

Extract from Dr. Noor's book- Document X. Proving God's Existence!

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The Structure of the Universe (soon to be published book)

The previous lecture, the first in a series, centered around the title of my book, "Document X, the direct evidence of God's existence" with the subtitle "how He created life and the universe". I made the important point that we will be using the scientific verses in the Quran to prove its divine nature. The aim is to prove the existence of God based on the evidence presented in the Quran. To follow the argument, requires background knowledge of the subjects we will be dealing with. What I have done is to select the most popular and fundamental topics in science and summed up the most modern scientific approaches regarding these topics. The general pattern I will follow throughout is to provide you the reader or listener with the basic information – I will concentrate on the essential aspects only so that you get the idea what the subject is all about. I will then proceed to quote the relevant Quranic passages and show that it can be interpreted in the light of modern science

The topic of discussion today is the Universe. We will be looking at its general layout, structure and size. The universe is everything, the totality of existence. It includes all space, matter and energy. I think the best place to start in describing this vast cosmic construction, is our own cosmic neighbourhood, better known as the solar system. The solar system consists of the sun and a whole community of worlds. The sun is by far the largest member and constitutes more than 99% of the total mass of the solar system. All the other celestial bodies are in orbit around it. These celestial objects include the planets, satellites, asteroids, comets and meteorites.

Let us look at these bodies individually

The Sun

The sun is an average size star – the reason it looks so different is because it is so close to us. The sun as stated is very large; about a million earths can fit into it. Because of its mass, it exerts a powerful gravitational force. Let's digress for a moment.

Let me say something about scientific terms. In the first few lectures in our series I will introduce a number of concepts which may be new to you. If you find it difficult to understand, don't worry. These will be repeated over and over again as we go along so that you will see the bigger picture at a later stage. It is not always easy to explain advanced scientific ideas in simple terms. I will try my best to keep things as simple as possible and therefore beg the patience of the more discerning listener. I repeat, if you don't understand a particular point or lose me at times, don't be concerned as things will become clear at a later stage. Let's continue with our discussion. We spoke about the gravitational force. You can imagine a force to be a pulling or a pushing power. Any particle or body that has mass will generate a gravitational force which is attractive in nature – it has a pulling effect. The force, say between the earth and the sun, depends on the masses of these bodies and the

distance (the radius) that separates them. The larger the mass and the closer the bodies, the stronger the force between them. Conversely with small bodies that are separated by large distance the force is small. Mercury, the planet which is closest to the massive sun will move faster around the sun than the more distant earth. The gravitational force is more intense near the sun than further away. It is this force that makes the planets go around the sun and is responsible for maintaining their orbits. The sun is constantly pulling the planets towards it, but they don't crash into the sun because of their motion. Stop their motion and they will fall inwards towards the sun. It is useful to think about the gravitational force in the following way... if an object is tied to a string and swung around in a horizontal circle the object will go into orbit around your head. The tension in the string may be likened to the gravitational force.

It is the pulling power of the string that maintains its orbit. Cut the string, and this restraining force disappears and the object will fly off. The same would happen to the planets if the gravitational force of the sun would cease. Gravity is one of the four forces of nature. These forces were created in the beginning when the universe came into existence. We will be looking at them in detail at a later stage. We are presently discussing planets.

There are 8 planets including the earth revolving around the sun. Mercury is the closest followed by Venus, the Earth, Mars, Jupiter (the largest planet), Saturn (the ring planet), Uranus and the most distant is Neptune. There used to be 9, but Pluto, right at the edge of the solar system is now considered to be an asteroid, to be discussed shortly.

Satellites

The next significant celestial bodies are the satellites. They revolve around their parent planets. The moon (a satellite) is our closest celestial neighbour. It is unique in the sense that it is about one fifth the size of the earth whereas the other satellite members are much smaller compared to their parent planets. Some planets like Jupiter have many moons. Our moon has important functions like stabilising the earth's orbit, creating the tides and as you know plays an important role in the Islamic calendar.

Asteroids

Let's move on to asteroids. These are chunks of rock - most reside in the asteroid belt in orbit between Jupiter and Mars. They vary in size, most are 1km in diameter, but some are enormous, much larger than a mountain. Asteroids are described as cosmic rubble because they are made of unused material that has remained after the solar system's formation 4.5 billion years ago (a billion years is equal to a 1000 million years). Fragments of asteroids known as meteorites that collide with the Earth can be dated. We can determine their age using radiometric dating techniques. They are found to be 4.5 billion years old. The Earth's oldest rock can similarly be dated and has been shown to have a similar age - strong indications that our solar system was formed 4.5 billion years ago. Asteroids are important for us since there is a remote but distinct possibility that they may cross paths of the earth. We must remember that the early earth has been a site of many asteroid impacts, fortunately such major impacts have become a rare occurrence. It is believed that an asteroid slammed into the earth some 65

million years ago wiping out the dinosaurs. They could still in future cause a major catastrophe if they collide with the earth. That is why scientists closely monitor their tracts.

Comets

Cometary bodies are frozen lumps of ice. Like asteroids, they are considered to be left over material from the time our solar system formed. There are 2 types of comets, short period comets – they have an orbital period of less than 150 years. An example is Haley’s comet which visits our cosmic neighborhoods every 76 years. Long period comets have orbital periods that can exceed 100 000 years. In other words it takes more than 100 000 years to complete a single orbit. Typical comets have a head and a tail. Sometimes a comet is deflected from its orbit by gravitational forces, example a passing star which may set it on course towards the sun. On its way to the sun, the souring heat melts the ice – the evaporated ice is blown in a direction opposite to its motion by the solar wind (high energetic particles ejected by the sun) and the comet grows a tail. Heading towards the sun, its head faces the sun and its tail (back) projects in the opposite direction, away from the sun. As it approaches the sun, the comet is flung around it by gravity. As it recedes, its head is still directed towards the sun and its tail in the opposite direction. Heading toward the cold depth of space, it loses its tail and becomes frozen once more. These are the large period comets which are the more common type.

The last types of celestial bodies in the solar system are **meteors and meteorites**.

These are mostly chipped off fragments from asteroids. Recall asteroids are chunks of rock. Thousands of these space objects bombard the earth’s atmosphere on a daily basis. Most are burnt up by the heat caused by the friction as they enter the earth’s atmosphere. The resulting fireworks are seen in the sky as a shooting star (a meteor). If they escape incineration, they crash into the earth as meteorites. Fortunately they seldom cause fatalities. Summarizing, the solar system consist of the sun at the centre with the planets and their satellites, asteroids, comets and meteors in orbit around it.

Before we look what the Quran has to say about the solar system and the rest of the universe, it is critical that we spend a moment examining the methodology used in translating the Quranic text.

The Quran was revealed in Arabic for 4 good reasons...

Firstly, the first recipients of the Quran were and Arabic speaking people. Secondly, the Arabic language facilitates memorisation and thus preservation of the Quran. Since its revelation, at any one time, there have always been large numbers of individuals memorising the entire Quran. Thus in addition to it being committed to writing, it has also been safely preserved in the hearts of men. If at any stage in the course of history, all the Qurans were destroyed, exact replicas would be reproducible from memory. Let us move on to the third reason, Arabic words have inexhaustible yet precise meanings. This is a necessary attribute of a language employed in a book meant to be everlasting. Science is a continuously progressing field and the language must accommodate fresh scientific truths. None of the scientific versus so far, expressed in the Quran have been shown to be

outdated, let alone incorrect. The last reason that the Quran was revealed in Arabic, is the permanent nature of the language. Meanings of words and grammar rules change all the time. Arabic is an exception. It owes its semantic permanence to the fact that its linguistic structure is based on a unique fixed root system. Every Arabic word (there may be rare exceptions) has an associate root. Word meanings may change but not the root. I will have a little bit more to say about the root system shortly. In addition to the root system, Arabic scholars aware of the dangers of a changing language, have over the centuries compiled large numbers of lexicons including technical dictionaries spelling out the method for determining authoritative and authentic meanings of words and phrases thereby preserving purity and correct understanding of Quranic texts.

We shall now discuss a very important aspect, i.e. the method of translating the Quran

This 7th century document makes such incredibly advanced and precise scientific statements that even an objective reader, let alone a skeptic may be tempted to suspect some form of manipulation. We know how misleading translations can be. To safeguard against any form of manipulation, I have applied the following principles throughout...

1) **Consulting authentic Arabic and English dictionaries only** – no meanings have been forced or invented. For this reason I have designated key words in the English translation with numbers, and listed the equivalent Arabic words and English meanings at the bottom of each page of my book. I have not done this when the translation is straight forward. The rule has only been applied to those words and passages which are controversial and which require deeper interpretation. The more enthusiastic reader may of course consult the Arabic lexicons him or herself and check my translation.

2) **I have consulted Arabic linguists to assist me in translating the Quran.** In my humble opinion, if a key word or phrase in one of the official translations required a new or deeper interpretation I would instruct the linguist to identify the Arabic equivalent of that particular word or phrase and look up the associated root. Once the correct root has been identified, I would screen its meaning which can be comprehensive at times. I would then select the most appropriate meaning based on the context of the verse, other verses related to the same topic and my knowledge on the subject matter. This method has been used throughout.

3) **Verses have not been translated in isolation** – all other relevant passages have been considered. This is crucial, since the moment you attach the wrong meaning to a particular verse, you will contradict verses elsewhere related to the same topic. This will force you to review your translation. This is a built in protective mechanism in the Quran. It prevents you from interpreting verses according to your wishful beliefs. If, on the other hand, your interpretation is correct or consistent with Quranic principles, other verses will support your understanding and the pieces of the puzzle will fall into place. In this way the Quran protects itself against erroneous translations and guides the sincere researcher into extracting the correct meaning. This once again is evidence of the divine nature of the book – it does not allow manipulation. This brings me to my next point...

4) **Insertions into the translated text.** When Arabic is translated word for word, the translation often doesn't make sense. In fact this is inherent in any translation. Words have been inserted to correct the grammar. The real meaning of verses can only be fully grasped in they are interpreted in the light of other relevant passages. Verses related to a particular topic complement each other; in fact every verse must be read and interpreted against the background of the Quran as a whole. If this rule is faithfully applied, we realize that the book, in the words of many scholars, is its own best commentary. For this reason, where appropriate, additional information derived from verses which are connected has been introduced into the translation. I must emphasize that this practice does not involve tampering or manipulation. As a safeguard, any additions or insertions have been bracketed and for every verse where this has been applied, I have given reasons and quoted the other relevant Quranic extracts.

5) As a general guide I have made use of English translations of the Quran by well known commentators such as Mohamed Asad, Yusuf Allie, Mohamed Allie, and Malik Gulam Faried and lastly **I have applied the rule of interpretation contained in chapter 3/7.** This fundamental rule guides the reader of the Quran on how to interpret verses especially those which are controversial and the ones that seem to contradict the natural laws of the universe.

Let us examine how the Quran describes the solar system and its members

Sun and Moon

The sun and the moon are mentioned in several verses.

I will quote one verse Chapter 10, Verse 5: **"He it is who made the sun a source of light and the moon a body that reflects light and ordained that it (the moon) moves across space, and measured out stages for her that you might know the number of years and the count of time"**.

There is a reference here to the close association between time, space and motion. We will discuss this part of the verse at a later stage. What concerns us here is the description of the sun as a body that generates its own light and the moon that reflects it.

The Quran makes a clear distinction between the sun which is a star which produces its own light, and other bodies like the moon which borrows and reflects it. It points to a fundamental difference between these 2 types of bodies. Massive bodies like the sun exert sufficient gravitational force to shatter atoms and ignite nuclear reactions that cause it to shine. The moon on the other hand has too little mass to generate forces powerful enough to crush matter and start nuclear burning. Let us look at comets.

Cometary bodies

These are mentioned in 81/15. Note when I quote a verse, instead of repeating the words, chapter and verse, I will mention the number of the chapter first, pause, followed by the verse. Let me quote the verse: **"Nay! I call to witness the heavenly bodies that recede, continue to run their courses, go into hiding before returning",**

unquote. The Quran refers to certain heavenly bodies – they have an orbital path – they depart, run their courses and return. The phrase “go into hiding” is a hint at their very large orbits. Such long period comets spend immense time intervals away before returning to their departure point after their hibernation. What is even more convincing that these heavenly bodies are indeed comets, is based on the following... In 114/4 the same word “ghanaas” which describes a comet is applied to a person who steps forward to whisper into the ear of another and steps back again. What is noteworthy of this movement is that the head or face of the whisperer continues to face in the direction of the person being whispered to while his back points in the opposite direction. Similarly, when a comet approaches the sun, it proceeds with its head facing the sun and its tail or back projecting backwards. Receding from the sun its face continues to point in the direction of the sun and its back away from it. Just like the whispering motion described. The next important space body in the solar system are the meteorites.

Meteorites

Meteorites and most probably comets and asteroids are hinted at in 22/65 as follows: I quote: **“It is God’s (gravitational laws) that hold the celestial bodies (in their orbits) so that they may not fall on the earth, except by His leave”** unquote. The Quran is referring to celestial bodies that will cross paths of the earth and these by definition are meteorites, and may include comets and asteroids. The “permission” to do so is not an arbitrary act of God, but is based on his natural laws which govern the universe. Earlier I spoke about insertions. The phrases gravitational laws and orbits do not appear in the original Arabic text. I have introduced these terms based on information derived from other verses which have a bearing on this verse. Let me give you the reasons that gave me the license to insert these terms. It is permissible, in fact advisable to interpret God, where appropriate as God’s laws. Why? In the Quran God is the centre of existence. The Arabic word for God in this particular verse is “rabb” and one of the meanings of “rabb” is the law-giver. In the Quran the phrase “sunnat-Allah” is frequently used which signifies His will or His ways, in other words, the divine laws instituted by Him. Verses 13/15 and 31/20 which I quote in my book complement this understanding.

These 2 verses state that the entire creation is subject to His laws.

My insertion of gravitational is justified by several verses. Once again these are all quoted in my book. Let me quote one example. In 55/7 the Quran states I quote, **“the sun and the moon follow prescribed pathways exactly computed”** unquote.

In other words the motions of the sun and the moon including all other celestial bodies are subject to precise mathematical laws which are none other than the laws of gravity. In 21/33 the sacred book declares that every celestial body travels in its individual orbit. Another verse states, I quote **“the sun moves in an orbit of its own”** 36/38. These verses justify my insertions of gravitational laws and orbits in 22/65 quoted earlier. My insertions you will agree are perfectly reasonable and are based exclusively on Quranic information. I have followed the same procedures throughout where applicable. Because of time constraints, I cannot quote all the relevant verses every time to support the reasons for my insertions. The details are found in my book. I must emphasize again

that all such insertions have been bracketed to show that they are not part of the original Arabic, but inferred from other relevant verses.

Let's move on to planets.

The Planets

In 37/6 the Quran states: "We have indeed adorned the nearest heaven with an ornament, luminous heavenly bodies." The nearest heaven is the solar system and the heavenly bodies, the planets. Let me qualify the interpretation. The universe in Quranic terms is often expressed as heavens and other times as the heavens and earth to emphasize the universe in its entirety. Sama (samawaat is the plural of heaven) means anything that spreads out like a canopy above anything. It is a general term and can apply to space above and beyond the earth and to celestial bodies. However, the text always makes it clear what region of the cosmos is being referred to. Let me give you a few examples. In 2/22 the Quran speaks of the heaven where rain arises - heaven in this sense can be understood to mean the atmosphere where climatic changes occur and which generate rain. This is complemented by 21/32 which says: "**We have set up the heaven as a protective canopy.**" The heaven once again is the atmosphere which acts as a protective shield against harmful radiation, potentially dangerous space objects, cosmic rays etc...

Verse 55/7 refers to the raising of the heavens to great distances. The heavens in this case are the celestial bodies - the Quran alludes to the vast distances that separate them. Moreover, a number of verses describe celestial bodies as planets, stars, comets, red giants etc... In 86/11 which reads as follows: "By the heavenly space which is expanding and curving to its original state, it is logical that the heaven in this case implies celestial space. Thus heaven has a wide range of meanings, but the context always specifies which is the most appropriate meaning. Focus now on 37/6 it speaks about a single heaven that is close or nearby. The earth is not mentioned. This is understandable since, if the near heaven is meant to be the solar system it would be senseless to do so - remember the earth is part of the solar system. Considering 23/17 which states: "We have set up multiple orbits above you", a reference to the many other celestial bodies in our cosmic neighborhood and the fact that their motions are controlled by precise mathematical laws as stated in 55/7, justify my interpretation of near heaven as a system. Why solar system?

In 71/15 there is a reference to the creation of multiple solar systems. The verse also states that a star like our sun is an essential component of such systems. We will come back to this verse when we discuss extraterrestrial existence.

What are the luminary heavenly bodies in the near heaven?

Let me quote the verse again, to refresh your memory: "We have indeed adorned the nearest heaven with an ornament, luminous heavenly bodies"

The Arabic word "**kawakib**" which describes these bodies is a term that is applied to the earth. It is also a title given to Venus, one of the planets. Since the earth and Venus are planets, it is reasonable that the word refers to

planets. This deduction is supported by another verse in which the same word (**kawakib**) appears. In this particular verse which is 24/35 the subject matter is light which is projected on to a glass which reflects it. The heavenly bodies in this verse are compared to glass, which reflect light like glittering pearls. Comparing the bodies (if understood to be planets) to glittering pearls is appropriate. Why?

Planets like pearls are more or less spherically shaped and like planets shine as a result of light borrowed from the sun. Since in the Quran, whenever it refers to our cosmic neighborhood, the sun and moon are always mentioned by name and since comets and asteroids have been alluded to in other verses, the only remaining significant heavenly bodies that are spherical or round and reflect light like pearls in the nearest heaven, are the planets. 37/6 may therefore be read as follows: **“We have indeed adorned the solar system with an ornament, the planets.”** Once again we are reminded of the supreme importance of always interpreting verses in conjunction with others so as to bring out the exact meaning of key words.

Question?

Let us be conservative and go back 5 centuries or so, say to the 15th century. The crucial question is who at that time knew that space objects may collide with the earth, (recall 22/65 which raises the distinct possibility of heavenly bodies crossing path with the earth), that there are certain space bodies that have large orbits like comets and that every celestial body including the sun travels in an orbit of its own?

No soul at that time had access to such information. Go back another 9 centuries, around the 7th century when the Quran appeared and these questions become an even greater puzzle, a profound mystery. The time factor is critical to my argument. Every time I discuss a particular topic and quote the relevant Quranic passages, I will pose a similar question to drive home my point that is that the Quran is from a supernatural source.

End

In Concluding:

“Aramaic was a poverty-stricken tongue compared with Arabic, and not even classical Hebrew at its best could rival Arabic in its astonishing elasticity. From its own inner resources it could evolve by autogenous processes the *mot juste*¹ (i.e. ‘*exactly the right word or words to express something*’) which new arts and new sciences demanded for their intellectual expression.” ‘The Legacy of Islam Edited by the late SIR THOMAS ARNOLD C.I.E., F.B.A., Litt.D. and ALFRED GUILLAUME M.A. Oxon., Principal of Culham College Formerly Professor of Oriental Languages in the University of Durham’

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