

Say, produce your evidence, if you are true.

2(11) Al-Quran

THE MIRACULOUS QURAN A CHALLENGE TO SCIENCE & MATHEMATICS

This is the account of some of the greatest scientific facts about the Universe and Human beings, first pointed out in the Holy Quran long before their discovery by the modern science, Also of the mind-boggling mathematical miracles which could be verified in this computer age only, posing the soul searching question, “Who could be the author of this Book other than The Creator Himself”?

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SULTAN BASHIR MAHMOOD

(Sitara-e-Imtiaz)

- Title: **The Miraculous Quran a Challenge to Science & Mathematics**
- Author: Nuclear Scientist, Engineer,
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- The Subject: **This is the account of some of the greatest scientific facts about the Universe and Human beings, first pointed out in the Holy Quran long before their discovery by the modern science, Also of the mind-boggling mathematical miracles which could be verified in this computer age only, posing the soul searching question, “Who could be the author of this Book other than Allah Himself”?**
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Sultan Bashir Mahmood (S.I.)

Part – I

THE MIRACULOUS QURAN AND SCIENCE

*“Soon shall We show them Our signs in the heavens and in their own selves until it becomes manifest to them that this (Quran) is the Truth. Is it not enough (to believe) that your Rabb (Lord) is witness over all things? Ah indeed! (even then) they are in doubt concerning the meeting with their Rabb. Ah indeed! (They should know) It is He Who does encompass all things”.
41(53-54)*

THE GLORIOUS QURAN – A CHALLENGE

*“Here is a message for mankind:
Let them to take a warning therefrom,
And let them know that He is (no other
than) One Allah:
Let men of understanding take heed ”.*
14(52)

The Holy Quran is the eternal message of Allah *Subhana-Hu* to mankind, revealed to Muhammad, the last of the messengers of Allah, (peace be upon him). This happened in Arabia more than fourteen centuries ago. It consolidates and completes the teachings of all the prophets of Allah who came before him. The miraculous qualities of this Book may be judged by its profound influence on the lives of its believers and the unrivalled impact it had on culture, science and technology latter on. Even the developments of western social institutions, welfare philosophy, science and technology are also indebted to the Quran, as it inherited them from the Muslims,^{1,2}

It is not a voluminous book, yet it has something to say on all subjects, from the Big Bang to the End of Universe. A clear, concise and comprehensive guidance, without contradiction or ambiguity, it is to guide man to the spiritual heights as well as the physical developments in this world.

Indeed Holy Quran is unique in every respect. Its scope of guidance and the quality of message is never out of date. One can read it again and again without getting bored. It is the most revered and most acted upon book in the history of mankind, and as time passes, more and more people

discover its riches and believe in it as the true revelation of Allah *Subhana-Hu*, for all times to come. If Islam today is the fastest growing religion, it is due to the Holy Quran only.

Its principal objective is to take with it the man to spiritual heights so that he may regain his lost Paradise (جنت). But it is equally important for salvation in this world too. The Holy Quran is its own proof, an uncorrupted Living Revelation from the Creator of the Universe. To those who doubt, it challenged more than fourteen hundred years ago:-

And in case you are in doubt about what We have revealed on Our servant (Muhammad PBUH), then, if you are right in your (doubt), produce just a sura like it; And you may call all your supporters, except Allah. So if you can't do it, and sure enough you will not be able to do it, then save yourself from the (Hell) fire whose fuel shall be (disbelieving) mankind and stones. It is prepared for the rejecters of the Truth".
2 (23-24)

This challenge is repeated a number of times in the Holy Quran, for example, at 11(13) it says:

***They accuse that he has forged it;
Say! Then bring ten Suras like it;
And call upon whom you can, except Allah
If you are truthful.11 (13)***

And at 17(88) the Quran challenges;

***If Mankind and the Jinns were together,
To produce like of the Quran,
They could never produce in like thereof,***

Even if they backed up one another.17 (88)

This challenge, which has now stood for more than fourteen centuries, is a clear proof of the Divine truth of the Holy Quran. There are a few unbiased Christian scholars of Islam who also acknowledge this. For example Harry Gaylord Dorman in his book comments, *“It (the Quran) is the literal revelation of God dictated to Muhammad by Jibrael, perfect in the every letter. It is an ever present miracle witnessing itself”*¹.

Professor Arberry in his translation of the Holy Quran argues that, *“Western misunderstandings of the Holy Quran are due to translations and the fact that the Western reader has not been sufficiently advised how to read the Holy Quran. He must get rid of the assumption that the Holy Quran is more or less like the Old Testament”*².

Further he says, (p-x) *“I have been at pains to study the intricate and richly valid rethym which – apart from the message itself – constitutes the Koran’s undeniable claim to rank amongst the greatest literary masterpieces of mankind”*.³

02

THE QURAN AND SCIENCE

Dr. Maurice Bucaille a French national, out of his curiosity for different religions conducted research on the Bible and the Quran, from the perspective of modern scientific discoveries. His findings are in his book, "The Bible, The

1 Harry Gaylord Dorman, "Towards Understanding Islam," New York, USA, 1948

2 Arthur J. Arberry "The Koran Interpreted" pul. Oxford university Press.... 1964.

Quran and Science' ('La Bible, la Coran et, la Science'), published in 1979³. In its introduction (p vii), he writes;

As we shall see later on, the Quran deals with many subjects of interest to science, far more in fact than the Bible. There is no comparison between the limited number of Biblical statements which lead to a confrontation with science, and the profusion of subjects mentioned in the Quran that are of a scientific nature. None of the latter can be contested from a scientific point of view; this is the basic fact that emerges from our study.⁽⁵⁾

He goes on to write on page viii:

It was in a totally objective spirit, and without any preconceived ideas that I first examined the Quranic Revelation. I was looking for the degree of compatibility between the Quranic text and the data of modern science. I knew from translations that the Quran often made allusion to all sorts of natural phenomena, but I had only a summary knowledge of it. It was only when I examined the text very closely in Arabic that I kept a list of them at the end of which I had to acknowledge the evidence in front of me: the Quran did not contain a single statement that was assailable from a modern scientific point of view.⁽⁵⁾

About the Bible, Bucaille says:

I repeated the same test for the Old Testament and the Gospels, always preserving the same objective outlook. In the former, I did not even have to go beyond the first

3 Maurice Bucaille, "The Bible, the Quran and Science" First published in France, translated & printed in 1979, Muslim Printing Press, Karachi

book, Genesis to find statements totally out of keeping with the cast-iron facts of modern science.⁽⁵⁾

Toward the end of his book Bucaille concludes:

In view of the level of knowledge in Muhammad's day, it is inconceivable that many of the statements in the Quran which are connected with science could have been the work of a man. It is, moreover, perfectly legitimate, not only to regard the Quran as the expression of a Revelation, but also to award it a very special place, on account of the guarantee of authenticity it provides and the presence in it of scientific statements which, when studied today, appear as a challenge to explanation in human term⁽⁵⁾”.

03

QURAN PROVIDES THE ANSWERS

Many questions which have bothered the greatest modern scientific minds about the Universe are answered in the Quran, in simple, clear, precise and comprehensive way. Some of these puzzles as pointed out by Stephen Hawking, the famous British physicist are, *“Is the Universe actually infinite or just very large? And is it everlasting or just long-lived? How could our finite minds comprehend an infinite Universe? Isn't it presumptuous of us even to make the attempt? Do we risk the fate of Prometheus, who in classical mythology stole fire from Zeus for human beings to use, and was punished for his temerity by being chained to a rock where an eagle picked at his liver? Despite this cautionary tale, I believe we can and should try to understand the Universe. We have already made remarkable progress in understanding the cosmos,*

particularly in the last few years. We don't yet have a complete picture, but this may not be far off"⁴.

It is unfortunate that Stephen Hawking did not study the Holy Quran. Had he, as you will see later in this book, he would have been surprised that it had already provided answers to many of his questions.

Unfortunately, western mind is generally prejudiced, clouded by doubts and ignorance about Islam. They take Islam as one of the religions comparable to Christianity, Judaism, Hinduism, etc and associate it with the conduct of misguided Muslims, who don't really project the true picture of Islam. Disillusioned by their own religions, some of them outrightly reject all religions. In this regard, the comments of physicist Paul Davies reveals the mindset of modern western thinkers. He says:

The world's major religions, founded on received wisdom and dogma, are rooted in the past and do not cope easily with changing times. Hastily discovered flexibility has enabled Christianity to incorporate some new features of modern thought, to the extent that today's Church leaders might well have appeared heretical to a Victorian; yet any comprehensive philosophy based on ancient concepts faces a hard task in adapting to the space age. As a result, many disillusioned believers have turned to 'fringe' religions that seem more in tune with the era of Star Wars and microchips. The huge rise in popularity of cults associated with UFOs, ESP, spirit contacts, scientology, transcendental meditation and other technology-based beliefs testifies to the continued persuasiveness of faith dogma in a superficially rational and scientific society.

4 Stephen Hawking "The Universe in a Nutshell" p 69, London

*For although these eccentric ideas have a scientific veneer, they are unashamedly irrational — ‘cults of unreason’, to use Christopher Evans’s phrase from his book of the same title (Panther 1974). People turn to them not for intellectual enlightenment but for spiritual comfort in a harsh and uncertain world.*⁵

On the same subject he further says, *“If the church is largely ignored today it is not that science has finally won its age-old battle with religion but because it had so radically reoriented our society that the believer’s perspective of the world now seems irrelevant”*.

Alas! Muslims have miserably failed to bring the great wisdom of the Holy Quran to the notice of the western world. Had they done so, views of Paul Davies and other scholars like him would have been different about the revealed religions, at least about Islam. Had they studied the Quran objectively, their perception about it would have been quite different. As mentioned already, this realism is evident from the findings of the French scholar Maurice Bucaille, who could not find a single discrepancy between science and Quran. How could he? It is a revelation from Allah Subhana-Hu, the sole Creator of the Universe, and is preserved for all times exactly as it was revealed to His Messenger (Peace be upon him).

The Holy Quran itself is the proof of its truth. As we ponder over it, puzzled we ask, how could a book revealed more than 1400 years ago in Arabia, describe some of the **greatest scientific discoveries** of the modern age so precisely? Moreover, its **mathematical miracles** are simply mind boggling.

5 Paul Davies, “God and the New Physics” p 2, 1983, Simon & Schuster, New York

However, readers should appreciate that the Holy Quran is not a book of professional details. It only lays down the fundamentals precepts. Even in religious matters, the details were left to the Messenger of Allah (Peace be upon him) to explain. In scientific matters they are left up to the Man to discover and explain. Nevertheless, for any honest scientific mind, it is surprising how it leads science in the basic truths about nature. One wonders how could Muhammad (Peace be upon him) state the mysteries of nature so accurately and arrange his book in stupefying mathematical arrangement. If he is not the Messenger of Allah, then he must be the greatest scientist and mathematician of all times.

In the following pages we will judge for ourself.

04

FOUNDATION OF THE SCIENTIFIC METHOD

The scientific method is considered to be of fundamental importance for the development of science and the understanding of nature. Basically it lays stress on logical analysis and empirical evidence. The Holy Quran has emphasized the significance of sound argument supported by the physical verification and continuous research. Earlier, Greek science believed only in logic. In fact Greek philosophers condescended experiment and physical verification as they thought it an affront to human intellect. In contrast the Holy Quran teaches us to reach the Truth through analysis, research, observation, measurement and verification by performing physical experimentation. In this respect the general principle given in the Holy Quran is,

قُلْ هَاتُوا بُرْهَانَكُمْ إِن كُنْتُمْ صَادِقِينَ “Say, bring out clear evidence if you are right” 2(111).

Besides, the Holy Quran lays great stress on acquiring knowledge, so that man may develop insight of the unknown based on what is known. It asks, ***“Are those who know and those who know not, equal?”*** 39(9). It regards wisdom as the greatest asset of man, as evidenced clearly in ayat 249 of sura al-Baqara. ***“The one who is bestowed with wisdom, he has been blessed with great good”***2(249). In his love of knowledge, the Holy Prophet (Peace be upon him) used to frequently pray, ***“O Allah! Show me the reality of things, as they are – O Allah! Increase me in knowledge”***.

As for the method to reach to the truth the following commands from the Holy Quran provide sound guidelines for scientific research:

مَا تَرَىٰ فِي خَلْقِ الرَّحْمَنِ مِن تَفَوُّتٍ ۚ فَارْجِعِ الْبَصَرَ ۚ هَلْ تَرَىٰ مِن فُطُورٍ ۚ ثُمَّ ارْجِعِ الْبَصَرَ كَرَّتَيْنِ يَنقَلِبْ إِلَيْكَ الْبَصَرُ خَاسِئًا وَهُوَ حَسِيرٌ ۚ

“You will see no flaw in the creations of the most Compassionate. So turn your gaze again. Do you see any flaw? Then turn your gaze again and again (go on searching). Your vision will come back to you exhausted, in a state worn out. (You will not discover any flaw in nature)” 67(3-4).

In this ayat the command, ***“Turn your gaze again and again”*** is an order from the Creator, that mankind must discover the reality by repeated verification and continuous research. For believers, this command forms the goal to make scientific research the essence of their culture.

For empirical evidence the Holy Quran asked its followers to travel on earth and look for the signs of Allah in their natural environment. It commands:

قُلْ سِيرُوا فِي الْأَرْضِ فَانظُرُوا كَيْفَ بَدَأَ الْخَلْقَ ثُمَّ اللَّهُ يُنشِئُ النَّشْأَةَ الْآخِرَةَ إِنَّ اللَّهَ عَلَىٰ كُلِّ شَيْءٍ قَدِيرٌ ۝

“Tell them (O Messenger of Allah!) to travel on earth. Thereby look into how Allah originated things the first time. Then (think), how Allah recreates them. Indeed Allah has the power to do everything”.

Sura Al-Ankaboot, (20).

As a result of these and other such commands in the Holy Quran, Muslim scientists founded their science on the basis of sound knowledge, physical verification, research and experimentation, which is now known as the scientific method. It is unfortunate that over the ages when Muslim societies degenerated, history has been distorted and the credit due to Muslims for scientific development has been largely misappropriated. Irrespective, however, the evidence of the Holy Quran exists in its original form, wherefrom every just person can deduce the truth and correct his/her perception of Islam.

05

HOW DID THE UNIVERSE BEGIN?

The scientific community now believes that our Universe came into existence some fifteen billion years ago. However, before 1950 the generally accepted theory about of existence the Universe was that it had always been like that. This hypothesis was known as the “Steady State Universe Theory”. The postulate of an eternal Universe without beginning or end suggested no need for God either.

Unsurprisingly, it was quite popular with atheists. British scientist, Fred Hoyle was one of its great advocates. He writes, “I find myself forced to assure that the Nature of Universe requires continuous creation – the perpetual bringing into being of new background natural matter that already exists creates new matter to appear”⁶. However idea of perpetual Universe was totally against the Holy Quran, which argues in favour of a Supreme Creator. According to it, permanence is only for Allah, all else is transient. Everything in the Universe was created by Him. Nothing apart from Him can be perpetual. The Universe must, therefore have a beginning. The Quran categorically declares:

الْحَمْدُ لِلَّهِ الَّذِي خَلَقَ السَّمَوَاتِ وَالْأَرْضَ وَجَعَلَ الظُّلُمَاتِ وَالنُّورَ ۗ ثُمَّ الَّذِينَ كَفَرُوا بِرَبِّهِمْ يَعْدِلُونَ ﴿٦﴾

All praise be to Allah, who created all the heavens and the earth (Universe), and made the darkness and the light; yet those who reject faith, hold (others) in parallel with their Sustainer. 6(1)

It is evident from this and many similar ayaat of the Holy Quran, that the Universe is not eternal but a created reality. It must have a beginning, and shall see an end too. Similarly the phenomena of light and darkness are not eternal, but created entities. In the order of priority, ayat 6(1) shows that darkness was the first, and light came later.

Belief in an Absolute Creator automatically means that the Universe cannot be eternal. So the Steady State Universe theory must be false. Nothing that is created can possess perpetual existence. Immortality can only be for the Absolute Creator.

6 Fred Hoyle, “The Nature of the Universe”, pp 109-110, Pelican, UK, 1963

Modern science has emerged as an important witness to this truth of the Holy Quran. In 1960, discovery of symmetry in background radiation all over space (Figure 1) brought about a change in the theories about creation of Universe. The upshot of this research eventually was the Big Bang theory that changed the conception of a Universe with eternal life in favour of a Universe which had a beginning, and eventually, will have an end. This is now the accepted scientific theory about the creation of the Universe.

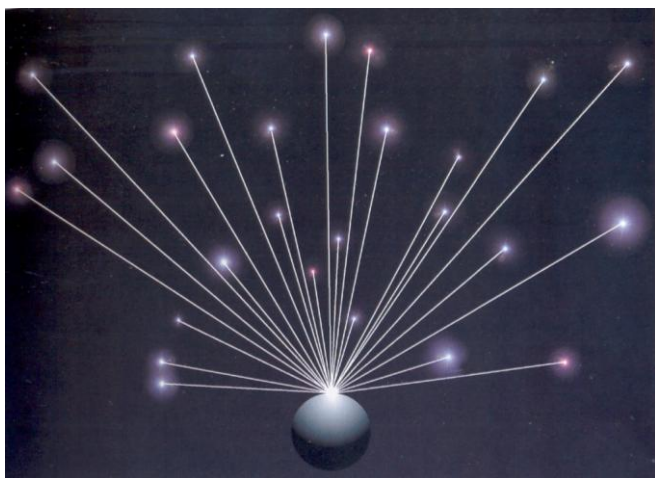


Fig. 1: Background Radiation all over space (9)

The world of science now believes that the Universe indeed has been created. About fifteen billion years ago, the Universe burst into existence out of nothing, with an awesome explosion, popularly known as the 'Big Bang'. According to physicist Paul Davies, *"There are many strands of evidence to support this astonishing theory. Whether one accepts all the details or not, the essential hypothesis – that there was some sort of creation – seems from the scientific point of view, compelling."*⁷

7 Paul Davies: "God and the New Physics", Simon and Schuster, New York – 1983.

On the same subject the famous British physicist Stephen Hawking says, *“The observation that we have all made, that the sky at night is dark, is very important. It implies that the Universe cannot have existed forever in the state we see today. Something must have happened in the past to make the stars light up a finite time ago, which means that the light from very distant stars has not had time to reach us yet. This would explain why the sky at night isn’t glowing in every direction.*

*If the stars had just been sitting there forever, why did they suddenly light up a few billion years ago? What was the clock that told them it was time to shine? As we’ve seen, this puzzled those philosophers, much like Immanuel Kant, who believed that the Universe had existed forever.”*⁸

Note the observation of Dr Hawking about darkness and light that in the process of creation darkness was the first in order of priority. Light came later. Now think over again in the ayat 6(1) quoted already, *“He made darkness and light.”*

It would probably have surprised Hawking, Davies and other likeminded western scientists that the Holy Quran had repeatedly stressed that ***“Allah has created everything”***, Universe is no exception, it was also created by Him. So “Steady State Theory” emphasizing perpetual Universe could never be right.

The Big Bang

The Holy Quran not only points out that the Universe is a finite creation, but also how it was created. We need only to reflect into the following ayat to figure this out,

8 Stephen Hawking. “The Universe in a Nutshell” - London

بَدِيعُ السَّمٰوٰتِ وَالْاَرْضِ ؕ وَاِذَا قَضٰى اَمْرًا فَاِنَّمَا يَقُوْلُ لَهُ كُنْ فَيَكُوْنُ ۗ۝۱۱۷

(Allah is the) Originator of the heaven and the earth (Universe). When He decrees a thing, He says unto it only “Be” and it is there. 2(117). Thus the Universe was created out of nothing at the command of “Be” of Allah Subhan-Hu, which the science has named “Big Bang”.

On the same subject ayaat (81-82) of sura Yaseen say;

اَوَلَيْسَ الَّذِي خَلَقَ السَّمٰوٰتِ وَالْاَرْضَ بِقَدِيْرٍ عَلٰى اَنْ يَّخْلُقَ مِثْلَهُمْ ۗ بَلٰى وَهُوَ الْخَلّٰقُ الْعَلِيْمُ ۗ۝۸۱ اِنَّمَا اَمْرُهٗ اِذَا اَرَادَ شَيْئًا اَنْ يَقُوْلَ لَهُ كُنْ فَيَكُوْنُ ۗ۝۸۲

Does not He Who created the heavens and earth (Universe), has the power to create the like thereof? Of course He does! He is All knowing Supreme Creator. Whenever He intends a thing, He needs only to say: Be! And it is there. [36 (81-82)]

Thus as Allah intended to create the Universe, He simply said “Be” and it was there...a Big Bang. From nothingness, came along the Universe this way. It will end also in the similar way.

It is amazing how a man in Arabia, over fourteen hundred years ago could assert the creation and origin of the Universe in such clear terms. It could only be explained, if the Holy Quran was a Revelation from the Creator Himself, as He claimed, one wonders, if the modern man really believes in the sudden creation of Universe with a Big Bang, then what prevents him from believing in the Holy Quran, which was the first to point out this reality.

WHY THE UNIVERSE?

With the overwhelming acceptance of the theory of Big Bang, science at last found the answer to the long standing question of how the Universe began. However, the question, "Why the Universe was created" is beyond the comprehension of science. In this respect science and philosophy still have a lot to learn from the Holy Quran.

The Holy Quran exposes the fundamental law that there is always some Divine Purpose behind every creation of Allah. It lays down the rule:

خَلَقَ السَّمَوَاتِ وَالْأَرْضَ بِالْحَقِّ

"Allah created the heavens and the earth (Universe) in accordance with a true purpose." 64(3).

The same theme is stressed in ayat 21(16):

وَمَا خَلَقْنَا السَّمَاءَ وَالْأَرْضَ وَمَا بَيْنَهُمَا لَعِبِينَ ﴿١٦﴾

"And We have not created the heavens and the earth (Universe), and all that is in between them in play". 21(16)

These ayaat clearly point out that creation of the Universe with everything in it, big small or small, is an objective reality. Nothing is purposeless in the Universe. Everything fulfils the design of Allah *Subhana-Hu*. Thus the aim of science should also be to discover the Divine purpose of creation in everything.

According to the Holy Quran, the fundamental design basis of the Universe is Man, He is the very reason for creation of it. In this respect, the Holy Quran repeatedly declares that, Allah has created the heavens and the earth, and everything

in them for the sake of Man only. For example, ayat 12 of sura An-Nahl announces,

وَسَخَّرَ لَكُمُ اللَّيْلَ وَالنَّهَارَ وَالشَّمْسَ وَالْقَمَرَ وَالنُّجُومَ مُسَخَّرَاتٍ بِأَمْرِهِ ۗ إِنَّ فِي ذَلِكَ لَآيَاتٍ لِّقَوْمٍ يَعْقِلُونَ ﴿١٢﴾

“And He has subjected the night and the day and the sun and the moon to be of service unto you and the stars made subservient by His Command. Lo! Herein are portents for the people who have sense”.

16 (12)

The law that everything in the Universe is made for Man implies that he/she is not a product of the Universe but the very reason for it. This exposes the fallacy of the evolutionists who claim that man is a product of the Universe, and has evolved over a long period of time, as a result of various accidents of nature. In contrast, the guidance of the Holy Quran is that every bit of the Universe, from sub-atomic particles to the great clusters of stars and galaxies, is created to serve man. This also provides direction to science that it should be for Man only.

A purposeful Universe also means that creation of everything in it is in accordance with a pre-designed programme. On this the Holy Quran states,

مَا خَلَقْنَا السَّمَوَاتِ وَالْأَرْضَ وَمَا بَيْنَهُمَا إِلَّا بِالْحَقِّ وَأَجَلٍ مُّسَمًّى ۗ وَالَّذِينَ كَفَرُوا عَمَّا أُنذِرُوا مُّعْرِضُونَ ﴿٤٦﴾

“We have not created the heavens and the earth (Universe) and all that lies in between them but with a true Design and that also is for a pre-programmed term; And those who reject faith, and turn away from that whereof they are warned”. 46(3)

It is not surprising that modern science has emerged as an adherent to this truth of the Holy Quran. It is based upon the fact that Universe is an integrated, purposeful and logical creation.

Thus answer to the questions, 'why', 'how, and 'where' about the Universe should be sought with reference to Man, who is the primary objective of creation. Science also should be directed to discover how things are made to serve this purpose. Its own purpose should also be to serve the good of Man only.

07

THE EXPANSION OF THE UNIVERSE

That the Universe has been expanding since its beginning, is a proud discovery of modern science. According to renowned British physicist Stephan Hawking it is a great intellectual revolution.⁹ Russian scientist I.D. Novikov calls it the greatest reasoning of the human intellect.¹⁰ It should surprise both of them that this fact was first pointed out in the Holy Quran fourteen hundred years before them.

In the landmark scientific discovery of 1927, American astronomer Edwin Hubble, noting the difference of red shifts in stars due to Doppler Effect, presented the hypothesis that galaxies are receding away at very high speeds and thus the Universe is actually expanding rapidly instead of being static. Later observations proved that galaxies are also moving apart to some distant destination. The rate of its expansion at the farthest boundaries may be close to the speed of light. It is expanding like a balloon expanding under pressure.

9 Stephan Hawiling "The Universe in a Natshell"

10 I.D Novikov " Evolution of the Universe" Cambridge University Press London, 1983

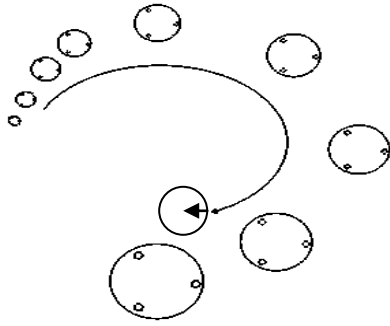


Fig. 2: Universe is expanding like a balloon being filled with air

In this regard the explanation by Paul Davies sums up modern scientific thought: *“Because the distant galaxies recede faster than the nearby ones, the gaps between the galaxies also expand, so in fact every galaxy is moving away from every other one. This is the famous ‘expanding Universe’. The pattern of galactic dispersal would appear very much the same from wherever in the cosmos you looked”*¹¹.

About the reasons for this expansion, Davies further writes:

The expanding Universe accords very well with modern thinking on the nature of space, time and motion. Albert Einstein, who carries the same status in the scientific community as St. Paul does among Christians, revolutionized our conception of these matters with his mind-boggling theory of relativity. Although it has taken sixty years for Einstein’s space-warps and time-warps to impinge on the popular imagination, physicists have long accepted his ideas of curved space-time as an explanation of gravity.

The force of gravity powers all large-scale cosmic phenomena. In objects of astronomical size, gravity far outweighs all other forces such as magnetism or

11 Paul Davies "God and the New Physics"

electricity. It shapes the galaxies and controls the intergalactic motions. When it comes to explaining the expanding Universe, gravity is the key.

He further explains:

Einstein argued convincingly that gravity stretches or distorts space and time, (Fig. 3) and the idea can be checked directly by watching the sun's gravity bend star beams that graze its surface. The sky behind the sun appears from Earth to be slightly, but distinctly, bent. The elasticity of time can also be demonstrated, most directly by flying clocks in space. Time runs faster in the gravity-free environment up there than it does on the Earth's surface.

If the sun can stretch space so can the galaxy, which is made of many suns. So rather than thinking of the galaxies as moving apart through space, astronomers prefer to think of the space between the galaxies as stretching. If intergalactic space is being 'inflated', then each day every galaxy will find itself with more and more elbow room. In that way the Universe expands, without having to expand into some external void.

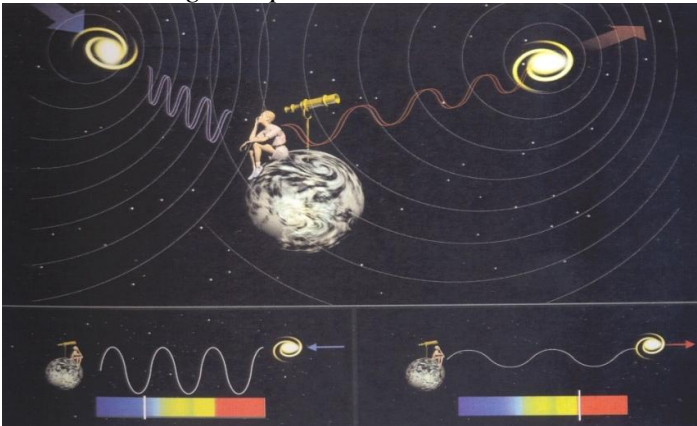


Fig. 3: Space being squeezed or stretched due to gravity

Let us now listen to another famous twentieth century physicist on this subject: this is English Professor Stephen Hawking of Cambridge University:¹²

The discovery of the expansion of the Universe was one of the great intellectual revolutions of the twentieth century (Fig.4). It came as a total surprise, and it completely changed the discussion of the origin of the Universe. If the galaxies are moving apart, they must have been closer together in the past. From the present rate of expansion, we can estimate that they must have been very close together indeed ten to fifteen billion years ago.



Fig. 4: Expanding galaxies in an expanding Universe

The scientific significance of the discovery that the Universe is expanding and not static is immense. The Russian scientist I.D. Novikov has this to say, “*And at last in 1929, the American astronomer Edwin Hubble, having analysed the reality of many observations, established the fact of the expansion of the Universe. In this way the global*

12 Stephen Hawking, “The Universe in a Nutshell”, London

*evolution of the Universe was proved. This discovery became one of the greatest achievements of human reasoning*¹³.

Indeed this discovery is a great tribute to the scientists who over the past many centuries have endeavoured so hard in their dedication in resolving this mystery of nature. But what would you say about the one who had told you the same thing fourteen hundred years before them, that Universe is expanding since its beginning? The greatest scientist of all times? A great visionary, or an inspired man from the Creator Himself? Indeed, long before modern science, the Prophet of Allah, Muhammad (Peace be upon him), presented this reality very eloquently and clearly in the powerful words of Revelation from Allah:

وَالسَّمَاءَ بَنَيْنَاهَا بِأَيْدٍ وَإِنَّا لَمُوسِعُونَ ﴿٥١﴾

And We built the Heaven (Universe) with (the Twist of) Our Hands, and We surely are expanding it. 51(47) (Translation by Abdullah Yusuf Ali)

And it is We Who have built the Universe with (Our Creative) Power; and, verily, it is We Who are expanding it. 51(47) (Translated by Leopold Muhammad Asad, Austrian new Muslim)

Let's look closely at the meaning of this particular ayat in the two most widely accepted translations of the Holy Quran. Yusuf Ali uses a slightly more graphic language. Accordingly, the Holy Quran did not tell only about the reality of the "Expansion of the Universe" but also pointed out the reason behind it. The statement "We built the heaven with the Twist of Our Hands" implies that the Big Bang

13 ID Novikov "Evolution of the Universe" Cambridge University Press, 1989

push must have a spinning motion. Thus according to the law of conservation of momentum, the Universe is not only expanding (Fig.5) but also rotating since its beginning due to the Divine Twist imparted at its origin.

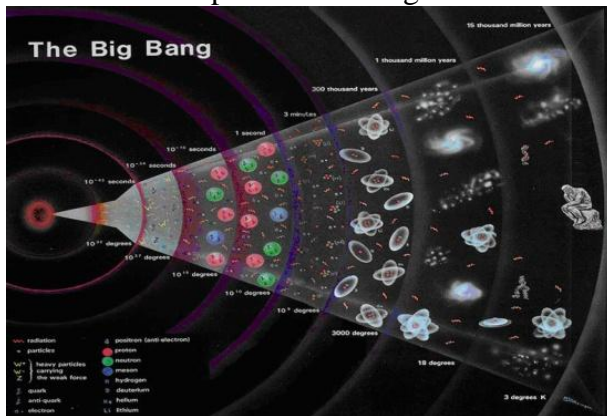


Fig.5: The Big Bang and the expanding Universe

One wonders how Muhammad (Peace be upon him) could assert so unambiguously that Universe was expanding, if he was not inspired by the Creator of the Universe Himself.

Will you still not believe in the Holy Quran?

08

A DYNAMIC UNIVERSE

Let us now consider another breathtaking aspect of the Universe – it is the dynamic nature of the Universe. Not very long ago, the general scientific belief was that the world is a fixed place with stars hanging overhead in the heavenly dome. According to Novikov, *“The idea of the static Universe seemed so attractive that even Einstein did not believe his equations and began to change them.”* Modern discoveries prove however, that the Universe is an extremely dynamic place, where the process of creation,

destruction and recreation is going on at all times. On completing their maturity, stars explode (Fig. 6) and new stars and planets take birth from this debris. Thus creation of the new worlds and demise of the old ones is an ongoing process in the Universe. On this dynamics of Universe, Novikov further writes¹⁴ :

Nowadays the idea of the evolution of the Universe appears quite natural and even necessary, but this has not always been so. Like any great scientific idea, it took a lot of shaping and struggling through before it eventually triumphed in science. Today, the evolution of the Universe is a scientific fact, substantiated by many astrophysical observations and supported by the solid theoretical basis of all physics.

From today's point of view, that anti-evolutionary prejudice, that search for static solutions to cosmological equations appears to be wrong even in principle because the evolution of all those heavenly bodies and systems, which earlier seemed to shine constantly and move steadily along circular orbits, has now been firmly established.

Today, we observe violent explosive and evolutionary processes in such gigantic systems as the galaxies too. The matter constituting the galaxies is being gradually reprocessed via nuclear reactions occurring in stars. Hydrogen is being converted into helium, and into heavier elements afterwards.

According to C. R. Kitchin¹⁵:

The births of stars, and more particularly the birth of the solar systems, are thus intimately connected with the

14 ID Novikov, *ibid*, p 3

15 CR Kitchin "Journey to the End of the Universe", USA

death of stars, the one rising phoenix-like from the ashes of the other. Fig. 7 Numerous supernovae must have occurred between the formation of the galaxy and that of the solar system in order to build up the heavy elements forming the Earth and ourselves. It is likely that the collapse of the cloud could have been initiated by a pressure wave from a supernova. Finally, as we have just seen, a supernova may well have occurred within a few light years of the nascent Earth and remainder of the planetary system.



Fig.6 : Death of a nearby star



Fig. 7: Supernovae explosions and formation of new solar systems from the resulting debris

From these views of the scientists we can appreciate the significance of the discovery that Universe is not a static entity but a highly dynamic one. Indeed it goes to the credit of science that after millennia of observation and analysis it discovered this attribute in the Universe. But what would you say if you were told that the Holy Quran had already made this fact clear?! The Supreme Creator, after having created once, did not assign Himself to redundancy. He is infinitely active as revealed in sura Ar-Rahman, ***“Every day is a Day of new Splendour for Him” 55(29).***

In ayat 30(27), it is revealed that the process of creation and recreation is a continuous process, **“Indeed He (Allah) keeps creating and re-creating since the very beginning”**.

Allah's words are the absolute truth. The above quoted ayat applies even to the heart of the atom, thus, radioactive decay in the atomic nucleus is the source of creation of new elements. Similarly activity at the galactic level is constantly throwing up brand new heavenly worlds. Indeed every moment is a manifestation of the splendour of our Creator. Thus truths of science bear witness to the truth of the Book of Allah. Sadly though, even then a majority of people are ignorant of it.

09

THE JOURNEY OF THE SUN IN THE HEAVENS

When science considered the sun as a stationary body in heaven, even great minds like Kepler and Galileo believed that. But new scientific discoveries of the 20th century have changed this monotonous view about sun. It is estimated that it is travelling in space Fig. 8 at a speed of about 200 miles per second (covering 6.3 Billion miles a year, which is

about 66 times the distance between the earth and the sun). Novikov puts it like this, “*It has been established that the Sun orbits around the centre of our Galaxy with a speed of 250 km/sec*”.

Matter of the fact is that science which previously believed in a stationary sun, modified its stance in the 20th century in favour of a fast travelling body. It should not surprise anyone that the Holy Quran had already revealed that the sun is not stationary, but a traveller in space. sura Yasin, ayat 38 says, ***The sun keeps on running on its course to its predetermined destination. That is the measurement fixed for it by the Almighty, All-Knowledgeable (Allah) 36(38)***

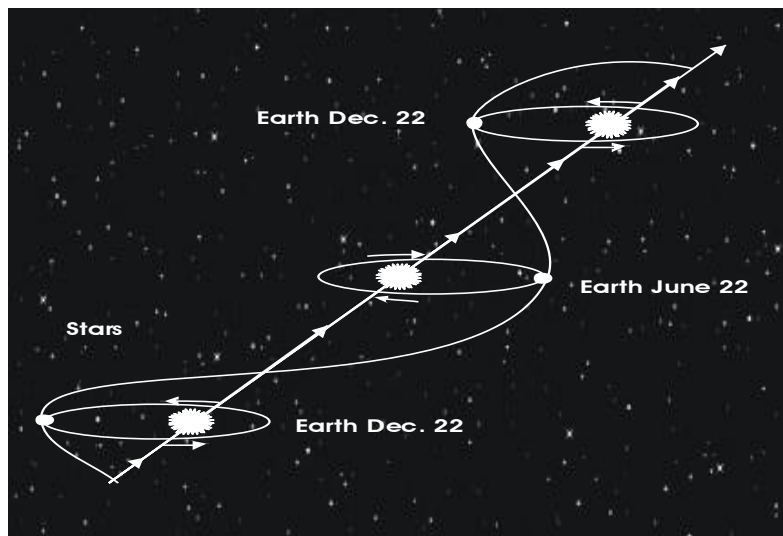


Fig. 8: Journey of the sun through space

Not much is known about the nature of this movement. Is it a straight line, or a swing around some super orbit? Nor has the sun's final destination been discovered yet. However, it is a perilous journey through the heavens, which houses billions of galaxies, and trillions upon trillions of stars,

planets and other bodies. The possibility of a crash cannot be ruled out, which will be its doomsday.

The point however is, how could the Holy Quran have pointed out the continuous motion of the sun in space on its predetermined course if it were not a revelation from the Creator of the Universe?

10

THE UNIVERSE WAS A CLOSED MASS IN THE BEGINNING

On the subject of the creation of Universe, science discovered that in the beginning everything inside the Universe was compressed together. All matter and all energy were originally in the form of an extremely high density primordial soup, which later upon expansion and cooling, formed into heavenly worlds. All these uncountable billions of galaxies with trillions of stars and planets inside them, were once close together as a single mass. According to Novikov, "*Friedman's solution when extrapolated to the past, lead formally to the initial state of infinite density*"¹⁶.

Thus the whole of matter and energy, now comprising billions of galaxies, each consisting of trillions of stars, was concentrated, some 15 billion years ago, into a single point of infinite density, called a 'Singularity'. It is postulated that the density of this matter, immediately after the Big Bang took place, could be over 10^{93} g/cm³, i.e. infinitely high. Any way science has now come to the conclusions that even quite some time after its birth Universe was a concentrated soup of matter.

16 Novikov, *ibid*, p 93

Now turn to the Holy Quran. It may surprise you that centuries earlier, it had disclosed in clear terms that in the beginning all the heavens and the earth were together, as a single mass. Consider the following thought provoking ayat below:

*Have not the ones who reject the faith (in Islam) seen (discovered), that the heavens and the earth were together (as one mass); Then We caused them asunder?
(Al-Ambia, 30)*

The beginning phrase of this ayat, “Have not those who reject the faith seen...” is also an astonishing prophecy. It is a prediction that this great discovery will be made not by the believers, but by the non-believers. Alas! Even after having seen this they do not believe in the Divine Revelation of the Holy Quran.

11

EQUILIBRIUM AND STABILITY IN THE UNIVERSE

Mystery surrounds how order emerged out of the initial chaos of Big Bang? How did primordial matter and energy that came out of the Big Bang settle down to give birth to individual stars and other heavenly bodies? This is in violation of the second law of thermodynamics which states that if left at its own, a system will degenerate into disorder unless corrected by external means. But in the case of the Universe we see an orderly world emerging out of the chaotic blast of the Big Bang. How did it happen? Does the Holy Quran provide guidance on this question, that really goes to the heart of the existence of our Universe today and which science has been unable to answer thus far? Indeed it

does! But before that let us review what modern science has to say about this.

It has been recently discovered that equilibrium and stability in the Universe had begun to prevail only after it had exceeded certain critical dimensions after the occurrence of the Big Bang. Initially, there was intense pressure and temperature in the primordial substance that blew out of the Big Bang, billions of times more than what prevails on the sun. As it was expanding, the Universe, much more tiny than what we find now, was also cooling down. After it had expanded beyond a certain critical limit, perhaps due to perturbation in the rate of its expansion, matter began to amass at various places in separate cloud-like globules of gases. These gaseous globules on further cooling turned into primary material for the creation of stars. Thus, expansion was critical in attaining balance and equilibrium in the Universe.

Scientific findings on this question have been summed up by Paul Davies in the following words:

In the expanding Universe, the cosmic material comes under the influence of the cosmological gravitational field. We know that, given an external supply of energy, order can be created in one system at the expense of disorder in another. Thus the flux of heat and light from the sun generates the highly complex order of the Earth's biosphere, but only by sacrificing irreversibly the limited fuel resources of the solar core. In the same way, an expanding Universe can generate order in the cosmic material.¹⁷

Thus science has arrived at the conclusion that order in the Universe was conditional to its expansion. As it expanded,

17 Paul Davies "God and the New Physics", p 50

order and stability started prevailing within it. This is truly an amazing discovery that adds to our understanding of the evolution of our beginning. But what will you say, if you were told that this incredible fact was first revealed in the Holy Quran fourteen hundred years ago? Will you believe it? Indeed the Holy Quran had revealed this truth in clear words much before science. It says:

الشَّمْسُ وَالْقَمَرُ بِحُسْبَانٍ ﴿٥٥﴾ وَالنَّجْمُ وَالشَّجَرُ يَسْجُدَانِ ﴿٥٦﴾ وَالسَّمَاءَ رَفَعَهَا وَوَضَعَ الْمِيزَانَ ﴿٥٧﴾

The sun and the moon operate according to definite mathematical arrangement; (likewise) the stars (in the heaven), and plants (on earth), prostrate before Allah (obey His laws).

And as for the Heaven (Universe), (Allah) raised it high all over and established balance in it, thereof. 55(5-7)

In this thoughtful ayat ***“(Allah) raised heaven all over and established order therein”*** points to the scene of the early Universe. First of all it means that in the beginning Universe must have been close together in a transient chaotic state. At the same time it was opening up also. Order in the Universe began to prevail only after it had expanded beyond certain limits. This is what science has also now discovered.

Point to ponder is, how could anyone make such a startling statement even few hundred years ago? The best scientists then believed that the Universe had always been there. Indeed, only the Creator who revealed the Quran to His Prophet (Peace be upon him) could expose such a fact about the Universe so clearly and comfortably.

Will you still not believe?

PRIMORDIAL SMOKY STUFF

One of the more important discoveries about the early history of the Universe is that long after its creation, for billions of years, the Universe remained in the form of a high temperature smoky substance of light elements, predominantly hydrogen. This has been confirmed by modern instruments such as the Hubble telescope.

According to Carl Sagan, *“at the beginning of the Universe, there were no galaxies, stars or planets, no life or civilization, merely a uniform radiant fireball filling all space”*¹⁸.

“What we see are millions and millions of galaxies of various shapes and sizes formed afterwards from the collection and cooling of the earlier primordial smoky stuff. On its accumulation in large chunks, it started compressing under the gravitational pull and in this process got very hot also. As it got further compressed and heated, atomic fusion reactions started in their core as the factory to produce immense heat and light, and also heavier elements of matter. Thus the primordial smoke of immense volume turned into trillions of stars. Figure below show early stages of formation of galaxies from the original smoky stuff”.

18 Carl Sagan “Cosmos”, p 33, Abacus, 1995

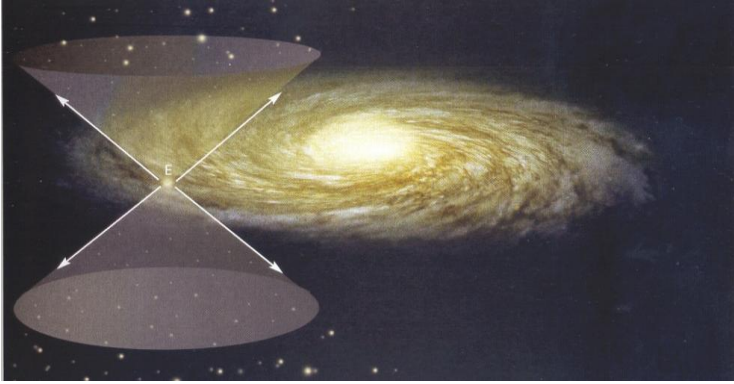


Fig.9,10,11: Early stages of formation of galaxies from the original smoking stuff

While describing the early Universe, Novikov says, *“Clearly, at the epoch such high density, neither stars, nor any other celestial bodies existed. The expanding matter was, most probably, almost perfectly homogeneous. Later with expansion perturbations occurred in the expanding smoky stuff, which resulted into large gaseous clusters; which in turn over time formed galaxies, thereby condensed to from stars and planets”*¹⁹

It should be surprising for the scientists that way before modern science, the Holy Quran, had informed us in clear terms that the early Universe consisted entirely of smoke like matter. It had revealed thus, **ثُمَّ اسْتَوَىٰ إِلَى السَّمَاءِ وَهِيَ دُخَانٌ** *“Then He (Allah) tuned to the Heaven and it was smoke”* 41(11).

The question is how could Muhammad (Peace be upon him) talk so authoritatively about such complex scientific matters concerning the early Universe, if he was not inspired by the Creator of the worlds?

Will you still not believe in the Divine nature of Holy Quran?

13

THE UNIVERSE IS ROTATING

Let's now look into another great discovery of modern science that Universe is not only expanding but it is also rotating. A couple of centuries ago man thought earth was the only world, but over the last few hundred years, scientific discoveries have extended the vision to the infinite expanse of the Universe. Science has now discovered that

19 Novikov, *ibid*, p 95

billions of stars and galaxies in the Universe revolve on their orbits with great harmony. Stars, planets and satellites also rotate around their own axes. So after centuries of research and observation, it is now concluded that the Universe with everything in it is rotating relative to one another.

The earth, for instance rotates around its own axis at a mean velocity of about 1,670 km/hour. (A bullet has an average velocity of 1800 km/hour). Besides its rotation on its own axis, the earth also revolves around the sun at a speed of about 108,000 km/hour – almost 60 times the velocity of a bullet. If it could be possible to design a vehicle of such speed, it would be able to go around the Earth in 22 minutes!

It has further been discovered that as systems increase in size, their velocity also increases. For example, the solar system as a whole revolves around the centre of the galaxy at a velocity of 720,000 km/hour. The velocity of the Milky Way galaxy, on its orbit in space along with its some 200 billion solar systems, is about 950,000 km/hour.(Fig.12,13)





Fig. 12,13: An image of a rotating galaxy

The tiny electrons in an atom are likewise rotating around the nucleus of the atom close to the speed of light. It is truly amazing that there is hardly a body in the Universe that violates this rule. Just to add to the suspense, all big and small systems generally rotate anti-clockwise, which is the same direction in which the pilgrims circle around the Bait-Ullah in Makkah.

These are indeed great scientific discoveries of the twentieth century, but what would you say about the Holy Quran, which over fourteen centuries ago had already pointed out to this great reality of nature.

The Holy Quran announced clearly that rotation is an inbuilt attribute in the nature of the Universe. Ayat 86(11) is testimonial to this truth, (والسّماء ذات الرّجع) **“As for the Heaven (Universe), rotation is its inbuilt nature” 86 (11).**

According to this Quranic revelation, every heavenly body must possess an inherent and natural rotation. We can see that moons revolve around their planets on their orbits; planets around the stars; the stars revolve in their respective orbits in the galaxies; and galaxies too, in turn revolve around their own centre of gravities; and so too are the electrons in a constant state of motion around the nuclei inside the atoms.

Ayat 21 of sura al-Ambia informs us that in their rotation each of the heavenly body follows a specific orbit for it.

وَهُوَ الَّذِي خَلَقَ اللَّيْلَ وَالنَّهَارَ وَالشَّمْسَ وَالْقَمَرَ ۗ كُلٌّ فِي فَلَكٍ يَسْبَحُونَ ۝

And Allah is the one who has created (the cycle of) night and day, And the Sun and the Moon;

All float on their orbits (without exception).

21(33)

It is astounding to imagine a human being talking about these extremely advanced and complex scientific matters about the nature, origin and function of the Universe at a time which incidentally the western scholars have labelled the “Dark Ages” when the knowledge of man was exceedingly limited. Far from an accurate assessment of the heavens, in those days he knew very little even about the earth. How could the Quran then, lay the fantastic claim, ***“All (heavenly bodies) float in their orbits”***, or, ***“Rotation is the nature of Heavers”*** if it was not revealed by the Creator Himself? Indeed modern science stands witness to the truth of this simple worded and straight forward scientific claim by the Holy Quran.

Will you still not believe in it?

14

INFINITENESS OF CREATIONS

Discoveries of modern science show the Universe to be infinite in its expanse and its secrets are almost entirely unexposed. It was with this realization that Newton is reported to have confessed, *“I am like a small child playing*

with pebbles on the shore. A deep sea lies ahead of me, yet to discover.”

And on this issue Hawking asks, *“Is the Universe actually infinite or just very large? And is it everlasting or just long-lived? How could our finite minds comprehend an infinite Universe? Isn’t it presumptuous of us even to make the attempt? Do we risk the fate of Prometheus, who in classical mythology stole fire from Zeus for human beings to use, and was punished for his temerity by being chained to a rock where an eagle picked at his liver?”*²⁰

A much more recent story, narrated by former American President Mr Ronald Reagan in a speech reflects man's inability to comprehend this reality. In 1899, Charles Duell, the Commissioner of the US Patents Office, sent his resignation to President McKinley, suggesting that 'everything that could be invented has been invented'! He urged the closing down of the patents office therefore.

When the Quran was being revealed, man’s world was even more restricted. But at that time, in a mind boggling revelation the Quran announced the infiniteness of the creations of Allah *Subhana-Hu*, ***“(O Muhammad) tell to the world, If oceans were the ink with which to write the Words of my Lord, these will not be enough, even if We brought similar quantity (of ink) to replenish it” 18 (109).***

Only in this modern age of discovery, can one grasp the depth of this revelation. Now when science informs us of a Universe comprising of billions of galaxies, each housing trillions of stars, one can appreciate that all the oceans could indeed be insufficient to write details of the works of our Rabb.

20 Hawking, Nutshell, p 69

Thus Quran taught that there is no limit to knowledge. Scientific endeavours will exhaust, but the works of Allah *Subhana-Hu* will always remain awaiting discovery. It must be pleasant news for the enterprising scientists that the process of discovery is a never ending one.

How unfortunate, still a majority of the mankind don't believe in the Book of Allah?

15

MULTI-WORLDS AND INTELLIGENT BEINGS

A great deal of research is going on these days to discover other inhabitable worlds like the earth. A big challenge for science is to answer the question, if there are intelligent beings like the humans, anywhere else in the Universe as well? Scientists are confident in the probability of there being numerous living planets like the earth all over the Universe. On this subject, one is surprised to know that the Holy Quran starts with the mention of the plurality of worlds. In its opening ayat the Quran says, الحمد لله رب العالمين ***“Praise worthy is Allah only Who is the Rabb (Designer, Creator and Sustainer) of the Worlds” 1(1).***

Explaining this ayat, Ibn-e-Abbas (may Allah be pleased with him) one of the companions of the Prophet (Peace be upon him) and the earliest commentator of the Holy Quran had said, “There are 18,000 worlds similar to us”²¹. On this subject in ayat 65(12) the Holy Quran says:

اللَّهُ الَّذِي خَلَقَ سَبْعَ سَمَاوَاتٍ وَمِنَ الْأَرْضِ مِثْلَهُنَّ ۚ يَنْزِلُ الْأَمْرُ بَيْنَهُنَّ لِتَعْلَمُوا
 أَنَّ اللَّهَ عَلَىٰ كُلِّ شَيْءٍ قَدِيرٌ ۚ وَأَنَّ اللَّهَ قَدْ أَحَاطَ بِكُلِّ شَيْءٍ عِلْمًا ۞

21 Abul-Ala-Maudoodi "Tafheem-ul-Quran"

Allah is the one Who has created seven (several) heavens and (multitude of) earth like thereof. Order of Allah descends between them so that you should know that Allah is capable to do everything; And indeed Allah surrounds everything in His knowledge. 65(12)

In ayat 45(36) the concept of plurality of worlds is mentioned separately apart from the heavens and the earth. It says:

فَلِلَّهِ الْحَمْدُ رَبِّ السَّمَوَاتِ وَرَبِّ الْأَرْضِ رَبِّ الْعَالَمِينَ ﴿٣٦﴾

All praises be to Allah, Sustainer and Nourisher of the heavens and the Sustainer and Nourisher of the earth, (and) Sustainer and Nourisher of the worlds. 45(36)

Ayat 65 of sura An-Namal points out the existence of intelligent beings like us in the Universe by declaring:

قُلْ لَا يَعْلَمُ مَنْ فِي السَّمَوَاتِ وَالْأَرْضِ الْغَيْبَ إِلَّا اللَّهُ ۗ وَمَا يَشْعُرُونَ أَيَّانَ يُبْعَثُونَ ﴿٦٥﴾

Say, Those in the heavens and the earth do not know the hidden Reality except Allah, and they don't understand when they will be raised again (for Judgement). 27(65)

From all such ayaat of the Holy Quran it is quite evident that there are many more worlds in the Universe that are inhabited by the intelligent being like us, and Allah is the Sustainer of all of them. In this regard modern scientific discoveries not only point out the possibility of multiple worlds like ours but to the possibilities of multiple Universes also. Recent scientific thought on this subject has been summed up by Paul Davies:

One bold idea addresses this unnerving issue facing us is the parallel Universe theory, Invented by physicist Hugh Everett in 1957, and subsequently championed by Bryce De Witt, now at the University of Texas at Austin. The theory proposes that all the possible alternative quantum worlds are equally real, and exist in parallel with one another. Whenever a measurement is performed to determine, for example, whether the cat is alive or dead, the Universe divides into two, one containing a live cat, the other a dead one. Both worlds are equally real, and both contain human observers. Each set of inhabitants, however, perceives only their own branch of the Universe.

But where are these worlds? In a sense, those that closely resemble our own are very nearby. Yet they are totally inaccessible: we cannot reach them however far we travel through our own space and time. The reader of this book is no more than an inch away from millions of his duplicates, but that inch is not measured through the space of our perceptions.²²

With this review of modern scientific thought, look again at the ayaat quoted here from the Holy Quran. If scientists discover intelligent beings somewhere in the Universe, it will be only a confirmation of what has already been foretold by the Holy Quran.

How sad while mankind is looking for new worlds outside earth, yet most of them are ignorant of the Book of Allah at their hands!

22 Davies, God,

THE END OF THE UNIVERSE

Not long ago when the universe was considered to last for ever. However, recent scientific developments and new discoveries in cosmology prove that it is not immortal also. In fact, the doomsday of individual stars and galaxies is seen as a routine phenomenon. Powerful telescopes have now shown us the explosive obliteration of stars. Scientists have reason to believe that even entire galaxies, including all their content can also be annihilated and wiped off the face of the Universe. Science has proved that decay of all substances to their death, is built into the design of nature. However, before 1950 the widely accepted theory about the Universe was that it has always existed the way we see it now and will always continue this way. This view was challenged in 1960's and replaced by the Big Bang theory. Consequently now science believes that the Universe had a beginning and could have an end also.

Stephen Hawking says this:

The Universe would expand to a very large size and eventually it would collapse again into what looks like a singularity in real time.

As it shrinks, heavenly bodies will lose their positions, strike with one another and explode. Ultimately, whole of the Universe will shrink into a small nucleus volume. From where, it would bounce back with a huge explosion, another Big Bang.²³

This is similar to what has already been revealed in the Holy Quran. In so many of ayaat, it contends that the Universe and everything in it, will exist only for a limited time.

23 Stephen Hawking "A Brief History of Time", p 147

Eventually, like its parts, the whole of the Universe is also destined to meet its end. Just as it had begun suddenly, it would end suddenly too. As pointed out in the following ayaat, it will commence with a great commotion in the heavens:

يَوْمَ تَرْجُفُ الرَّاجِفَةُ ۖ تَتَّبِعُهَا الرَّادِفَةُ ۖ

Think of the Day, when everything will be in violent commotion. Followed by off repeated (comm.-otions). 79(6-7)

As mentioned in ayaat 82(1-3) this will be followed by destructive planetary collisions:

إِذَا السَّمَاءُ انْفَطَرَتْ ۖ وَإِذَا الْكَوَاكِبُ انْتَثَرَتْ ۖ وَإِذَا الْبِحَارُ فُجِرَتْ ۖ

Think of when the heaven will be cleft asunder, planets are dispersed, and when the oceans boil over. 82(1-3)

Near the ultimate doomsday violent disorder in the heavenly order can be visualized from ayaat 52(9-10) also:

يَوْمَ تَمُورُ السَّمَاءُ مَوْرًا ۖ وَتَسِيرُ الْجِبَالُ سَيْرًا ۖ

(Think of) the Day when heavens will heave with awful heaving, and the mountains (meteor) move all over. 52(9-10)

In this process our solar system will be destroyed. The glowing sun will lose all its brightness. As we can see from ayaat 81(1-2), it may happen in the process of large scale destruction of the galactic worlds:

إِذَا الشَّمْسُ كُوِّرَتْ ۖ وَإِذَا النُّجُومُ انْكَدَرَتْ ۖ

When the sun is folded up, and when the stars fall from their positions losing their lustre. 81(1-2)

By then however, the earth would already have been destroyed by mortal meteoric strikes:

كَلَّا إِذَا دُكَّتِ الْأَرْضُ دَكًّا دَكًّا ۚ

(Think of when the) Earth will be pounded to powder, ferociously (possibly by the meteor strike) 89(21)

And so at many places the Holy Quran points out different scenarios of the impending doomsday. It also reveals that catastrophic events of doomsday will occur so suddenly that no one will be able to predict them:

يَسْأَلُونَكَ عَنِ السَّاعَةِ أَيَّانَ مُرْسَاهَا ۗ قُلْ إِنَّمَا عِلْمُهَا عِنْدَ رَبِّي ۖ لَا يُجَلِّيهَا لِوَقْتِهَا إِلَّا هُوَ ۗ ثَقُلَتْ فِي السَّمَوَاتِ وَالْأَرْضِ ۗ لَا تَأْتِيكُمْ إِلَّا بَغْتَةً ۗ

They ask you about the Doomsday, when will it happen? Say, its knowledge is with Allah only. He alone will manifest it at its proper time. When it comes, it will be a heavy (very catastrophic) day in the heavens and earth. It will come not, but suddenly. 7(187)

17

CONTRACTING UNIVERSE

About the question of the end of the Universe, modern science now hypothesizes that it will come out after the current phase of the expansion reaches its limit, and then as a consequence of all the mass within it, the Universe will start contracting. According to science, this contraction will keep rapidly increasing in velocity, as the heavenly bodies come closer. Eventually planets, stars and galaxies will start crashing against one another. As the size of the Universe further decreases and the speed of inward travel of heaven by bodies increases, they will strike one another and further squeed. Eventually all the matter in the universe will be annihilated in a violent implosion. However, whether the

Universe is presently expanding or contracting is merely conjectural. The distant galaxies that we observe today with the help of cutting edge technological equipment may only the scene that has already occurred billions of years in that past. Thus the Universe may in fact already be contracting while we see it expanding.

It must surprise you that much before the discovery of science, the Holy Quran had already described the scene of the expansion and then the contraction of the Universe, with the metaphor of the opening up of a scroll, and then it's rolling back. (Fig.14) In this context ayat 104 of sura 21 is highly thought provoking:

يَوْمَ نَطْوِي السَّمَاءَ كَطَيِّ السِّجْلِ لِلْكِتَابِ ۖ كَمَا بَدَأْنَا أَوَّلَ خَلْقٍ نُعِيدُهُ ۖ وَعَدَا
عَلَيْنَا ۖ إِنََّّا كُنَّا فَعَالِينَ ۝

One day We shall roll up the heavens (Universe) like (rolling up) a scroll of writings. Just as We did originate the first creation, We shall recreate it again. That is Our promise and We are going to do it. [21(104)]

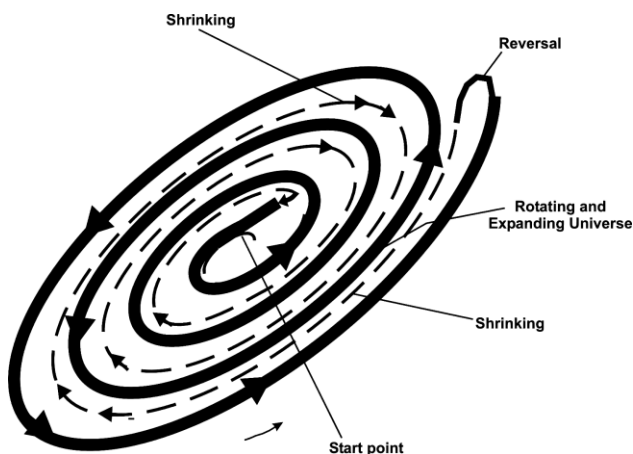


Fig. 14: Expansion and Contraction of Universe back

Opening up of a scroll and them rolling back

What a wonderful, comprehensive and powerful description of the origin and end of the Universe! Could anyone claim knowledge of the fate of the Universe with so much certainty, in so powerful words, except the Creator Himself?

According to Hawking, the process of rolling back of the Universe may take place when the inherent contracting force of gravity, possessed by the mass of all bodies within the Universe overtakes the force of the initial Big Bang expansion. He writes:

*If the density of the Universe is greater than a certain critical value, gravitational attraction will eventually stop the expansion and make the Universe start to contract again. The Universe would collapse to a big crunch. This would be rather like the Big Bang that began the Universe. The big crunch would be what is called a singularity, a state of infinite density at which the laws of physics would break down.*²⁴

Keeping Professor Hawking's statement in mind, now look again at the earlier quoted ayat 21(104). Was not the Holy Quran first to reveal the mechanism of the ultimate fate of the Universe? Even then you don't believe?

18

THE ROLE OF THE HIDDEN MATTER

How will the expansion of the Universe turn into contraction? Science now believes that this will come about as a result of the enormous amount of some sort of hidden matter that might be present in the Universe (or is added to

24 Hawking, Black Holes, p 146

it). Once the force of the initial Big Bang is spent and the force of gravity of the hidden matter inside the Universe takes over, expansion of the Universe will change into contraction. About this hidden matter, Hawking says:

Various cosmological observations strongly suggest that there should be much more matter in our galaxy and other galaxies than we see. But one of the fundamental problems is to discover the nature of the dominant form of dark matter. Before the 1980's it was usually assumed that dark matter was ordinary matter comprised of protons, neutrons, and electrons in some not readily detectable form: perhaps gas clouds, or MACHOs — "Massive Compact Heavenly Objects" like white dwarfs or neutron stars, or even black holes.²⁵

It is truly amazing that the Holy Quran had already pointed out the existence of hidden matter in the Universe much earlier; and that was revealed, quite significantly, in reference to the doomsday of the Universe. The Quran calls it the 'hidden of the heavens and earth' It had revealed thus:

وَلِلَّهِ غَيْبُ السَّمَاوَاتِ وَالْأَرْضِ ۗ وَمَا أَمْرُ السَّاعَةِ إِلَّا كَلَمْحِ الْبَصَرِ أَوْ هُوَ أَقْرَبُ ۗ
إِنَّ اللَّهَ عَلَىٰ كُلِّ شَيْءٍ قَدِيرٌ ۝

And to Allah is the hidden of the heavens and the Earth, and the matter of the Doomsday, will be nothing but like a twinkling of an eye or even quicker. Surely, Allah has power over everything. 16(77)

The first part of this revelation speaks about 'Hidden of the Universe' and the second part points out its relationship with the end of Universe. Thus a fundamental truth is revealed here, leaving the details for scientists to discover. However, one wonders, how is it that the Holy Quran over 1,400 years

25 Stephen Hawking, Black Holes, p 148

ago, had revealed the connection of hidden matter with the end of the Universe, something that science only managed to realize at the closing stages of the twentieth century!

19

DEATH IS THE FINAL DESTINY (SECOND LAW OF THERMO-DYNAMICS)

The second law of thermodynamics is a proud discovery of modern science in terms of the understanding of how nature works. It states that in every system entropy increases with time. This means that left at its own, order will automatically change into disorder unless it is checked by external intervention. Thus, if left to itself everything will decay to death. The Holy Quran had told the same thing as a law of nature. It reveals, ***“All that exists is to perish except the Reality of your Rabb, full of Majesty and Glory.”*** 55(26-27). Notice here that the Holy Quran refers to everything that exists, and not just the living beings. Thus it is an intriguing reference to the destruction of the every thing in the Universe at its turn.

Ayat 28(88) also mentions the same fact in slightly different terms:

كُلُّ شَيْءٍ هَالِكٌ إِلَّا وَجْهَهُ لَهُ الْحُكْمُ وَإِلَيْهِ تُرْجَعُونَ ^{الْبَلَدِ} ٢٨

Everything is to perish except the Reality of your Lord. To Him is to rule and to Him is the final return. 28(88)

This is the universal principle. The process of death is part of life. In scientific terminology it means that entropy is bound to rise in every thing. The only exception is the Supreme Creator Himself. According to this principle, nothing can survive forever, even the highly stable particles

like protons must decay with time, and ultimately perish, and they do.

At the cosmic level, the Holy Quran revealed that the sun and all the stars will die when their time arrives. For example ayaat 81(1-2) have categorically stated:

إِذَا الشَّمْسُ كُوِّرَتْ ﴿١﴾ وَإِذَا النُّجُومُ انْكَدَرَتْ ﴿٢﴾

(Think of the Time) when the sun will cease to shine, and when the stars will lose their lustre. 81(1-2)

According to modern science the sun has already reached its middle age in terms of its life span. It is estimated that in other 5-6 billion years it will exhaust all its fuel and turn into a black dwarf. However, accidents of nature can hasten the process of its death. On this subject Paul Davies writes in his book:

*As far as the sun is concerned, it clearly cannot continue burning away merrily ad infinitum. Year by year its fuel reserves decline, so that eventually it will cool and dim. By the same token its fires must have been ignited only a finite time ago: it does not have unlimited sources of energy.*²⁶

As for the death of the Universe Davies sums up today's scientific thought:

If the Universe has a finite stock of order, and is changing irreversibly towards disorder - ultimately to thermodynamic equilibrium - two very deep inferences follow immediately. The first is that the Universe will eventually die, wallowing, as the 'heat death' of the Universe. The second is that the Universe cannot have existed forever; otherwise it would have reached its

26 Paul Davies, "God and New Physics"

*equilibrium end state an infinite time ago. Conclusion: The Universe did not always exist and likewise is not eternal either.*²⁷

This is the same conclusion what could be derived from the general principle revealed in the Holy Quran over fourteen hundred years ago, **“Everything will Perish eventually”** 28(88) **كُلُّ شَيْءٍ هَالِكٌ**. It should certainly surprise every rational mind that how could someone in those ‘Days of Ignorance’ more than 1400 years ago narrate such facts about nature so precisely and with so much certainty. The only valid explanation is that the Holy Quran is a revelation from the Creator of the Universe, and Muhammad (Peace be upon him) is His messenger. How unfortunate it is that most people still do not have faith in him!

20

SPACE TRAVEL AND SPACE HAZARDS

Space travel is amongst the greatest testimonials to mankind's scientific advancement. Technological development in space sciences resulted in the landing of man on the moon in 1969. Since then much more powerful rockets have been developed for even deeper space travel, and to establish space stations. Moreover, thousands of communication satellites are encircling the earth at all times. Unmanned space vehicles have been sent for deep space exploration. It seems possible that man will colonize its near space regions before the turn of the 21st century, if he does not destroy himself before that.

27 Paul Davies, “God and New Physics”

It is stunning thus, to see that the Holy Quran had already prophesied about this achievement more than fourteen centuries ago. It was revealed then that man will one day leave the boundaries of earth, once he acquires sufficient power. Rightly this achievement has been termed as great favour of Allah to man. In this context, ayat 33-34 of sura Ar-Rahman are incredibly thought provoking:

يَمْعَشِرَ الْجِنَّ وَالْإِنْسِ إِنْ اسْتَطَعْتُمْ أَنْ تَنْفُذُوا مِنْ أَقْطَارِ السَّمَوَاتِ وَالْأَرْضِ فَانْفُذُوا
لَا تَنْفُذُونَ إِلَّا بِسُلْطَانٍ ۝

O you assembly of Jinns and Men! If it be, you can pass beyond the boundaries of the heavens and the earth, pass you! You will not be able to pass through without acquiring great power. Then which of the favours of your Rabb will you deny. 55(33-34)

It is worth contemplating the idea of 'boundaries of the heavens and the earth', mentioned in these ayaat. This may refer to the regions of neutral gravity. A rocket needs initial velocity to break through earth's gravitational barrier at the speed of around 19 miles/second. After this, the rocket could continue travelling effortlessly.

It is no less surprising that the Holy Quran had also pointed out the perils of space travel. In the following ayat 55(35) it mentions that during space journeys, man would encounter violent radiation storms.

يُرْسَلُ عَلَيْكُمَا شَوْاظٌ مِّنْ نَّارٍ ۖ وَنُحَاسٌ ۚ فَلَا تَنْتَصِرَانِ ۝

(As you travel in space) On you will be sent flares of smokeless fire and burning hot flames, so then no defence will you have against them. 55(35)

Latest scientific finds confirm the possible dangers of cosmic radiation in outer space. It has been discovered that outer space is under constant bombardment by different types of cosmic radiations from all sides. For example, hot plasma flares keep storming out from the sun continuously, which can damage space vehicles, as well as satellites in their way. In view of such dangers, NASA has started monitoring solar weather for the safety of space vehicles on a continuous basis.

Doubtless these are great scientific achievements, but it is no less astounding, that the Holy Quran had foretold space travels and its impending dangers, more than 1,400 years ago. Have you got any explanation of it?

Will you still not believe in Muhammad (Peace be upon him) and the revelation bestowed upon him?

21

THE ABSOLUTENESS OF SCIENTIFIC LAWS AND PROGRAMMED NATURE

One of the fundamental discoveries of modern science is that nature abides by certain laws, all over the space-time continuum. This principle is the basic premise of Einstein's theory of relativity. It might therefore, surprise you that it was the Holy Quran that first revealed this truth of nature as well. It is pointed out in ayat 10(64) that commandments of Allah *Subhana-Hu* never change.

لَا تَبْدِيلَ لِكَلِمَاتِ اللَّهِ ط

There is absolutely no change in the commandments of Allah 10(64)

In ayat 30 of sura Ar-Roum it is revealed:

لَا تَبْدِيلَ لِخَلْقِ اللَّهِ ۗ ذَٰلِكَ الدِّينُ الْقَيِّمُ ۗ

There will be no change in the creative ways of Allah. That is the fixed system. 30(30)

And in ayat 46(3) it is further stated:

مَا خَلَقْنَا السَّمَوَاتِ وَالْأَرْضَ وَمَا بَيْنَهُمَا إِلَّا بِالْحَقِّ وَأَجَلٍ مُّسَمًّى ۗ

We have not created the heavens and the earth and all that lies between them but with a true purpose; and for an appointed term only. 46(3)

As for the programmed nature, it is revealed:

سَبِّحِ اسْمَ رَبِّكَ الْأَعْلَى ۚ الَّذِي خَلَقَ فَسَوَّى ۗ وَالَّذِي قَدَّرَ فَهَدَى ۗ

Glorify the Name of your Lord Who created, then arranged them in definite proportions and then measured them precisely, thereby guided them accordingly. 87(1-3)

It also gave the general rule:

لِكُلِّ نَبَأٍ مُّسْتَقَرٌّ ۙ وَسَوْفَ تَعْلَمُونَ ۗ

For every event (order) is a program and in due course of time you shall come to know of it. 6(67)

All this means that nature is geared to abide by the laws of Allah, and that these natural laws do not change with time and space. Universe is a pre-programmed system to last for an appointed term. Indeed, the permanence of natural laws is the basic assumption in scientific research and analysis. On this Hawking says in his book “*The fundamental postulate of Theory of Relativity, as it was called, was that the laws of science should be the same for all freely moving observers, no matter what their speed*”²⁸.

28 Stephen Hawking “A Brief History of Time”, p 21, Bantam Books, 1996

In the same context Einstein is reported to have said, *“Those individuals to whom we owe the great creative achievements of science were all of them filled with truly religious conviction that this Universe of ours is something perfect”*²⁹.

As you can see in ayat 6(67) above, the Holy Quran had also predicted that before long, man will discover the facts revealed in the Holy Quran by himself. Now everyone believes in the universal transcendence of scientific laws. This way modern science has in fact emerged as a strong witness to the truth of the Holy Quran.

Indeed, when the Quran was being revealed, no human could conceive of these facts of nature. Man’s knowledge was extremely limited then, and all that he knew or cared about was restricted to his immediate environment. The assertion about the pre-programmed quality of the Universe and the permanence of the laws of nature, could not possibly have been the brain child of any man. Alas, even then a majority of people do not believe!

22

QUANTUM CREATIONS

Does nature operate in a continuous, gradual, evolutionary fashion, or in sudden creative jumps? This has been a major question for scientists since Newton’s time. Up-till the beginning of the twentieth century, the idea of slow acting evolutionary development was a sort of accepted theory. But things changed by 1930 due to the new discoveries about the sub-atomic particles.

29 Ken Wilber, “Quantum Questions” p 113, Shambhala, Boston, 2001

Finally Quantum Mechanics took birth, after the discovery that electrons travel from one orbit to other in jumps and in fixed quanta. Earlier it was thought that motion is continuous, like that of waves on the mysterious media called ether. Quantum mechanics rejected the idea of ether and the continuous movement of particle and instead proposed that at least at the atomic level, events do occur in quantum, jumps of discrete measure. For example, light is composed of particles called photons which hop over in space while travelling.

One is surprised that, the 'rules of creation' given in the Holy Quran also point out to the discrete, quantum characteristic of things. It speaks of the creative mode of Allah *Subhana-Hu* according to the principle of '*Kun Faya-Koon*' (كن فيكون) ie “Be', and it is there”. In this respect ayat 82 of sura Yasin declares:

إِنَّمَا أَمْرُهُ إِذَا أَرَادَ شَيْئًا أَنْ يَقُولَ لَهُ كُنْ فَيَكُونُ ﴿٨٢﴾

Surely His Command, when He intends a thing is simply that He would say to it “Be” and it is there. 36(82)

Allah being the Supreme Creator, it should be evident from such ayaat of the Holy Quran that creative strokes will always take place in pre-programmed discrete measure. However, the Holy Quran also supports slow evolutionary development process. Thus the overall process of creation and development will consist of sudden creative quantum activity, and further development in the slow evolutionary manner as shown in the figure below. Thus according to the Holy Quran both the Newtonian mechanics as well as quantum mechanics have their role in nature.

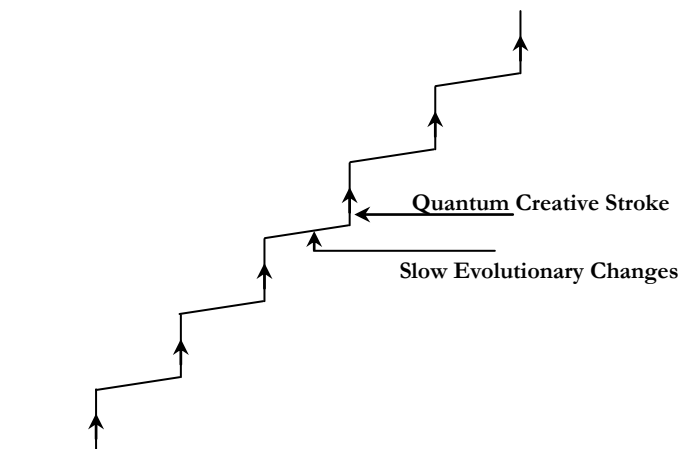


Fig.15: Creative activity in quantum jumps, and slow evolutionary development, both are part of nature

23

EXISTENCE IN PAIRS

One of the greatest discoveries of twentieth century physics was the Noble Prize winning work of Paul Dirac that concerned matter and anti-matter. Dirac discovered in 1933 that the Universe was created out of nothing into positive and negative pairs of matter and anti-matter. (Fig.16) According to Prof. Abdus Salam, *“He could show in general grounds that all particles in nature must exist in pairs; that to every particle there must correspond an anti-particle of precisely the same mass: the same spin but of opposite electrical charge”*³⁰. From this, one could infer the possibility of the existence of the pairs of Universe and anti-Universe as well. Later, when the truth of this hypothesis was verified experimentally, Dirac duly received Noble Prize.

30 Prof. Abdus Salam “Symmetry Concepts in Modern Physics”, PAEC, Lahore, 1966

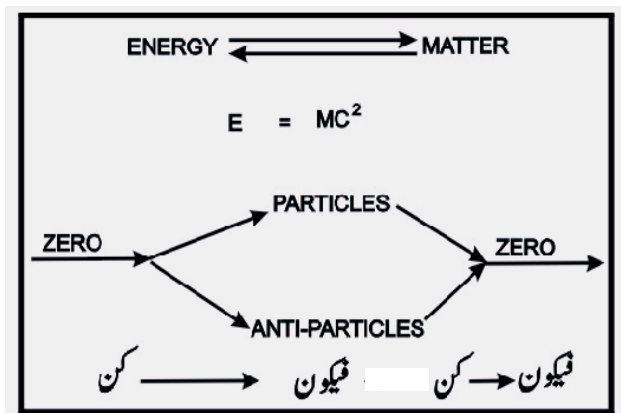


Fig.16: Creation of Universe from Nothing

In its generalized form, the hypothesis that all particles in the Universe exist in pairs, is now seen as a fundamental law of nature.

Long before its discovery by modern science, the Holy Quran had already intimated the fact of all creation by Allah in pairs, whether known or unknown to man. So matter and anti-matter, everything without exception must exist in the form of pairs. The following revelation of sura Al-Zaariat ayat 49 states this fact:

ومن كل شئ خلقنا زوجين لعلكم تذكرون

**“We have created pairs in everything,
May be you reflect into it to learn some
lesson” 51(49).**

Ayat 36 of sura Yasin informs us that there is no exception to this rule. All the known and the unknown things follow this law. It says:

سُبْحَانَ الَّذِي خَلَقَ الْأَزْوَاجَ كُلَّهَا مِمَّا تُنْبِتُ الْأَرْضُ وَمِنْ أَنْفُسِهِمْ وَمِمَّا لَا يَعْلَمُونَ ﴿٣٦﴾

***All praise for He (Allah) Who has created
everything in pairs, those which grow in the***

*Earth, And in your own selves, and those
which you do not know (yet) [36(36)]*

As stated earlier in this book, science has in fact turned out to be a supporter of the revelations of the Holy Quran. By its discovery, science has confirmed the truth revealed in the Quran that all existence occurs in pairs throughout the nature. For instance, every action has a reaction; electromagnetism exists in a pair of magnetic and electrical fields. A positive charge always induces a corresponding negative charge. Magnetic polarity also goes in pairs. Atomic structure down to its sub-atomic level follows the same principle. Matter and energy form another pair, expressed by the equation $e = mc^2$. In the biological world too, the same truth is seen at every level. For example blood consists of red and white cells, and it comprises of x- and y-chromosomes. Everyone has a pair of eyes, pair of ears and pair of left- and right-side of the brain, and so on.

According to this revelation, discovery of one thing naturally points to the presence of its pair. On the much larger scale, this also leads to the possibility of existence of parallel Universes which is now a serious subject for scientific research. Scientists claim having discovered the twin of our own sun as well. Thus with the passage of time, the Quranic rule of creation in pairs is emerging as the basic scientific truth about all levels of nature.

Think about it, could anyone possibly have pronounced this fundamental reality, so comprehensively over 1,400 years ago, unless he was inspired directly by the Creator Himself? Will you still not believe that the Holy Quran is the Revelation from Allah *Subhana-Hu*?

THE ATMOSPHERIC ROOF

Amongst the significant discoveries of the twentieth century was that the earth is enveloped by layers of atmosphere which serve the vital function of protecting life on earth from cosmic radiations as well as from meteor strikes, both of which keep relentlessly bombarding the earth. These atmospheric barriers act as a roof over us and thus keep us safely enshrouded within. Meteors while passing through the earth's atmospheric at great speeds, due to frictional forces get heated and evaporated or reduced to insignificant rubble before reaching the earth. Indeed without this protective roof, life could not have survived on earth.

Lately, substantial research has been conducted on this subject, which shows that the atmosphere is divided into seven layers, one above the other. It might shock you again to know that many centuries prior to this scientific discovery, the Holy Quran had revealed that there is an atmospheric roof over the earth that consists of seven strong barriers, layer upon layer. Here is the original Quranic revelation,

وَلَقَدْ خَلَقْنَا فَوْقَكُمْ سَبْعَ طَرَائِقَ ۗ وَمَا كُنَّا عَنِ الْخَلْقِ غَافِلِينَ ۝

Indeed We created above you seven layers (ways) and We are not unmindful (to the safety of) Our creatures. 23(17)

Note the reason given in the ayat above for the seven layer atmospheric system: it is for the safety of the creations of Allah *Subhana-Hu* on earth. Ayat 78(12), points out that these seven atmospheric systems are very strong.

“**And We have built above you seven very strong (systems)” 78(12).**

The Holy Quran points out the facts of nature, leaving details for the man to discover and analyse, just as a great architect would provide a general outline for his apprentices to subsequently fill in. The seven layered roof over the earth has now been found to consist of the following seven spheres:

- 1- Tropo-sphere – in it cloud formation takes place, changes in weather also occurs in it. It is about 18 km high;
- 2- Strato-sphere – upto 51 km high. Uppermost part of it consists of the ozone layer, which absorbs the harmful ultraviolet radiation emitted by the sun;
- 3- Meso-sphere – upto 85 km high. In this sphere temperature may fall to -73°C , and provides a cooling effect to the earth;
- 4- Thermo-sphere – upto 500 km high. Temperatures here rise to between 50°C and 120°C . It absorbs cosmic radiation;
- 5- Iono-sphere – this is above 500 km. It reflects radio waves, thereby allowing long distance communication. It also reflects certain dangerous cosmic radiation back to space;
- 6- Exo-sphere – this stretches over 1,000 km. It slows down falling meteors directed to the earth; and
- 7- Magneto-sphere – it is between 3,000 to 30,000 km high. It reflects high energy particles away from earth. Van Allan radiation belt also lies in it.

One wonders in amazement how the Holy Quran could inform us about the astonishing system of atmospheric roof consisting of seven protective layers above the earth for the safety of life on it at a time when nobody had any idea of such things. Could it be the work of a genius, or the revelation from the Creator of the Universes? Alas! Most of

the mankind still do not heed to the Holy Quran for guidance in their life.

25

PROTECTION OF THE ENVIRONMENT

Global environment has turned into one of the most significant and hotly debated issue in the world. In view of the potentially fatal consequences of environmental pollution, it has become one of the most serious problems faced by mankind. Various UN environmental conferences have stressed the issue and have warned that if immediate protective measures are not taken now, then the ultimate survival of life on earth will be threatened. If the present dangerous trends continue, then in near future, the problem may turn into an irretrievable catastrophe.

According to C. R. Kitchin:³³

Great concern is currently being felt over the 'greenhouse effect', the slow increase in the amount of carbon dioxide in the Earth's atmosphere due to the consumption of fossil fuels and reduction in plant biomass, leading to increases in the average surface temperature of Earth. The effect is exacerbated by consequent increased release of methane and the evaporation of water as the temperature rises, because all these gases allow through the short-wave radiations from the Sun whilst trapping the long-wave radiations back into space by the Earth. Dire predictions of rise in the global average temperature by the middle of the next century are given.

The effects of such an increase, even though of only a few degrees, may well be drastic. Sea levels may rise to

wipe out low-lying countries like Bangladesh and the Netherlands and put many cities and ports in danger. The level will rise not because of the often-mentioned melting of the polar caps, but because the sea water will expand in volume as its temperature rises. Climatic patterns will also shift, and agricultural zones will change.

That in turn would raise the temperature further, releasing yet more gases and so on, a positive feedback loop with disastrous consequences for most life on the Earth. The final surface temperatures might possibly exceed the boiling point of water.³¹

How thoughtless of man that besides degradation of physical environment he has also polluted his social and spiritual values a great deal, resulting in unwanted tensions, mental disorders, broken homes and psychic problems. Responsibility for this rests to a large extent upon the rich, industrially developed nations due to the wastes and pollutants produced by their wasteful industrial economies and commercial moral standards. However, under threat of the rising levels of pollutions, “Save the Environment” is now the biggest concern of the United Nations as well.

Could the Creator of the worlds have remained silent on this issue of such great magnitude in His revelations to mankind? Indeed, He had very strongly warned mankind not to give way to spoiling the equilibrium established on earth by Him. Man was advised thus:

وَلَا تُفْسِدُوا فِي الْأَرْضِ بَعْدَ إِصْلَاحِهَا ذَلِكُمْ خَيْرٌ لَّكُمْ إِن كُنْتُمْ مُؤْمِنِينَ ۗ

Do not spoil the equilibrium on the earth, after it has been stabilized. This is better for you, if you believe. 7(85)

31 C.R. Kitchen "Journey to the End of Universe", Adam Hilger, USA, 1990

Similar warnings are given in sura al-Baqara, ayat 11, and sura al-Araaf, ayat 56.

Here is a great lesson for the modern man. Even if he is not a Muslim, he must heed the advice of the Holy Quran about global environment. We must not disturb the sensitive equilibrium and balance of the earth's environment and regenerative mechanisms.

At the same time one asks in wonder, how could someone over 1,400 years ago have thought of warning mankind about the dangers of disturbing the equilibrium of earth? Was he a great scientist or the inspired Messenger of Allah? How unfortunate, even then many don't believe in him, and the glorious Quran he brought forth.

26

WATER, THE SOURCE OF LIFE

Where did life begin? This has been a mind boggling question for science until recently. It was only in the mid twentieth century that science could say with confidence that life first evolved in water and that water is essential for its survival. In this regard Carl Sagan writes in his book³²,

We know from the fossil records that the origin of life happened soon after, perhaps around 4 billion years ago, in the ponds and oceans of the primitive Earth. The first living things were not anything so complex as a one-celled organism, already a highly sophisticated form of life. The first stirrings were much more humble. In those early days, lightning and ultraviolet light from the Sun were breaking apart the simple hydrogen-rich

32 Carl Sagan "Cosmos", p 44, Abacus, reprinted 1998

molecules of the primitive atmosphere, the fragments spontaneously recombining into more and more complex molecules. The products of this early chemistry were dissolved in the oceans, forming a kind of organic soup of gradually increasing complexity, until one day, quite by accident, a molecule arose that was able to make crude copies of itself, using as building blocks other molecules in the soup.

Discovery about the origin of life in water is no doubt a matter of pride for science. But it might surprise the scientific community that the Holy Quran had revealed this truth in very clear terms much earlier. It revealed that life began in murky pools of water and for its survival, depends on water.

In very plain words it declares

وَجَعَلْنَا مِنَ الْمَاءِ كُلَّ شَيْءٍ حَيٍّ أَفَلَا يُؤْمِنُونَ ﴿٣٠﴾

“All things living We made from water. Will they even then not believe?” 21 (30)

It means that water is the fundamental source of every kind of life. If there is no water there will be no life also. Today search for living beings in outer space is based on the assumption, that the presence of water would identify the pre-requisite for life. The crucial second part of the revelation quoted above, is an important piece of advice for the non-believers, ***“Will they even then not believe?”***

Let the non-believers ponder over this revelation in all honesty. How could someone over 1,400 years ago, make this scientific assertion in such clear terms about the riddle of life's origin, if he was not inspired by the Creator of life Himself? Alas! Even then they do not believe in him!

THE INVISIBLE BARRIER BETWEEN WATER STREAMS

Scientific research in recent years has seen two contrasting streams of water in the oceans, with divergent properties, flowing side by side, with an invisible barrier between them. This barrier divides bodies of water so that each stream independently flowing in the sea has its own temperature, salinity and density. Long before its discovery by scientific research, the Holy Quran had already pointed out the phenomena of the existence of such distinctive streams of water.

Ayaat 55(19-20) of sura Ar-Rahman point out that it is a blessing of Allah *Subhana-Hu* that there are two bodies of water in the oceans flowing side by side, yet not mixing together, He has created of a barrier between them:

مَرَجَ الْبَحْرَيْنِ يَلْتَقِيْنَ ۚ بَيْنَهُمَا بَرْزَخٌ لَا يَبْغِيْنَ ۚ اِلَّا رِبْكَمَا تُكْذِبْنَ ۝

He has let free two ocean streams flowing side by side each other. In between them is an unseen barrier. They do not take over each other. Then which of the favours of your Rabb will you deny. 55(19-21)

According to I. A. Ibrahim³³ "One example of these rivers in the ocean is the Gulf Stream, beginning in the Caribbean and ending in the North Atlantic. This extensive western boundary current plays an important role in the pole-ward transfer of heat and salt, and serves to warm the European continent. It begins

33 I. A. Ibrahim, "A Brief Guide to Understanding of Islam", Darussalam, Houston

upstream of Cape Hatteras, where the Florida Current ceases to follow the continental shelf. The position of the stream as it leaves the coast changes throughout the year. In the fall, it shifts north, while in the winter and early spring it shifts south.

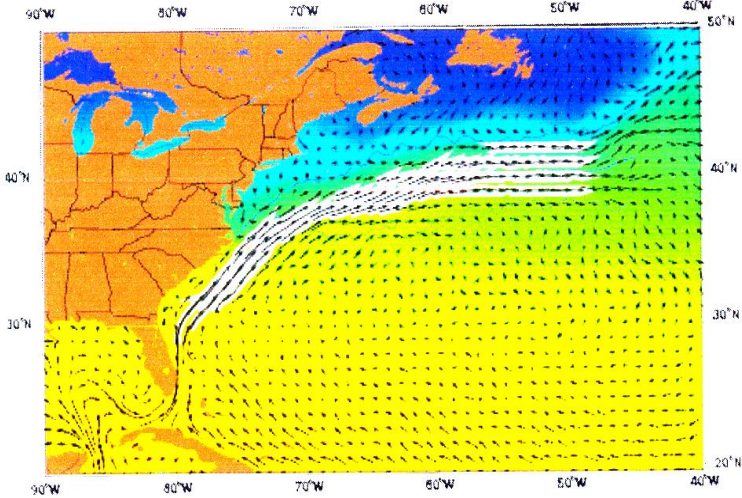


Fig. 17: The Gulf Stream as represented by the Mariano Global Surface Velocity Analysis (MGSVA).

Compared to the width of the current, which is 100-200 km, the range of its variation, 30-40 km, is relatively small (Hogg and Johns 1995). When the Mediterranean sea water enters the Atlantic over the Gibraltar sill, (Fig.18,19) it moves several hundred kilometres into the Atlantic at a depth of about 1,000 meters with its own warm, saline, and less dense characteristics. The Mediterranean water stabilizes at this depth”.

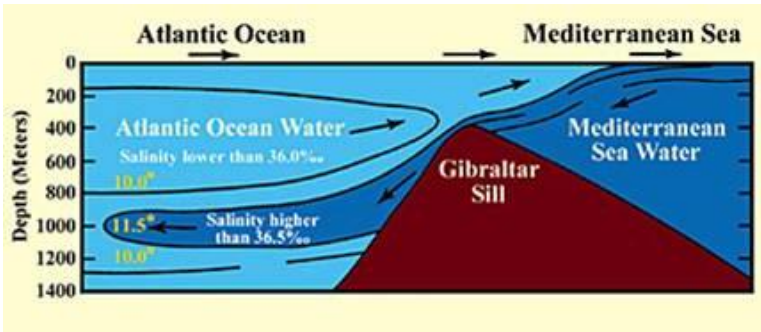


Fig.18: Parallel streams of water in oceans

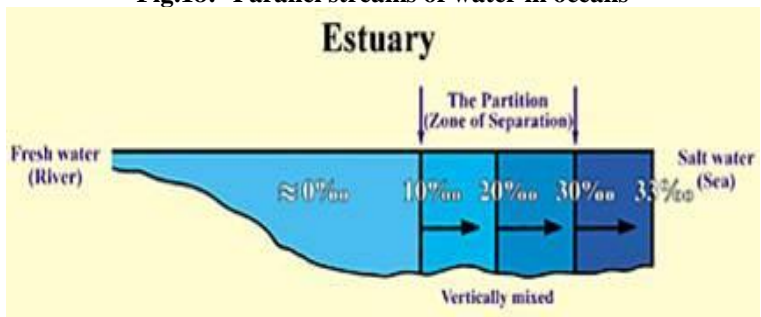


Fig.19: Parallel streams of water in oceans

Just imagine, how any man could possibly have spoken of hydro barriers in oceans so precisely and comprehensively, during what is known as the Dark Age? Still some people, out of their prejudice, doubt the Holy Quran as a revelation from the Creator of the worlds.

28

ROOTS OF MOUNTAINS

Modern earth sciences have proven that mountains have deep roots under the surface of the ground. These roots may be several times deeper than the heights of the mountains. So they are like the pegs that go right down to the crust of the earth. Scientifically, the concept of mountains as pegs and having roots in the ground was introduced only in the

later half of the nineteenth century. Before that scientific knowledge about them was non-existent.

It is therefore quite surprising that the metaphor used for mountains in the Holy Quran is pegs in the ground, as we see it in the following ayat,

أَلَمْ نَجْعَلِ الْأَرْضَ مِهْدًا ۖ وَالْجِبَالَ أَوْتَادًا ۚ

*Have We not made the earth a wide soft
expanse, and the mountains like pegs?*

78(6-7)

According to I. A. Ibrahim,³⁴ Professor Emeritus Frank Press who was the Science Advisor to former US President Jimmy Carter, and who has also been the President of the National Academy of Sciences, Washington, in his book "Earth" writes that mountains have underlying roots. These roots are deeply embedded in the ground. Therefore, mountains have a shape like the pegs as you can see in figure 20.

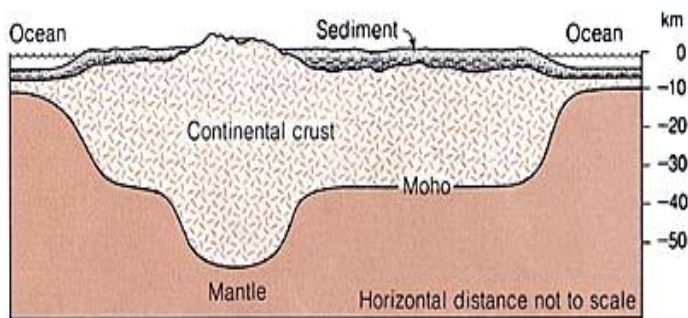


Fig.20: Mountains have deep roots under the surface (Press and Siever "Earth" p 413)

Besides the fact that mountains are like pegs in the floor of the earth, the Holy Quran also mentioned the astounding

34 I. A. Ibrahim "A Brief Guide to Understanding Islam", Darussalam, Houston

fact that they help stabilize the Earth. It says at 16(15), ***"And He has set firm mountains in the earth so that it would not shake with you."*** The role of mountains as stabilizers of the Earth has just recently begun to be understood in the framework of plate tectonics. One wonders how could the Holy Quran have presented such scientific facts over fourteen centuries ago if it was not itself the handiwork of the Creator of the worlds!

29

THE QURAN ON HUMAN EMBRYONIC DEVELOPMENT

Information given in several ayaat of the Holy Quran about human embryonic development is extremely revealing in light of the latest scientific discoveries. One wonders how Muhammad (Peace be upon him) could possibly have known all that is presented in the Holy Quran so accurately over 1,400 years ago. For example, look at the following revelations:

Indeed, We created Man from an extract of clay, then (in the next stage) We made him as a tiny drop (نطفه) placed in settlement, firmly fixed. Then (in the next stage) We tiny drop (نطفه) into an Alaqah (process of joining one thing with other (ie joining the mother's egg), then We created the Alaqah into a Mudgha (chewed gum-like substance) Then (in the next stage) We created Mudgha with bones and clothed the bones with flesh; Then (in the next stage) We developed out of it another creature. So blessed be Allah, the Best of Creators. 23(12-14)

This revelation has two parts: first, human origin in the marshy pool of clay wherefrom, a single cell begins its life which gradually evolves to produce the body of man. The second part is about creation by the normal reproduction process. In this process childbirth passes through three stages, expressed by the words 'nutfa' (نطفه), 'alaqah' (علقه) and 'mudgha' مضغه. Nutfa is a tiny drop of the emission of the father, which travels through the vaginal path to fertilize the mother's ovum. Alaqah is the process of joining male sperm (nutfa) with the egg of the mother. Then starts a rapid reaction of cell multiplication in which the embryo is formed, which is of the shape of 'mudgha'. The Arabic word mudgha means 'chewed gum-like substance'. If one were to take a piece of gum and chew it in his mouth, and then compare it with the embryo at the mudgha stage, the similarity between the appearances of the two would become obvious. This is because of the somites at the back of the embryo.

The word 'alaqah' is also taken to mean blood clot. The external appearance of the embryo during the alaqah stage is similar to that of a blood clot. This is due to the presence of relatively large amount of blood in the embryo during this stage. Also during this stage, blood in the embryo does not circulate, until the end of the third week. Thus the embryo at this stage looks like a clot of blood.

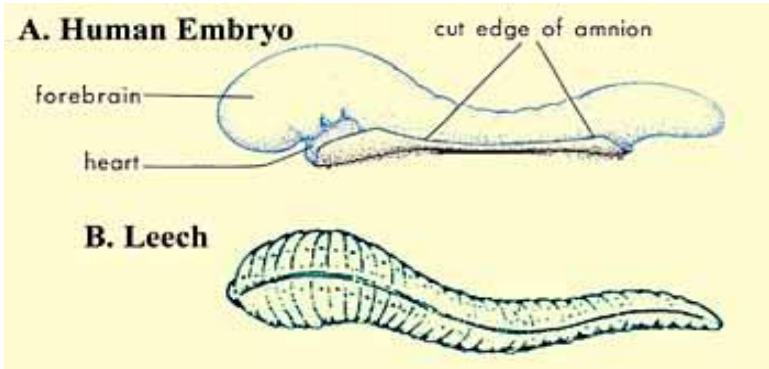


Fig.21: Drawings illustrating the similarities in appearance between a leech and a human embryo in the Mudghian stage (embryo drawing from the "Developing Human", Moore and Persaud, 5th ed, p 73)

Professor Keith Moore who is one of the world's leading authorities in the fields of anatomy and embryology said this during the Seventh Medical Conference in Dammam, Saudi Arabia in 1981, As far as it is known from the history of embryology, little was known about the staging and classification of human embryos until the twentieth century. For this reason, the descriptions of the human embryo in the Quran cannot be based on scientific knowledge in the seventh century. The only reasonable conclusion is that these descriptions were revealed to Muhammad (Peace be upon him) from God. (36).

During one discussion forum, Professor Moore stated:

"It has been a great pleasure for me to help clarify statements in the Quran about human development. It is clear to me that these statements must have come to Muhammad (Peace be upon him) from God, because almost all of this knowledge was not discovered until many centuries later. This proves to me that Muhammad

(Peace be upon him) must have been a messenger of God.”³⁵

In the course of this discussion, Professor Moore was asked the obvious question, “Does this mean that you believe that the Quran is the Word of God?” He replied, “I find no difficulty in accepting this”. Will you also accept this?”³⁶

30

JUST PONDER OVER

In this part of the book we have looked into some of the greatest discoveries of modern science, and compared them to the revelations of the Holy Quran over 1,400 years ago. From this comparison we have to agree that either Muhammad (Peace be upon him) was the greatest scientist of all times, and of course he must also have had a team of experts and owned well-equipped laboratories; if not, then we must acknowledge that he must have been directly inspired by the Creator of the worlds.

Thus the Holy Quran is a challenge to every living soul. How is it that someone who had never attended school – in fact who lived amongst the least educated people on earth – could reveal so many fundamental truths about nature in concise terms, in the seventh century? It is an absolute impossibility, except of course if he was the true Messenger of Allah. He was sent to the world to guide mankind towards highest spiritual and physical achievements. The Holy Quran is his eternal miracle. Indeed, where science ends, Quran begins.

35 Moore and Persand “Developing Human” 5th ed, P73

The Holy Quran is not a book of science, but a book about the basic truths of physical as well as metaphysical worlds. Details of the socio-spiritual life were left to the Messenger of Allah to demonstrate with his personal example. Scientific and technical details were left for the people who were to come after him to explore.

In the light of all this, there is no excuse not to believe in the Holy Quran. Our success in this world and salvation in the life Hereafter depends on the whole hearted acceptance of this Truth and then in moulding lives accordingly. Let us declare from the core of our hearts:

**There is no God but Allah and Muhammad is the
Messenger of Allah**

لا اله الا الله محمد الرسول الله

May Allah guide us on The Right Path.

Part – II

MATHEMATICAL MIRACLES OF THE HOLY QURAN

Mathematics is the exact science. It provides the final proof of the truth of a scientific theory. The Holy Quran also offers itself to this test. In the following pages we shall place before the readers some of the Stunning mathematical miracles of the Holy Quran as the irrefutable proof that it is the Book from the Creator of the worlds. How sad, even then most people do not find time for it.

RELATIONSHIP BETWEEN THE SOLAR AND THE LUNAR YEARS

Scientific knowledge about the exact relation between solar and lunar years is quite recent. Not very long ago a solar year was considered to be of 365 days and lunar year of 354 days duration. By the end of the twentieth century, with the accuracy achieved in measuring time, the precise measurement of a solar year has been determined as 365.2422 days i.e., 365 days, 5 hours, 48 minutes and 46.08 seconds and the lunar year as equal to 354.60394 days i.e., 354 days, 14 hours, 29 minutes and 24 seconds.

The exact ratio of a lunar year to a solar year is thus 354.60394 days of the lunar year divided by 365.2422, days of the solar year. This is 0.970073.

Let us now turn to the Holy Quran. More than fourteen hundred years ago, while narrating the case history of the people of the Cave in sura al-Kahaf ayat 25, it pointed out that time period of 300 solar years and 309 lunar years is the same.

وَلَبِثُوا فِي كَهْفِهِمْ ثَلَاثَ مِائَةٍ سِنِينَ وَازْدَادُوا تِسْعًا ۗ قُلِ اللَّهُ أَعْلَمُ بِمَا لَبِثُوا ۗ لَهُ غَيْبُ السَّمَاوَاتِ وَالْأَرْضِ ۗ ط

And they stayed in their cave three hundred years (solar calendar), and add nine to it (for lunar calendar). Say, Allah knows the best how long did they stay there. To Him is the (knowledge) of all the hidden in the heaven and earth. 18(25-26)

Here is a test of the truth of the Quran. If it is from Allah, then time period of 300 solar years must be exactly equal to the time period of 309 lunar years.

Let us verify this by calculating the ratio between 300 and 309. If the Quran is right it should be the same as 0.970073, calculated already using the latest scientific measurements of the solar and the lunar years... Thus divide 300 by 309.

$$300/309 = 0.970073!!$$

Note! Is it not the same as calculated above by using the latest time measurements of the lunar and solar year?

We can cross verify it by calculating the number of days in 300 solar years and those in 309 lunar years. They must be equal if calculated using the latest measurements of the length of the solar and lunar years by science.

Day in one solar year: 365.2422 days

Days in 300 solar years: $300 \times 365.2422 = 109,572.66$ days

Days in one lunar year: 354.6039 days

Days in 309 lunar years: $309 \times 354.6039 = 109,572.66$ days

Is it not exactly the same?

One wonders how could Muhammad (Peace be upon him) have known that 300 solar years were exactly equal to 309 lunar years a fact which even science could not dare say only a few years ago! There can be no other explanation but that the Holy Quran is the revelation from Allah, and Muhammad (Peace be upon him) is the true Prophet of Allah.

Will you still not believe?

RELATIONSHIP BETWEEN OCEANS AND THE DRY LAND ON EARTH IN THE HOLY QURAN

Roughly the ratio of oceans to dry land on the surface of the earth is said to be 75/25; that is, that the oceans cover 75% of the face of the earth. However, after the development of satellite imagery we now know that this rule of thumb figure is not precisely accurate. In reality, it has been discovered that dry land is precisely 28.8888% and the remaining 71.1111% area is under water. Let us now turn to the Holy Quran.

In the entire Holy Quran the word 'barr' (بر) which means 'dry land' is used 13 times, whereas the word 'bahar' (بحر) which means 'ocean', including rivers, and lakes occurs 32 times (total 13 + 32 = 45).

Here is a remarkable relationship between the dry land, and the underwater areas on earth. Accordingly, on a percentage basis dry land ratio to the total surface of the earth will be 13 divided by 45. Let us calculate;

$$13 / 45 \times 100 = 28.8888\%$$

And the percentage of oceans will be

$$32 / 45 \times 100 = 71.1111\%$$

One is wonderstruck by this exact match with the latest discoveries of science. If anyone thinks that Muhammad (Peace be upon him) was the author of the Holy Quran, then two things are obvious: one, that he was intimately aware of the earth's geography, and second, that he counted the occurrence of the words barr (بر) and bahar (بحر) in his book and then adjusted them to match the numbers required for

the precise ratio between the dry and watery areas on earth. Could he perform such an incredible scientific wonder 1,400 years ago? If not, then you should get rid of your prejudices and acknowledge that the Holy Quran must be the revelation from Allah, the Creator of the worlds, and that Muhammad (Peace be upon him) is the true Messenger of Allah.

Will you still not believe?

33

THE MIRACULOUS MATHEMATICAL CODE OF THE HOLY QURAN

Research conducted in the structure and arrangement of the Holy Quran into words, ayaat and suras reveal an extraordinary mathematical marvel. Its letters, words, sentences and chapters are designed and arranged according to a very special mathematical code. In this design, the number 19 holds the key position³⁶.

This number is typical in mathematics also. It is non-divisible by any number, is made of the first and the last integer of Arabic numerals, and if you add (9+1) it converges to 10 which converge to Unity (1+0=1). In the Holy Quran this number occurs only once in Ayat 30 of sura Al-Muddaththir where it is revealed that there are 19 guards on Hell fire. Thus the number "19" may have something to do with the Quranic security system also. If one attempts to change anything in the Holy Quran then this code will give the alarm bell.

When researchers started counting with the help of computers, the words and letters in the text of the Holy Quran they were surprised to note that the occurrences of many of them were a multiple of 19. Initially the researchers

36 Rashid Khalifa, "The Quran, the Visual Presentation of a Miracle, Islamic Production, Arizone U.S.A. 1989

took it to be mere coincidence. But it was clearly more than a coincidence, as they fathomed the pervasive nature of the phenomenon throughout the Quran.

This miracle starts with the very first ayat (بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ) of the Holy Quran, which consists of four words, **Ism, Allah, Ar-Rahman and Ar-Raheem**; in all comprising of 19 letters.

ب س م ا ل ل ه ا ل ر ح م ن ا ل ر ح ي م
 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

The constituent words of this ayat i.e. **Ism (اسم) Allah (الله), Rahmaan (رحمن) and Raheem (رحيم)** in the text of the Holy Quran are counted as 19; 2099; 57; 114 times respectively. Each of this number is the straight multiple of 19 with the exception of the word Allah that occurs 2099 times i.e. $142 \times 19 + 1$. It should be like this because name of Allah must be above any formula (He is Indivisible). Balance of one in $(142 \times 19) + 1$ speaks of His Unity.

Is it by design or a mere coincidence? So for one cannot be sure. But this is only the tip of the iceberg. The Holy Quran is limited to 114 suras only which is 19×6 . More surprising than this is that if you add all the sura numbers from one to 114 (i.e. $1+2+3+\dots+110+111+112+113+114$) their sum total is 6555 which is also multiple of 19 i.e. $6555=19 \times 345$.

It is also seen that only 113 suras begin with Bismillah. It is missing in sura Tauba. But, as if to complete the formula, this miss is compensated in sura Namal in which it occurs twice thus raising the number to 114 i.e. $19 \times 6 = 114$. Could this all be a coincidence also? Most likely not but still you can doubt.

Researchers were surprised to discover that the sum of serial numbers of all suras between At-Tauba (serial number 9, the one at the start of which Bismillah is missing) and An-Namal (serial number 27, which has two Bismillah) is, $9+10+11+\dots+26+27 = 342$, is also a multiple of 19. The researchers have also found the mind baffling fact that the number of words between the first bismillah in sura Namal and the second one is also 342, it fits the formula 19 i.e. $342 = 19 \times 18$. This could hardly be coincidental. But more is to come.

34

THE FIRST REVELATION AND NUMBER 19

The mind boggling mathematical design of the Holy Quran is not limited to a few suras or a few words but it pervades throughout. From the following it will appear that the author of this Book had pre-planned in his mind that he would write a book whose letters, words, ayaat and chapters are arranged on the basis of the mathematical code of the number 19. This is evident from the first ever revelation from Allah *Subhana-Hu* to His Messenger (Peace be upon him) consisting of the five ayaat of sura al-Alaq,

اِقْرَأْ بِاسْمِ رَبِّكَ الَّذِي خَلَقَ ۝ خَلَقَ الْإِنْسَانَ مِنْ عَلَقٍ ۝ اِقْرَأْ
 وَرَبُّكَ الْأَكْرَمُ ۝ الَّذِي عَلَّمَ بِالْقَلَمِ ۝ عَلَّمَ الْإِنْسَانَ مَا لَمْ
 يَعْلَمُ ۝

Read! With Name of your Rabb – Who created man from Alaq. Read, and your Rabb is the most Bountiful, Who taught by the Pen. Taught man that, he knew not.
96(1-5)

As can be seen from the Arabic text it consists of 19 words and 76 letters. Both numbers are a multiple of 19 ($76 = 19 \times 4$). Moreover, this revelation is part of sura Al-Alaq, which is also composed of a total 19 ayaat only. More surprisingly, in the overall arrangement of the Holy Quran, this sura is placed at the 96th position out of the total 114 suras comprising of the entire Quran. Thus, there happen to be 95 (19×5) suras before Al-Alaq, and 19 suras after it. Now prepare yourself for the most astonishing part: yes, the total sum of letters comprising sura Al-Alaq is $304 = 19 \times 16$.

This raises some very serious questions. Would any human author plan his or her book so painstakingly, according to the sophisticated mathematical design like this many centuries ago? Has anyone in the past, in any country of the world performed a similar feat? Why should Muhammad (Peace be upon him) do so? And if it was so, then how did he achieve it? There is indeed no answer to any of these questions except that to acknowledge that Holy Quran is not the work of any human being.

Will you still not believe?

35

MIRACLE OF HAROOF-E-MUQQATIAT (SPECIAL INITIALS)

Doubtless, what is narrated so far about the miraculous mathematical sounds quite unbelievable. But you can verify it easily. Let's now carry on with more amazing examples of the miraculous mathematical arrangement used in the Quran verifiable with the help of computer only. Some of its suras begin with certain Arabic alphabetic initials, which were unfamiliar even to contemporary Arabs who went proud of

themselves being the masters of their language. These mysterious combinations of letters are known as Haroof-e-Muqqatiat (حروف مقطعات). For example, sura Al-Baqara begins with the letters ا ل م, sura Yaseen with ي س. Seven suras begin with letters ح م. Sura Quaf begins with single letter ق, and sura Al-Qalam with ن only. Altogether, fourteen Arabic letters have been used for this purpose which is half of the total Arabic alphabet; and are arranged in fourteen different sets. Now, putting all the information above, together, if you add these numbers i.e. 14 (letters used as initials), 14 (different combinations) and 29 (number of suras beginning with these special initials), the total (14+14+29) is 57, again a multiple of 19!

In 1976 computers were first used to carry out mathematical analysis of the words and letters of the Holy Quran in USA.³⁷ It was then discovered that the occurrence of Haroof-e-Muqqatiat was as if deliberately designed to fit the mysterious code of 19. That means that the author of the Holy Quran must have counted all the letters and words of the Holy Quran and then adjusted them to obey the code of 19.

Take the easier example of sura al-Qalam which you can easily verify by simple counting also. It begins with letter ن. The number of times that this letter occurs in this sura is 133, which is 19×7 . Suras Araaf and Maryam are the two suras that begin with the letter ص. The number of times the letter ص used in these two suras is 152, again 19×8 !

In sura Yaseen, (ي س) يس, letter ي occurs 237 times and letter س 48 times. Sum of these two letters $237 + 48 = 285$, is again (19×15) a multiple of 19!

37 Rashad Khalifa "The Quran, the Visual Presentation of Miracle", Islamic Production, Arizona, USA, 1989

Seven suras of the Holy Quran (40 to 46) begin with letter ح م. Total occurrence of the letter ح and letter م respectively, in these seven suras is 292 and 1,855 respectively the sum of which is 2,147, also a multiple of 19 (19×113).

Sura Ash-Shu'raa number 42 begins with letters ح م ع س ق, while sura Quaf begins with the letter ق. If you count the letter ق in these two suras, it is found to occur 57 times in each sura, ($57 = 19 \times 3$) for a total of 114 times – 19×6 !!

What is more that sum of letter ق, which is the first letter of the word Quran, in every 19th ayat of every sura of the whole Quran, is 76, a multiple of 19!

Can any genius or even the assembly of the most genius people in the world perform such a stunning mathematical fete in the arrangement of a book like the Holy Quran?

Will you still not believe that the Holy Quran is not the Revelation from the Creator of Universe?

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FOOD FOR THOUGHT

Only a few examples of the mystery of 19 embedded in the structure of the Holy Quran have been presented above. For further details on this intriguing topic, you may wish to consult reference³⁸ given here in. Originally this discovery was announced in 1976 by an Egyptian scholar, Dr Rashad Khalifa in the US. Incidentally, that year was also a multiple of 19 ($1976 = 19 \times 104$)! Since then more researchers have verified and enlarged upon the scope of this subject. The question however, remains, could Muhammad (Peace be upon him) or any other human author even today calculate and construct this code of 19 in the letters, words, phrases

and suras of a voluminous Book like the Holy Quran? Why would he do that? How could he possibly have done this?

We know for a fact that, Muhammad (Peace be upon him) never took formal education. He did not study mathematics. He had no computers, no calculators. He had no time to rest in his life either. The Holy Quran was no ordinary book. It was an anthology of discourses from Allah *Subhana-Hu* over 23 years, most of which period he was under ferocious attacks from his enemies, or busy in the preaching of Islam along with fulfilling the immense responsibilities of leadership of the nascent emerging community of Muslims. However, all those who knew him, friends and foes alike, acknowledged him as an impeccably truthful and honest man. Furthermore, he never claimed that he was the author of the Holy Quran. On the contrary, he always professed that the Holy Quran was revealed to him from the Creator of the Universe.

So re-think again, with all honesty about who could be the author of the Holy Quran? Who could have built and designed such a large book for the guidance of human beings to peace and progress within physical and spiritual aspects of life on the basis of the intriguing mathematical code of the number 19? Even in this age of computers and information technology, such a feat will be extremely difficult to perform. Then how did Muhammad (Peace be upon him) manage it, if he is the one who authored the Holy Quran? It is a challenge for everyone to reach to the Truth.

If non-believers can get rid of their deep-seated prejudices – which is the real challenge for them and think objectively, it will immediately become as obvious as daylight to realize that Holy Quran is not the work of human mind, but the Revelation from the Creator of the worlds, the living

miracle of the last of the Messengers of Allah *Subhana-Hu* to mankind.

As for the question, what was the necessity of designing the Holy Quran in this intricate mathematical fashion, we may suggest that it was done in order to provide infallible mathematical proof to modern man to believe in this true revelation from the Creator of the worlds. Alas, a large majority of mankind is still ignorant of this great truth! Of those who have known it, many simply say, strange, very strange, indeed', but do not approach it for guidance. This irresponsible attitude of non-serious people had been predicted in Holy Quran ayat 2 of sura al-Quaf, which says:

"So the nonbelievers will say (about the Quran): This is a strange thing" 50(2).

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MIRACULOUS DIVISION OF THE HOLY QURAN INTO CHAPTERS (SURAS) AND PARTS (PARAS/JUZ)

The Holy Quran is arranged in 114 suras of various lengths, but it is not arranged in the chronological order of revelations. Some of the ayaat revealed in Madina for instance, may be part of earlier Makkan suras. In its general arrangement the longer suras take precedence of location and the smaller ones follow. However, there are certain exceptions to this rule; the first sura, Al-Fatiha, consisting of seven ayaat, precedes the second and the longest sura of the Holy Quran, al-Baqara, containing 286 ayaat. The Book is also divided into thirty parts, known as a 'juz', each of which is given an individual name. The question that has frequently been asked is, whether this arrangement is arbitrary or is in accordance with Divine instructions to the

Holy Prophet (Peace be upon him). Some possible answers to this question are:

1. The Holy Quran is arranged in its present form for aesthetic reasons, and to facilitate reading and memorizing.
2. The longer suras have been placed first because they deal with social issues of practical importance, and the shorter suras are placed later, on account of their stress on spiritual development of man and on life hereafter, or that.
3. The arrangement is haphazard, seemingly devoid of any logic or reason.

The reader can figure out that it means that there is no satisfactory answer to the original question. The unsatisfactory responses above, beg the query that if the Holy Quran is truly a revelation from the Creator of the Universe, as it is beyond any doubt, then it cannot be illogically arranged. The Quranic arrangement into chapters and parts must have a deeper meaning that we haven't managed to fathom. But what is it? The answer to this question was found in the staggering discovery of the graphical structure of the Holy Quran.

If we list the 114 suras of the Holy Quran in cumulative order, against the 30 juz (parts), and then draw a graph between these two quantities, an amazing relationship emerges between them. This is shown in the figure 22. Serial numbers of Suras run along the Y-axis and serial numbers of the parts are along the X-axis (For example, at the end of part 16, already 20 suras have begun). The points when joined together form almost a perfect curve. This is rare, to say the least. Even in the case of accurately recorded results, quantities are generally scattered around a mean curve. But in this case we find a perfect harmony, beautiful

to a scientist's eye. It clearly has a special mathematical message, proving that the arrangement of the Quran into chapters and parts is not ordinary, but very meaningful.

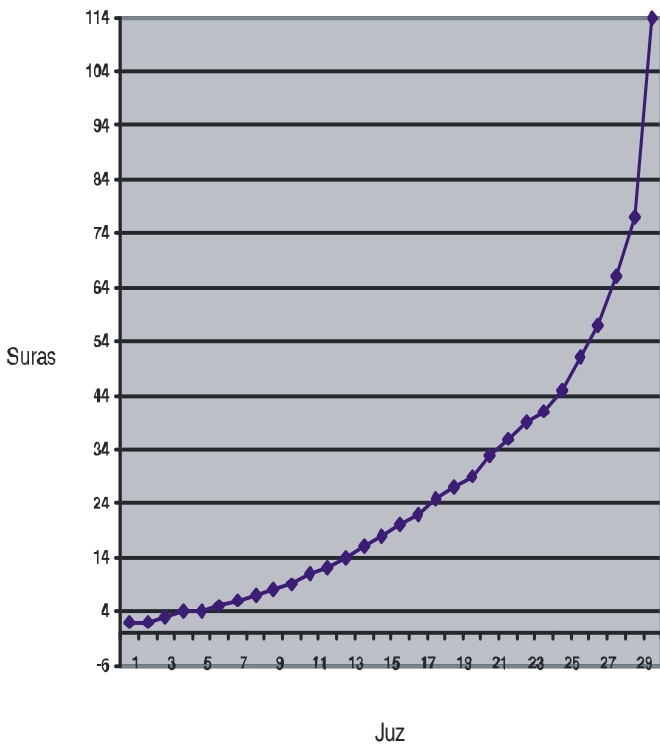


Fig.22: Relationship between Sura Numbers and Juz Numbers

Table	
Arrangement of The Holy Quran into Suras and Parts	
Juz No X	Summation of Suras Y
1	2
2	2
3	3
4	4
5	4
6	5
7	6
8	7
9	8
10	9
11	11
12	12
13	14
14	16
15	18
16	20
17	22
18	25
19	27
20	29
21	33
22	36
23	39
24	41
25	45
26	51
27	57
28	66
29	77
30	114

SIGNIFICANCE OF THE GRAPH BETWEEN SURAS AND CHAPTERS

As we analyze the graphical arrangement of suras and the parts of the Quran we find out, that the curve first runs parallel to the x-axis, but it never touches zero. Then it picks up gradually, finally shooting up exponentially. At the end it goes up almost vertically.

This behaviour may thus signify the spiritual development of a believer as he progresses through the Holy Quran. The fact that the curve does not start from zero may indicate that some basic potential for spiritual development exists in everyone. Even the non-believers have a basic instinct and awareness of Allah *Subhana-Hu* to start with.

As the student progresses through the Quran, his/her spirit begins to ascend toward Allah *Subhana-Hu*. At the beginning, the rate of development is slow. Then suddenly it picks up. For example, one attains only about 50% development on reaching the 26th juz of the Holy Quran. Then it accelerates, reaching 100% by the end of the Holy Quran.

The reason for this phenomenon may be that initial suras of the Holy Quran lay a great deal of stress on the outward reformation of the individual and the society. They contain Do's and Don'ts about Islamic law and generally educate the believers to develop a strong moral personality that is essential for their subsequent spiritual development. Once the individual has disciplined his/her outward life in terms of the injunctions of Divine revelation, he then becomes capable of receiving the more and more light of the Holy Quran. Hence the spiritual development of a believer is

geometrically accelerated toward the final stages of the Book of Allah.

One may ask, was it possible for the Prophet himself (Peace be upon him) to design such a mathematical arrangement? We all know that mathematics was in its infancy during the prophet's day. The concept of graphs or complex functions did not even exist. How could any human author at that time arrange a textbook according to a graphical function like this?

There can be no possible explanation to this question except that the Quran is not the work of a man, but the revelation from the Creator of the Universe.

It is not only its contents, but even the arrangement of the Book of Allah into chapters and parts, manifests a Divine design (may Allah be praised).

“Praise be to Allah, Who revealed over His Servant the Book, and has allowed there in no crookedness.” 18 (1)

***“Do they not consider the Quran? Had it been from other than Allah, they would have found therein much discrepancy.”
4 (82)***

NUMERICAL SYMMETRY OF SOME SPECIAL WORDS IN THE HOLY QURAN

The Holy Quran declares that Allah has created everything in paired symmetry (sura Yaseen, ayat 36). It is extremely thought provoking that a similar symmetry has been maintained in the choice of certain key words in the Divine Book also. Here are some fascinating examples discovered recently:³⁸

1. Duniya & Akhirat (الدنيا وأخرة): The word 'duniya' relates to the earthly world and akhirat (آخرة) relates to the hereafter. Thus, they are the names of two complementary worlds. It is surprising that each one of these words occurs 115 times in the Holy Quran.
2. Days in a Month: The word 'youm' (يوم) means day. One is surprised to see that it occurs exactly 365 times in the Holy Quran! In its plural forms, 'youmain' (يومين) or 'ayyam' (أيام) it occurs thirty times – equal to the average number of days in a month. Even more strikingly, the number of times that the word 'shaher' (شهر), which means a month in Arabic, occurs, exactly 12, times being the number of months in a year.
3. Shaitaan & Angels (الشيطان - الملائكة): Shaitaan and angels are two of Allah's creations with opposing characteristics. In the spiritual world shaitaan represents the evil, whereas angels

38 A. Rashid Seyal "Poetic Stance of the Holy Quran", 2006, 16 1-3 Berty Drive, Bloomington, USA (www.authorhinge.co.uk); also, Dr Tariq-Al-Swaiden of Ikhwan al-Muminon, Egypt

represent pure goodness. It is also surprising therefore, to see that the number of occurrence of the word shaitaan (شیطان) in the entire Quran is exactly equal to the number of occurrence of the word malaika (ملائکه) meaning angels, each 88 times.

4. Reward and Forgiveness (الجزا – مغفرة): The spiritual system of accountability is based on reward and forgiveness. Perhaps for this reason the number of occurrence of the words al-jaza (الجزا), which means payment or reward, is 117, while the word maghfirah (مغفرة) which means forgiveness, occurs twice as many times, ie 234. It may imply that Allah *Subhana-Hu* is twice as likely to incline toward forgiveness.
5. Jannat (جنت) and Jahannam (جهنم): These are two opposing worlds of the Hereafter. Jannat i.e Paradise, is the sumptuous abode of the righteous, while Jahannam (جهنم) i.e hell, is the destiny of the wretched, unforgivable ones in the hereafter. Both these terms appear exactly 77 times in the Quran.
6. Righteous (ابرار) & Wicked (فجار): The word abraar (ابرار) which means the righteous ones, is used 6 times in the Quran. Its opposite is the word al-fujjar (الفجار), meaning the wicked ones. This occurs 3 times, exactly half.
7. Wine (خمر) & Intoxication (سكاری): The word khamar (خمر) refers to all types of wine and saqara (سكاری) means intoxication, the effect of wine. Both these terms occur 6 times each, in the whole of the Holy Quran.

8. Love (المحبه) & Obedience (اطاعت): The word al-muhabbah (المحبه), which means love and the word ataa't (اطاعت), meaning obedience, represent the attitude of true Muslim in relation to his relationship with his Creator. Each occurs 107 times.
9. Disaster (مصيبة) & Thanks (الشكر): The word musibat (مصيبة) means disaster; and the ash-shuker (الشكر), means thanks. Each of these occurs 75 times in the text of the Holy Quran.
10. Sun (الشمس) & Light (نور): The word ash-shams (الشمس) means the sun, and noor (نور) means light. Quite surprisingly, each of these words is used 33 times in the Quran.
11. Man & Woman (الرجل و المرأة): The word for man (الرجل) and the word for women (المرأة). They occur 23 times each in the Book. Surprisingly enough, this is the same number as the number of x- and y-chromosomes in the male sperm and the female ovum.
12. Life (الحياة) & Death (الموت): Life (الحياة) and death (الموت) are two contrasting realities. They also happen to occur exactly in equal number in the Quran – 145 times each.
13. Sight (بصارت) & Insight (بصيرت): The words sight (بصارت) and insight (بصيرت) are complementary. Each one is mentioned 148 times in the Holy Quran.
14. Zaka (زكوة) and Barakah (بركة): The word zakat (compulsory Islamic tax) and barakah (blessings of Allah), form a complementary pair; so it

happens that each has occurred 32 times in the Holy Quran.

15. As-salam (السلام): used for peace and the word At-Tayibaat (الطيبة) (delicacies) occur 50 times each.
16. The word khayanat (خيانت): which means treachery occurs 16 times. In the same number occurs the word khabeeth (خبِيث) which means disgusting wicked.
17. Al-yasr (اليسر) (ease): and al-Asr (العسر) (difficulty), each occurs 36 times. At 94(5-6) in the Holy Quran, Allah *Subhana-Hu* does ordain that both these states of affair go hand in hand.
18. Words jihad (جهاد): (holy war) and Muslimeen (مسلمين) each occur 41 times, as if one is not complete without the other.
19. The word Bar (بر): which means dry land, occurs 13 times; and the word Baher (بحر) which means land under water occurs 32 times. Ratio between 13 and 32 is the same as the actual ratio of dry and under water land on earth.

At this point an important question arises; if Muhammad (Peace be upon him) was the author of the Quran, how could he have adjusted such a massive book with such a fine tuning as to achieve the incredible symmetry shown above. Had he the time and the means to do this? And to what end, especially when he himself is not even known to have claimed this remarkable feat. Then what did he stand to achieve in creating an amazing product like this? Indeed no other author in human history is known to have achieved something even near to it. The only plausible answer to

these questions is that the Holy Quran is not that the work of a man, but the Revelation from Allah, the Creator of the worlds.

Will you still not believe in it?

Will you not believe in it?

A question is generally asked; if the Holy Quran contained so many scientific and mathematical facts then, why did not the earlier generations of Muslims discovered them before the modern scientific age? In this respect Quran's own reply is, ***“For every event there is a programme, and soon you will come to know of it” 6(67)***. In another ayat it says; ***“Every thing is with a purpose and for an appointed term only” 46(3)***. The disclosure of different miracles of the Holy Quran is likewise programmed so that people in the respective ages may appreciate its truth. In this modern age when science and mathematic are taken as the ultimate criteria to judge any truth, Allah *Subhan-Hu* accordingly is showing now the scientific and mathematical miracles of His Book as an evidence of its being from Him only. It says:

“Soon shall We show them Our signs in the heavens and in their own selves until it becomes manifest to them that this (Quran) is the Truth. Is it not enough (to believe) that your Rabb (Lord) is witness over all things? Ah indeed! (even then) they are in doubt concerning the meeting with their Rabb. Ah indeed! (They should know) It is He Who does encompass all things”. 41(53-54)

You have already seen some of the Signs from Holy Quran concerning Science and Mathematics in this monograph. They should be enough to believe for every unbiased, knowledgeable man and woman. They have simply to ask

themselves in all honest, “How could some one more than fourteen centuries ago speak about such facts so clearly if he was not inspired from the Creator Himself”? Indeed He is. He was sent to the world to complete the religion of Islam, for good for all mankind; the same religion which was revealed to Jesus to Mosus, to Ibrahim, to Nooh and all others (peace be upon them) according to the needs of their times. The best we can do now for us is to believe in Him.