggered the interest to investigate Quran-science relation in-depth is the originality of the topic compared to English students' field of research, in addition to the lack of such research in English version which this point itself brings a kind of novelty and originality, as being tackled by English learners having no relation neither to medicine nor to Islamic sciences.

A great range of scholars and researchers have contributed to the question of how Quran and science relate to each other. This research paper also attempts to draw an overview about this subject of ongoing debate, with a special focus on contemporary approaches to it. As there are previous studies in the field, it is inevitable to mention that the paper discussion will be highly selective. Thus, this research challenges the claims and influence of scientism, which hold that science has the answer to every question about reality and that it is the only bona fide way of attaining any real knowledge. To the best of our knowledge, very few shed the light on this issue from a scientism point of view which suggests the novelty of this work.

Statement of the Problem and Research Questions

Although it is known that the Quran presents principles that can be viewed as a 'philosophy of science", the question that imposes itself is *to what extent can Quran refute scientism claims and coexist with science in a scientific age*? In order to reach this point and answer this main question, a set of sub-questions are raised to discuss the final results properly:

- What are Islamic views about religion and science relationship?

- Do Muslim scientists believe that science is the perfect presentation of reality?

- To what extent can scientific-oriented minds be in accordance with the Quran's ability to justify complex scientific matters in a rational way?

- Is the Quranic scientific foreknowledge obsolete compared to modern scientific discoveries?

Research Hypotheses

Not long ago, many scholars and researchers attempted (Naik, 2013 p. 129; Irfan, 2013, p. 34; Bucaille, 2014, p 61) to answer the question of the relationship between both Quran and science, some advocate the Quran as a source of scientific knowledge whereas others reject this view. Based on that, it is hypothesized that:

- Today, to a significant section of Muslims, science and religion do share some points of interaction based on the fact that Islam was built upon the foundation of learning and knowledge.

- Scientists today would claim that they know the absolute truth in their field of research

- Those who have faith in religion would certainly believe in this view regardless to the fact that they are highly influenced by science.

- Faithful people believe that God's word is not bound to time, but it's internal, timeless and always suitable for instruction and teaching in life.

Description of Research Methodology

Appropriate research methods are an essential component of a successful research study. While qualitative research methods are flexible and suitable for

answering the research question at hand, quantitative methods are also needed for drawing a complete picture of the results (Cohen and Manion, 1994, p.75).

The present work is a multiple approach research, as it applies a mixture of approaches, both qualitative and quantitative. This study has a descriptive analytical nature, and it is based mainly on reviewed literature as a source for gathering data and providing back up. It provides a scientific-linguistic analysis of chapter 23 verses 12 to 14 of the Qur'an, and other selected relevant verses, in light of modern embryology. The analysis is based on a linguistic breakdown of these relevant verses and correlates these linguistic items to established facts in the field of embryology. Besides the review of previous studies in the field, a questionnaire was administered to a group of doctors of medicine to find answers to the research questions. Most participants are specialized in the field of Genecology.

The questionnaire was administered as a research tool to gather data from the participants. To simplify the task, a French version of the questionnaire was distributed, an introductory paragraph was drafted and a first section was devoted to the participants' age, gender and years of experience. The main focuses are divided into three sub-focuses: Personal information and background, science-religion relation within the framework of the Quran, and Embryology (Figure 1).

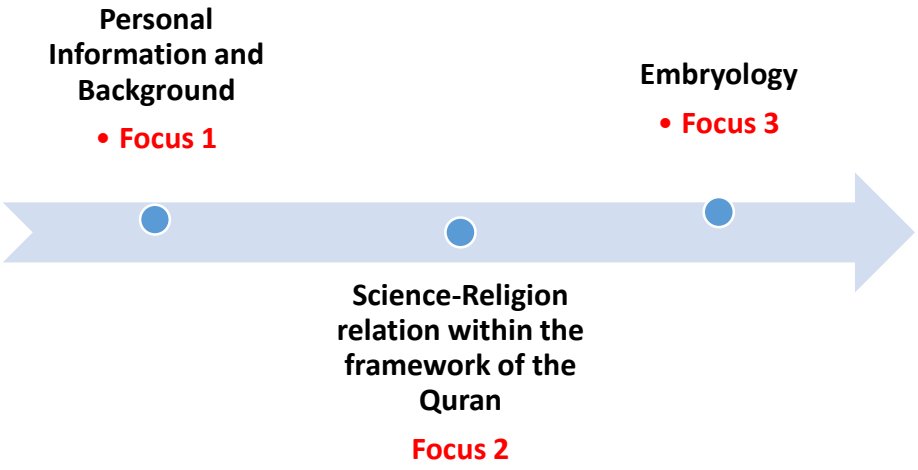


Figure (1): Main focuses of the questionnaire

The questionnaire was administered to 14 (10.6 %) respondents who form the simple of the present research, out of 132 who are the total number of the studied population (this statistic is taken from the Direction of Health and Population of Laghouat). They are males and females, obtained randomly from all over the city

of Laghouat. Every respondent was given a questionnaire containing statements on the present work. The Questionnaire was varied in terms of questions. It consists of both, open-ended and close-ended questions. It encompasses Yes/No questions, some were provided with different options while other questions needed brief justifications. Also, the participants, in certain questions, were invited to choose out of a rating scale.

The questionnaire was administered directly; this enables the researcher to get personal discussions with the doctors. According to the doctors' responses, the participants enjoyed the experience, showed interest and seemed very glad and satisfied because their domain is being studied even by students other than those of medicine. Most of the doctors even get further, providing extra information, comments and explanations. Other doctors needed clarifications and explanations of certain questions.

The researcher used Excel to help analyze and process the data. This software helps obtain percentages, means, associations, and reliability values from a descriptive point of view.

Research Objectives

The research is carried out with the objective of mapping people's perception about the conductivity of the Quran as an authentic, accurate and reliable source to investigate complex questions of modern world by demonstrating that its content constructs a view of the scientific mind with the necessary presuppositions. In addition, the present work aims at determining the nature of the relations that it maintains for rational understanding and its coexistence with science in a scientific age.

Reviewed Literature

Through many readings, some sources are chronologically ordered from the most recent to the most preceded. According to Thomas Burnett (2017, p. 37), the extent of the scientific revolution has brought about a new philosophy known as scientism; though it is a broad term, but basically for many scientists it can be simply summed up as the belief that science is the only source of real knowledge. Once one believes that science is the only source of human knowledge, he will certainly adopt a philosophical position 'scientism'. Based on scientists' statements, this philosophy is still alive.

In the Muslim world, Zakir Naik (2013, p. 69) examined the main source of Islamic faith, the Quran, in the light of established scientific discoveries. He presented some challenges of the Quran concerning astronomy, physics, hydrology, geology, botany and embryology. Based on his analysis of some Quranic verses in relation to these fields, he believed that the holy Quran is a book of a divine origin regarding its strong compatibility with scientific facts.

Dr. Maurice Bucaille (2014, p. 48), the French surgeon, was the first western who indulged in this issue. He examined different religious scriptures in the light of scientific discoveries highlighting their similarities while giving a great insight into the Quran's revelations and how they are tested to be more accurate.

In the field of Embryology, in which the holy Quran in many verses talks about, Moore, et al. (1991, p. 97) emphasized the strong compatibility between the Quranic and scientific data that describe the embryo developmental process. The study of embryology has started long time ago. It was not a field standing on its own but rather a branch or a subfield from broader ones. For instance, for the ancient Greeks it was part of a field known as generation. Later it became part of biology and recently it became an independent field. The study of embryology can be traced back to the ancient Greeks and even the early Egyptians. They had numerous believes about how human beings came to life most of which were speculations based on superstitious beliefs.

Walner (2010, p. 44) projected the developments that appeared within the field of embryology as the embryologist and historian Joseph Needham (1959) puts them. Needham approaches some of those believes and discusses the attempts of the early Egyptians, fourteen hundred years BC, to understand the process of the development and the creation. They had various explanations depending only on superstitious ideas and thoughts. They believe that placenta encompasses superpowers which are responsible for the creation of the soul was widely spread at that time. The Egyptians tried to investigate the development of the embryo throughout the study of the development of the check egg. The Greeks continue on this research to have answers of their own.

According to Needham (1959, p. 102), the first true embryologist is Hippocrates. The latter suggests that assumptions and believes were the seeds that led to the conception of pre-formation. The basic belief of this conception is that the organisms are already fully formed inside a miniature within the mother's egg or

the father's semen. This had been the common belief for a long time. Aristotle is another prominent figure of ancient time to study embryology. His observations and experiments on the bird egg in different stages of development were exceptional and resulted in the theory of epigenesist or the neo-formation. This theory is used as reference to the recent studies. The theory presupposes that the embryo starts as an undifferentiated mass then it develops and other organs are added later.

Those ancient beliefs were the corner stone for many other beliefs and even the recent studies. Even though they were not entirely correct, they were the guide line and held the responsibility for the continuation and the growth of embryology. Nowadays science, embryology, being more accurate and based on empirical studies depending on the advanced technology; it would not have reached this phase without the inherited notes and the descriptions (Walner, 2010, p. 64).

Quranic Data Analysis

There exist various verses in the Quran related to embryology. The most detailed verses are the ones of chapter 23 in which it is stated as follows:

We created man from an essence of clay, then We placed him as a drop of fluid in a safe place. Then We made that drop of fluid into a clinging form, and then We made that form into a lump of flesh, and We made that lump into bones, and We clothed those bones with flesh, and later We made him into other forms. Glory be to God the best of creators (Q, 23:12-14).

وَلَقَدۡ خَلَقۡنَا الۡاِنۡسَانَ مِنۡ سُلٰلَةٍ مِّنۡ طِيۡنٍ ۚ ﴿23:12﴾ ثُمَّ جَعَلۡنٰهُ نُطۡفَةً فِىۡ قَرَارٍ مَّكِيۡنٍ ﴿23:13﴾ ثُمَّ خَلَقۡنَا النُّطۡفَةَ عَلَقَةً فَخَلَقۡنَا الۡعَلَقَةَ مُضۡغَةً فَخَلَقۡنَا الۡمُضۡغَةَ عِظٰمًا فَكَسَوۡنَا الۡعِظٰمَ لَحۡمًا ثُمَّ اَنۡشَاۡنٰهُ خَلۡقًا اٰخَرَ ؕ فَتَبٰرَكَ اللّٰهُ اَحۡسَنُ الۡخٰلِقِيۡنَ ؕ ﴿23:14﴾

These verses give quiet detailed ***(Q, 39:6).*** Considering the fact that the verses above are dealing with the same topic that would indicate the information given in the verses of chapter 23 are stages. Thus, if they were to be analysed and arranged, it might be suitable to follow the same arrangement provided by the Quran.

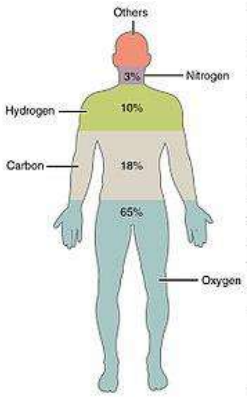
2.3.1 Essence or Extraction of Clay (Sulaalah Min Tin)

The first part of chapter 23, that is mentioned previously, 204).

The early commentators of the Quran suggest that was adopted by thought of another possibility of interpreting these words. They (Tzortzis,2012, p. 81).

In scientific terms, this part of the verse is pertaining to certain essential chemical constituents. These constituents are of the clay have shown. An examination of the human body would result in the fact that many elements.

inaccurate or something drowns out. This certainly show that the verse does not refer to the clay as being the component of the human body (Figure 2), but rather what is *extracted* of a clay constitute the exact components that are vital for it can be from clay is regarded as an unexplainable event or a miracle (Tzortzis)



Element	Symbol	Percentage in Body
Oxygen	O	65.0
Carbon	C	18.5
Hydrogen	H	9.5
Nitrogen	N	3.2
Calcium	Ca	1.5
Phosphorus	P	1.0
Potassium	K	0.4
Sulfur	S	0.3
Sodium	Na	0.2
Chlorine	Cl	0.2
Magnesium	Mg	0.1
Trace elements include boron (B), chromium (Cr), cobalt (Co), copper (Cu), fluorine (F), iodine (I), iron (Fe), manganese (Mn), molybdenum (Mo), selenium (Se), silicon (Si), tin (Sn), vanadium (V), and zinc (Zn).		less than 1.0

Figure (2): The Components of the Human Body

Drop of Fluid (Nutfah)

The word *nutfah* is used to describe a stage of the development. This word can indicate various meanings and have different interpretations. In the Arabic dictionary *Lisan Al-Arab* the word *nutfah* means a 'single drop of water remaining in an emptied bucket'. It also can refer to a trickle, a drop or semen. In another context, Baucaille (2008, p. 78) suggests that *nutfah* is used to describe the 'very small quantity' of the liquid which is needed to propagation.

The classical commentators of the Quran pointed out that it is the semen. However, other exegetes disagreed with this view and announced that there is a need to consult the other Quranic verses which refer to *nutfah.* In this vein verses of chapter 37 and 32 are brought to the discussion "*Had he not been a sperm*

(nutfah) from a semen (maniyyin) emitted"(Q.37:75) and *"Then He made his posterity out of the extract (sulaalah) of a liquid disdained"*(Q, 32:8). Exegetes used this verse to confirm that the *nutfah* is not the semen *(maniyyin)* itself but rather a part of the semen. This is what Tzortzis (2012, p. 41) uses to support his definition in which he claims that *nutfah* is one object that is part of a larger group of the same kind.

The word *amshaj* accompanied *nutfah* in the second verse of chapter 76 "*We created man from a drop (nutfah) of mingled fluid (amshaj)*." *Amshaj* is interpreted by Ibn 'Abbas as the "*fluid of the man and women when they meet and mix".* This pinpoint that *nutfah* has the implication of something mixed and an intermingled substances. Thus, its most considerable interpretation from an embryologist point of view is the zygote[1] rather than a sperm or spermatozoon. This brings to the light another prominent idea about the verse. It delivered the stages in a chronological order; the zygote or *nutfah* was mentioned at the start because it happens during the fertilization which is of the first stages of the fetal development (Tzortzis, 2012, p. 36).

Nutfah, in a scientific context, has different connotations such as the male and female gametes[2], the morula[3] or the blastocyst[4] (Chohan and Tahir, 2016). It refers also to the first stage of the embryo's development. All and each meaning and interpretation can correspond in one way or another to the description of this stage of the embryonic development.

Safe Place (Qaraarin Makeen)

The Quranic words that stand for the next stage are *qaraarin makeen.* Those two words provide countless meaning since each has its own definitions meanings and interpretations and when they are joined together they present whole new meanings. The word *qaraar* means

[1] Zygote: a cell results from the union of an oocyte and a sperm during fertilization. A zygote or embryo is the beginning of a new human being.
[2] Gametes : gametogenesis which are the spermatogenesis in male and oogenesis in female
[3] Morula : solid mass of 12 to approximately 32 blastomeres ;formed by cleavage of a zygote.
[4] Blastocyst: the hollow sphere of cells derived from the morula consisting of the inner cell mass and outer trophoblast.

sedentariness, firmness, steadiness and settledness. Withal it is to decide and make a firm decision as it is used as the equivalence for residence and resting place. For the word *makeen*, it has the connotation of something firmly established which make it strong and solid plus it means to put and place in deep-rooted and deep-seated position (Wehr,1976, p. 58).

The Quran uses precisely the combination of the two words together. This is because the coalition of both result a stronger and shapelier meaning. Their combination results in the connotation of safe and firm place of rest or lodging (Tzortzis, 2012, p. 39). This phrase is perfectly the accurate description of the next phase of the development. It expresses exactly what happens to the fatal after the *nutfah* stage.

For scientists, this phase is known as implantation. From an embryologist view, it starts with the 6th to 7th day after fertilization in which the blastocyst is formed out of the transformation of the zygote into a ball of cells with an outer shell. Then, with the intervention of different enzymes, the blastocyst delves deeply in the uterine mucosa. The blastocyst is finally covered and shielded with operculum[5]. This operation takes about 4 to 6 days after its start. The blastocyst is eventually securely placed in the endometrium[6] (Tzortzis, 2012, p. 41).

This process, the so-called implementation, allows the *nutfah* or the fatal to be securely placed in a firmly established shell inside the mother. The Quranic words are veracious in telling the exact process upon which the development operates. The scientific discoveries go along with this description.

Clinging Form (Alaqah)

The next stage according to the Quran is to become *alaqah*. This word has been a topic of interest for many researchers and scholars. The word *alaqah* was given a variety of interpretations by the classical commentators of the Quran. For instance ‘Ikrima believes that it is blood in general, while Al-Shawkani suggests it to be a

[5] Operculum: a covering membrane.

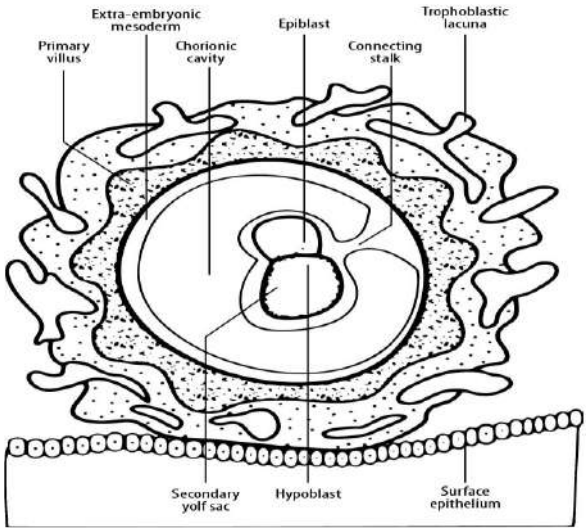
[6] Endometrium: the inner lining of the uterus in which implantation occurs.

slice of dried blood and opposing to this view, Al-Qurtubi says that it is a wet slice of blood. Ibn Kathir goes on with the meaning of a long leech (Bazli et al, 2016, p. 133).

Hence, *Alaqah* expresses different meanings. Analysing those meanings in relation to the embryonic study would result in those main denotations to the depiction of the scientific explanations of the embryo.

Hanging or Suspended

One of the literal meanings of the word *alaqah* is to hang or to be suspended which are common words used by embryologists to describe the status of the embryo in its first stages with the appearance of the connecting stalk. The latter is an organ that is shaped as soon as the embryo starts to be formed. Allan and Kramer (2010) explain "*the connecting stalk ... [is] to suspend the developing embryo"* (In Tzortzis, 2012, p. 21). The fact that the embryo is connected and hanged in the mother's womb, this clearly prove that the newly discoveries of science are along with .

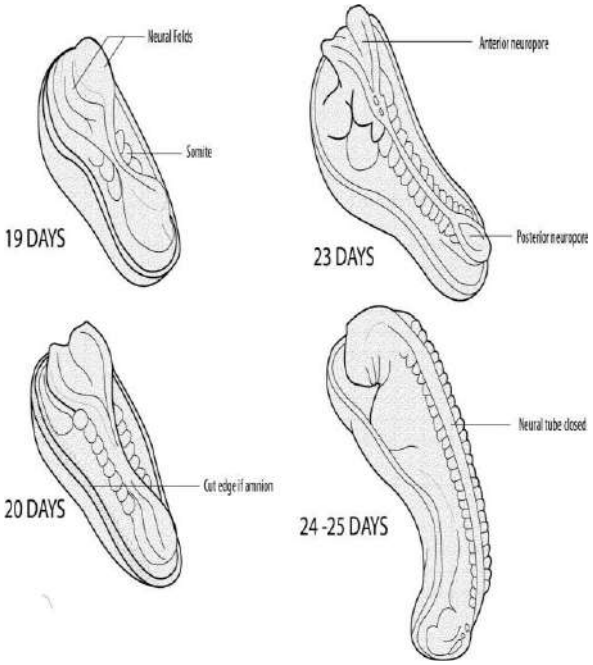


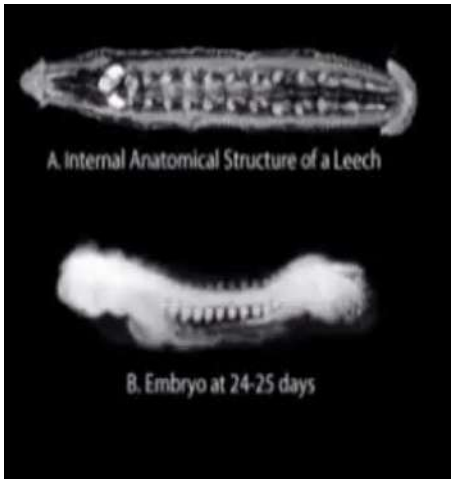
Leech

'*Alaqah* refers a leech is verified with scientists' finding which denotes that the embryo has the main aspects of a leech sucking the blood of others. This

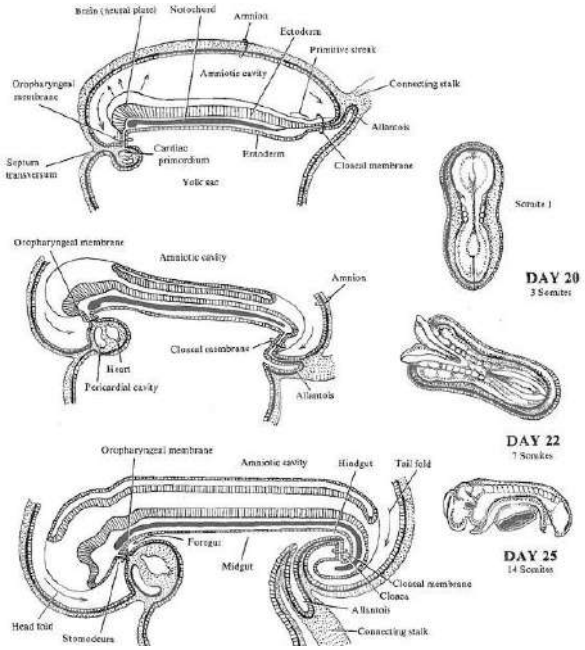
characteristic is the reason behind its name '*alaqah*. Similarly the embryo nourishes from the mother's blood (Bazli et al, 2016, p. 234).

Concerning the shape, recent scientific discoveries show that the embryo development starts from about the nineteenth day to be formed in a shape of a leech and even has its internal structure (Figure 2.3). This, scientifically, referred to as neurulation (figure 2.4). Sharma





results the leech shape. Embryologists suggest that this process happens due to the structure of the cylindric or tube-like. Embryologists Moore and Persaud (2008) assert that "...come closer together (day 22 to 25).



Many scientists came with the conclusion that the embryo truly develops resembling the physical and internal features of a leech (figure 2.6). This resulted in the fact that there exists no word better clarifying and describing the embryo in this stage then *'alagah.* Dal Layman described it using the words 'warm-like' and Moore declared it clearly "*The human embryo is truly leech like"*(In Tzortzis, 2012, p. 26)

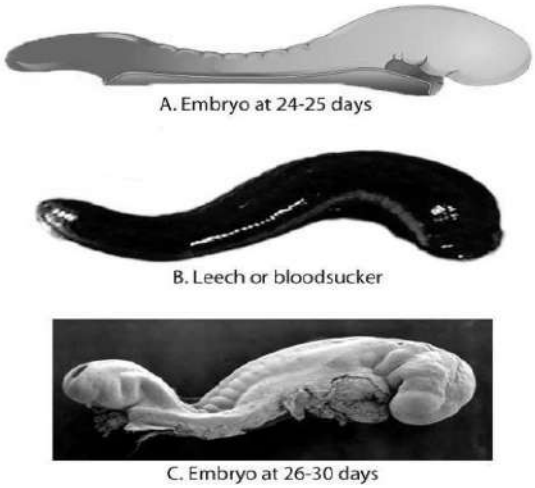


Figure (7)*: The Shape of Leech the One of Embryo*

Blood-Clot

As stated above many commentators referred to the '*alaqah* as a blood or slice of blood. This interpretation goes in accordance with what an embryo looks like before the third week which resembles the shape of a blood-clot. Scientists explain this phenomenon as the outcome of the development and the formation of the primary cardiovascular veins and system. The preliminary heart and the placenta start to be formed and come out. Another reason for the blood-clot similitude is the lack of blood circulation; quite a large amount blood is blocked within the embryo. This would come to an end by the end of the third week (Chohan and Tahir, 2016, p. 58). Figure (8) shows how the embryo look like a blood-clot since it presents the development of the cardiovascular system.

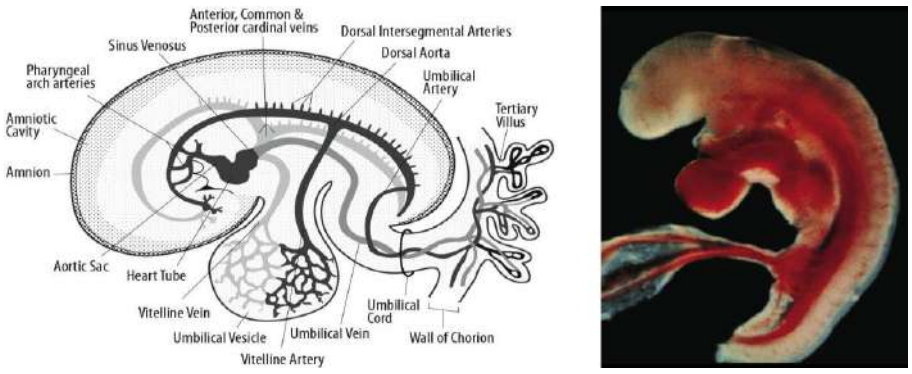


Figure (8): The Development of the Cardiovascular System Resembling a Blood Clot

The Quranic selection of the word '*alaqah* refers to the early stages of embryo's development is the perfect choice. The scientific descriptions of the embryo's appearances correspond exactly and accurately with the connotations of the word *'alaqah* t holds.

Lump of Flesh (*Mudgah)*

Mudgah is the word used by the Quran to describe the stage after '*alaqah*. The word also encompasses various meanings. Interestingly, each has a great deal in describing this stage. The meaning provided by El-Naggar indicates that it refers to what remains in the mouth after chewing as it is used to describe something teeth chew and leave visible

marks on, which change because of chewing. This definition is the description of the embryo's appearance in the fourth week. Scientifically, this appearance is due to the somites at its back which are the beginnings or primordial of the vertebrae. Figure (9) demonstrates how the embryo looks like a chewed gum.

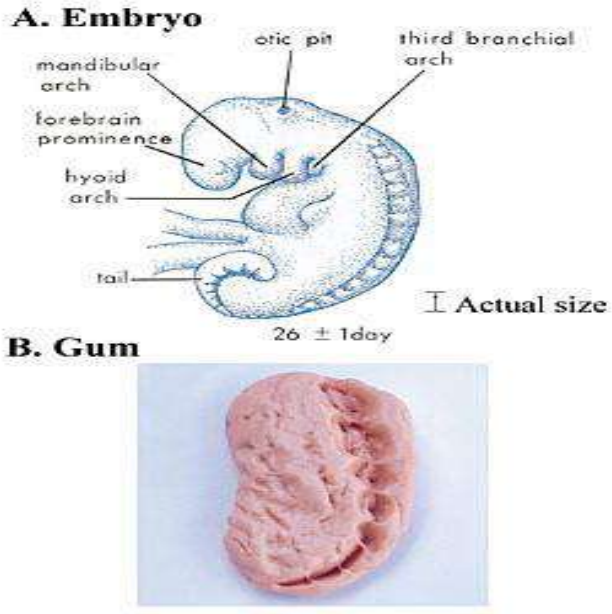


Figure (9): An Embryo Compared to a Chewed Gum

Mudgah is also interpreted as the small substance or the small seized piece (morsel or chunk) of meat which is the state of the embryo during his fourth week. According to embryologists, the embryo is of tiny size of barely 1.0 cm that looks like a morsel of flesh at this stage (Chohan and Tahir, 2016, p. 64).

The Quran clarifies another meaning in the verse which states "*Then out of a morsel of flesh, partly formed and partly unformed" (*Q,22 :5). The commentators believed that this presents another meaning which is of something partially formed or shaped, or partially unformed. This can, scientifically, be linked to the shaping and forming of some organs in this period while others mold only in the upcoming stages (Chohan and Tahir, 2016, p. 65).

Bones ('Idhaam)

and it is named *idhaam* (bones). During this stage the embryo starts shaping and a development without any delay. The use of this conjunction shows that the development occurs in a very short time (Bazli et al, 2016, p. 66).

Some critics suggest inaccuracy of using the word *'idham*. It is claimed that a more apt Arabic word is *ghurdoof* since at this stage ossification is not complete and the "bones" are not really bones and only cartilage. The word *ghurdoof* do have the connotation of cartilage. However, it turns out with flesh (Tzortzis, 2012, p. 27).

A. J. Arberry (1998) adds that can be translated that in the lump the bones are created (Tzortzis).

Flesh

muscles to detail the next stage. This indicates that the flesh and muscles (*lahm*) bones. This was studies with the newly advanced technology .

Quran not only provides accurate description of the stages but muscles. This word has the connotation of clothing as it indicates encasing and covering which is what happens in this stage. The developing skeleton is surrounded by muscle messes and by the end of this stage the muscles wrap around the bones as if it is clothing it (Tzortzis, 2012, p.29).

A contention is the equivalent for muscle. This filmy contention was refuted since at this stage muscles are not the only organs that appear; other forms such tissues and tendons appear as well. Thus, the use of *adalah* would be inaccurate. *Lahm,* on the other hand, encompasses the aspect of flesh and muscles that make it the correct expression to denote them (Tzortzis, 2012, p. 30).

Another Form or Creation

The end of the previous stage marks with it the end of the embryo and the start of the fetal stage. This stage is characterized by the development of the fetal to become more clearly of humanistic form. The Quran uses the expression "*ansha'naho khalqan akhar* "(made him into other form or creature). These words describe the processes that happen during this stage.

The first process is *nash'ah* which has the connotation of the initiation or the beginning to refer to beginning of the functioning of various organs and systems. *Nash'ah* can also mean the developing and rapid growth which is the case for the fetal which gets more distinguishable features of a human baby. The two meanings of *nash'ah* are clearly applied in this stage.

The second process is the *khalqan akhar*. This description goes along with the first process since the embryo stage ends and the fetal appears. A new and different form is created. This stage starts by the end of the eighth week and the beginning of the ninth. A time in which the fetus witnesses huge and rapid growth of the organs and tissues become fully formed. Before this stage the human fetus was not of any difference from any other animal fetus. Only in this stage it becomes distinguishable and the by the third month the face become more human looking (Tzortzis, 2012, p. 31).

When discussing this idea, another prominent verse is brought up ***"He creates you in the wombs of your mothers in stages, one after another, in three veils of darkness"*** (Q.39:6). This verse conforms that the developments do occur in stages and brings the attention to the point of the three veils. Embryologists confirms that the fetus is fenced in three membranes which are at first amniotic or the amniochorionic membrane. This veil allows the fetus to be in swimming state thanks to its watery fluid. The second veil is uterine wall or the chorionic membrane that surrounds the amnion membrane. It is component of the placenta. The last veil or membrane is the deciduous membrane or the anterior abdominal wall (Chohan and Tahir, 2016, p. 33).

Data presentation and Analysis (Questionnaire Responses)

This section addresses the opinions regarding the relation that ties religion to science within the framework of the Quran as perceived by our sample doctors. A semi-structured in-depth questionnaire was the research instrument used to answer this issue. Below is a clarification of the fact that our participants, to a great extent, do share same views. These findings support the reviewed literature (Guessoum, 2011, p. 87).

Question One: Does religion answer only religious matters? This question is a core question to our research. All of the participants agreed that religion doesn't provide responses to only religious matters.

Question Two: What do you think about science and religion when it comes to understanding cosmology (the origin of the universe), biology (the origin of life and of human species), and other similar fields? According to all participants, there exists a kind of coexistence between both religion and science. That is highly supported by participants' responses to question 2 in part two.

Question Three: It is said that when science and religion collide usually science wins. As stated in the above table (3.6), there is a general disagreement among participants regarding superiority of science over religion.

Question Four: Does being scientific contradicts being religious? Analysis of the data revealed that coexistence and harmony are the prevailing ties between science and religion. Analysis of this questionnaire item shows that all of the participants indicated that there exists no contradiction between fields, science and religion; thing that highly supports the research standing point revealed by most reviewed studies. Participants were invited to justify their view. In this respect, most of them responded by providing answers, relating to discoveries and scientific facts stated in the Quran .

Question Five: Is there a place for Islamic faith in modern medical practice? This question in the questionnaire relates to participants' view whereby all doctors agreed that there is a place for Islamic faith in modern medical practice. Based on their responses, all of them used to provide their patients with explanations based on Quranic data.

Question Six: Do you believe in Quranic scientific foreknowledge? This question was meant to find whether participants believe in Quranic scientific foreknowledge. In fact, all of them answered "yes". Participants were invited to further justify their answers whether Quranic foreknowledge is obsolete or not in a scientific age. According to all of them, Quranic foreknowledge survives in a scientific age .Data analysis yielded very important themes representing participants' deep belief in Quranic knowledge and its harmony with scientific knowledge surveyed in books. In sum, they seemed deeply believing in the coexistence between science and Quranic knowledge.

Question Seven: Do you think that Quran will never be able to justify scientific complex matters in a rational way? Data analysis revealed that all participants don't think that the Quran will never be able to justify scientific complex matters in a rational way. To justify their view, most participants argued in favor of the Quran, claiming that science discoveries and inventions are merely confirmations of the data stated in the Quranic verses.

Relating to whether participants are aware about any Quranic data that describe hard core science, data gathered went beyond researcher's expectations. 13 out of 14 doctors answered that they are aware of that, and showed a great deal of readiness to mention countless verses to back up. Participants' examples revealed scientific facts mentioned in the Quran such as the solar system, solar cycle.

Question Nine: How does Quran mentions the stages of embryonic development of a foetus? To answer this question, participants were provided with four (4) choices, from which they were supposed to choose the option they think is the most suitable. The fourth choice was ticked by all participants. One participant added '*Yes, the Quran treated this issue with very deep details and precision. I have always said so whether to my patients or radio listeners.*"

Question Ten: What does the Quran say about the protection of a foetus in the mother's womb? Here also participants were provided with a set of choices. All interviewees responded positively and showed a very good understanding and knowledge of the Quran. Thus, the questionnaire and the interview gave positive results that confirmed the researchers' claims with regard to the compatibility prevailing between science and Quran. One participant said:"*I have always enjoyed reading those verses and tried many times to use them as convincing facts during discussions mainly with people other than Muslims*."

Question Eleven: Do the verses referring to embryology in Quran clash with modern medicine? To answer this question, participants were expected to respond by providing arguments to justify their choice, whether yes or no. In fact, doctors who answered "yes" provided no arguments whereas those who answered "no", they tried to justify their choice. "The more science develops, the deeper our understanding of the Quran will be", wrote one participant. "A great scientist converted to Islam after having read those details stated by the Quran", wrote another.

All in all, there was a general agreement upon the importance of the topic. To conclude, the findings of the interview as well as survey questions give support to the concept of harmony and compatibility found between science on one hand and Quran on the other. However, it is recommended that future research replicate this study to find out if another researcher would achieve similar results, in subfields other than embryology, that promote the generalization of its findings.

Overall Evaluation

In response to the analysis of chapter 23 (12-14) and the survey responses, the study analysis suggests that interactions between science and religion are varied and complex. However, from an Islamic perspective, it is concluded that a complementarily model is the most fruitful in the task of relating scientific and religious knowledge because science and Islam in terms of knowledge address the same reality from different perspectives, providing explanations that are not in any kind of rivalry to each other, rather they are complementary. It could thus be suggested that science and religion from and Islamic point of view do have points of contact which indicates their coexistence in some fields; thus hypothesis 1 (Today, to a significant section of Muslims, science and religion do share some points of interaction based on the fact that Islam was built upon the foundation of learning and knowledge) is confirmed.

As for scientism's claims, no one can deny the achievements of science and its remarkable ability to explain a wide variety of phenomena in the natural world. However, to claim that there is nothing knowable outside the scope of science, this would be similar to a successful fisherman saying that whatever he can't catch in his nets does not exist. And, those who adopt this philosophical position should broaden their minds and not be so parochial simply for the fact that science is not the only method or source to discover and investigate truths about man, life and universe. Instead, science should be regarded as the attempt to understand, explain, and predict the world we live in. In addition, the fact that science is constructed by humans, this signals the possibility of error or bias, and that science is incomplete and often it is wrong. What scientists hold as a fact one day is often overturned the next (as suggested by one of the doctors). Therefore, science is not a body of knowledge; rather it is a useful method of study which has a limited scope which lies in the foundation of the modern technological world. In addition,

it is provisional in nature, meaning that science is always updating and evolving as new facts are discovered. It could thus be suggested that science is not the perfect presentation of reality as many claim. This indicates that religious identity plays a vital role in such matter. Only those who lack a religious identity would claim that science is the bona fide source of knowledge. Thus, hypothesis 2 (Scientists today would claim that they know the absolute truth in their field of research) is not valid in all cases.

is a miraculous book both for its eloquence and its content. It contains God's unchanged truth, meaning that it contains all knowledge within the compass of its 'Ayat' that include different matters, i.e. the Quran is not only a book for the statement of Islamic law and for legislation; rather it has more dimensions than its religious purpose, and those who reject this fact are only avoiding the truth or simply lacking a religious identity. Hence, while a given scientific theory in question, and that although it doesn't present details, as many claim, it does provide the metaphysical framework to understand scientific matters. These findings are similar to earlier studies that have been investigated. In line with this, an analysis of the participants' responses indicate that the holy Quran is believed to be able to investigate and justify scientific matters by scientific-oriented minds; thus hypothesis 3 (Those who have faith in religion would certainly believe in this view regardless to the fact that they are highly influenced by science) is confirmed.

As for Embryology, based on the previous analysis and the Doctors' views , one can highlight the fact that no technologies and above all narrated by a person who was illiterate, and the surprising thing is that great minds in the field of embryology confirmed the Quranic data word by word. Scientifically speaking, scientists came to know about these stages only around the 20th century with the invention of certain technologies, and before this period there was no such detailed mention. Generally, scientists in that period held. Thus, in line with previous studies and participants' response, the findings reveal that the Quranic data is up-to-date with modern science. Therefore, hypothesis 4 (Faithful people believe that God's word is not bound to time, but it's internal, timeless and always suitable for instruction and teaching in life) is confirmed.

Conclusion

Regarding the validity, authenticity, accuracy and reliability of the Quran which have been proved throughout the present work, one can conclude that the holy Quran is a conductive source to investigate complex questions of modern world, and that scientists should not dismiss it as meaningless nonsense because this in return displays an ignorance of how to read a symbolic divine narrative, and it is necessary.

In summary, with regard to the findings for the research questions, the present study has provided additional insights to those of other studies that have investigated the Quran-Science interrelation with the hope of opening the door for nuanced, sincere and frank discussions concerning the Quranic discourse.

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