

AL WASSAY AND THE EXPANDING UNIVERSE

ZIA H SHAH MD and LUTF UR REHMAN MD

He is Allah, the creator, the Maker, the Fashioner. His are the most beautiful names. All that is in the heavens and the earth glorifies Him, and He is the Mighty, the Wise. (Al Hashr 59:25)

وَالسَّمَاءَ بَنَيْنَاهَا بِأَيْدٍ وَإِنَّا لَمُوسِعُونَ* 51:48

And the heaven We built with our own powers and indeed We go on expanding it. (Al Dhariyat 51:48)

The similitude of those who spend their wealth in the way of Allah is like the similitude of a grain of corn which grows seven ears, in each ear a hundred grains. And Allah multiplies it further for whomsoever He pleases and Allah is Bountiful, All-Knowing. (Al Baqarah 2:262)



The Holy Quran invites mankind to ponder on the universe that He has created. The Quran urges us to reflect on the Laws of Nature, with examples drawn from cosmology, physics, biology and medicine, as signs for all men. For example the Glorious Quran says, “Do they not then look at the camel, how it is created? And at the heaven, how it is raised high? And at the mountains how they are rooted, and at the earth how it is outspread?” (Al-Ghashiyah 88:18-21) In Sura Rahman He says, “The Gracious God. He taught the Quran. He created man, And taught him plain speech. The sun and the moon run their courses according to a fixed reckoning. And the stem less plants and the trees humbly submit to His Will. And the heaven He has raised high and set up the measure. (Al Rahman 55:2-8)

The earth on which we live is one of nine planets of a rather mediocre sun when we compare it with what else is out there. All the planets circle around the sun while at the same time continually spinning on their axes. Our sun around which these nine planets are moving belongs to a galaxy made up of 100 billion other suns; the nearest of these suns is more than four light years away and the most distant 100,000 or more light years. A light year is the distance light travels in a year at the rate of 186,000 miles a second. The galaxy to which the nine planets and our sun belongs is about 100,000 light years in diameter and viewed from a remote point in space would appear to be a spiral nebula, much like the pictures of spiral nebulae to be seen at any planetarium.

Edwin Powell Hubble (1889-1953) discovered in 1922–24 that not all nebulae in the sky are part of our galaxy called the Milky Way Galaxy. He found that certain nebulae contain stars called Cepheid variables. By studying their relative distances, apparent magnitude, and absolute magnitude, Hubble determined that these Cepheids are several hundred thousand light-years away and thus outside the Milky Way system and that the nebulae in which they are located are actually galaxies distinct from the Milky Way. This discovery, announced in 1924, forced astronomers to revise their ideas about the universe or the cosmos.

Soon after discovering the existence of these external galaxies, Hubble undertook the task of classifying them according to their shapes (1926) and exploring their stellar contents and brightness patterns. In studying the galaxies, Hubble made his second remarkable discovery—namely, that these galaxies are apparently receding from the Milky Way and that the further away they are, the faster they are receding (1927). The implications of this discovery were immense. The universe, long considered static, was expanding; and, even more remarkably, as Hubble discovered in 1929, the universe was expanding in such a way that the ratio of the speed of the galaxies to their distance is a constant now called Hubble's constant.

The nearest galaxy to our own galaxy is about 150 million light years away. The most distant is perhaps ten billion light years away. Modern astronomy can locate a billion or more galaxies, each containing billions of flaming suns. Sir James Jeans has written, "The number of stars in the Universe is practically like the number of grains of sand on all the seashores of the world." The present day thought among the experts in cosmology is that there are perhaps more stars than sand particles on all the seashores of the world. When we combine this fact with the observation that each star on the average is approximately a billion times the volume of the earth, we can be only flabbergasted at the expanse of the cosmos.

The scientists have been able to make these discoveries by using very sophisticated and advanced equipments. In the recent past they came up with a novel idea and implemented it in the calendar year 2006. They created a very large virtual telescope by combining different telescopes. This gives a telescope with a virtual diameter of 5,000 miles. The astronomers used the Very Long Baseline Array, taking observations from several telescopes stretching from Hawaii to the Virgin Islands. With the help of this telescope they have measured the distance to the nearest spiral arm (astronomical name: W3OH) and it turns out to be about 36,000,000,000,000 miles.

Hazrat Mirza Tahir Ahmad Khaliatul Masih the IV wrote in his book *Revelation, Rationality, Knowledge and Truth*:

“At the time the Holy Quran was revealed, the human understanding of the nature of the cosmos and the movement or the stillness of the heavenly bodies was extremely primitive and obscure. This is no longer the case, as our knowledge of the universe has considerably advanced and expanded by the present age.

Some of the theories relating to the creation of the universe have been verified as facts, whereas some others are still being explored. The concept of the expanding universe belongs to the former category, and has been universally accepted by the scientific community as 'fact'. This discovery was first made by Edwin Hubble in the 1920s. Yet some thirteen centuries before this, it was clearly mentioned in the Quran in Sura Dhariyat:

وَالسَّمَاءَ بَنَيْنَاهَا بِأَيْدٍ وَإِنَّا لَمُوسِعُونَ * 51:48

And the heaven We built with *Our own* powers (*aydin*) and indeed We go on expanding it (*musi'un*).¹

It should be remembered that the concept of the continuous expansion of the universe is exclusive to the Quran. No other Divine scriptures even remotely hint at it.”¹

Now we turn from the magnitude of the Cosmos to the minute subatomic level which is the stage of Quantum Physics. All matter is composed of infinitesimal small particles. Matter is composed of millions and millions of small molecules. A molecule consists of two or more atoms and an atom has one or more electrons revolving around a nucleus of one or more protons. These billions of stars, our sun, the earth and all material bodies as well as the atoms of which they are composed, are all made of the similar smaller particles. Science describes this basic element as energy. It is known that atoms are miniature solar systems with electrons spinning at tremendous speeds around a nucleus of protons. The detail and organization is mind boggling even at this quantum level. Talking at the Nobel Banquet on December 10, 1979 Doctor Abdus Salam quoted from the Holy Quran from Sura Mulk,

الَّذِي خَلَقَ سَبْعَ سَمَاوَاتٍ طِبَاقًا مَا تَرَى فِي
 خَلْقِ الرَّحْمَنِ مِن تَفْوُتٍ فَارْجِعِ الْبَصَرَ هَلْ
 تَرَى مِن فُطُورٍ ۝
 ثُمَّ ارْجِعِ الْبَصَرَ كَرَّتَيْنِ يَنقَلِبْ إِلَيْكَ الْبَصَرُ
 خَائِبًا وَهُوَ حَسِيرٌ ۝

Allah has created seven heavens in harmony. No incongruity can you see in the creation of the Gracious God. Then look again. Do you see any flaw? Aye, look again, and yet again, your sight will only return to you dazzled and fatigued, having seen no incongruity. (Al Mulk 67:4-5) Having quoted the verse he said, “This in effect is, the faith of all physicists, the deeper we seek, the more is our wonder excited, the more is the dazzlement of our gaze.”²

The scientists are now beginning to find that there is a unity in the building blocks at the subatomic level despite the numerous types of subatomic particles that are now known when we look at level higher than the most basic. This concept is described in the string theory. According to the string theory the subatomic particles may behave as tiny one-dimensional “string like” entities rather than the more conventional approach in which they are modeled as zero-dimensional point particles. The theory envisions that a string undergoing a particular mode

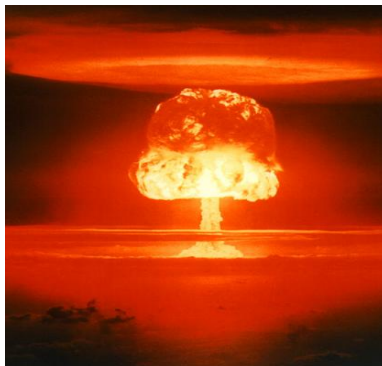
of vibration corresponds to a particle with definite properties such as mass and charge. This theory may have the potential to incorporate all four of nature's forces—gravity, electromagnetism, strong force, and weak force—and all types of matter in a single quantum mechanical framework, suggesting that it might be the long-sought unified field theory, where all mass and all forms of energy have their origin from one source. There is a oneness in the physical world be it the study of the inanimate or the animal and the plant kingdom that points to One Creator and one unifying principle. In the words of the Glorious Quran,

If there had been in the heavens and the earth other gods besides Allah, then surely both would have gone to ruin. Glorified then be Allah, the Lord of the Throne, far above what they attribute to Him. (Al Anbiyya 21:23)

Now visualize the Cosmos as far as one can conceive it. It is of a magnitude that is overwhelming and of subatomic minuteness that is completely inconceivable. All the parts are made of the same thing. They are all in unceasing activity and all activities are so ordered that they form a very well organized complete universe.

The mass is convertible to energy and different forms of energy are convertible to each other. For example, Dr Abdus Salam proposed the electroweak theory, which explains the unity of the weak nuclear force and electromagnetism. He was the co recipient with Steven Weinberg and Sheldon Lee Glashow of the 1979 Nobel Prize for Physics for this work.

The conversion of mass to energy is described by the equation worked out by Einstein, namely $E = mc^2$. This relationship or equation is now regarded as the foundation of theoretical physics and modern technology, and thanks to the present media, this equation has risen to the level of common knowledge. Here 'E' is the energy and 'm' is the mass and 'c' is the speed of light. As an inference from this equation even a small amount of mass has a very large energy, given the extremely high speed of light. Every gram of matter (of any kind) has stored within it the equivalent of 25,000,000 kilowatt hours of energy.



In other words, the Cosmos, or every material thing in it, is made of energy. There is enough energy in the atoms of a cup of water to light a large city for a year. With this paradigm, when we examine the total energy in the universe the amount is mind boggling. Such huge amount of energy did not come from “nothingness” or “nowhere”. The source of cosmic energy is outside the confines of the physical Universe. Certainly there was no energy in the physical Universe prior to its creation. There was emptiness or hollowness, or was it? How could there be anything without a source without a creator? Allah is the creator of all this energy and all that proceeded from that energy. He is the Alpha and the Omega. According to the Holy Quran, “He is the

Originator of the heavens and the earth. When He decrees a thing, He only says to it, 'Be,' and it is." (Al-Baqarah 2:118) He is the First Cause of all causes.

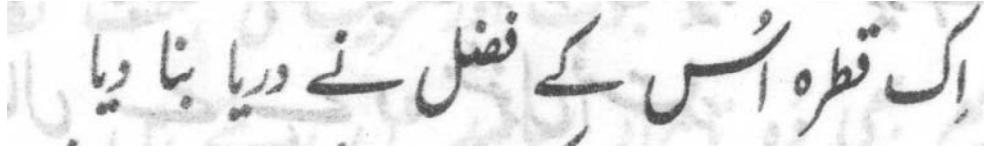
The universe is not dead and did not come from nothingness. Therefore, there is an Intelligence there, and it is all pervading and overwhelming. At least one purpose, possibly the major or the only purpose of human life is to achieve harmony with that Intelligence. Striving in the right direction for harmony and accord with that Intelligence ought to be a source of peace for the human mind and soul. It is desirable to affect that accord. The human race, then, is not alone in the universe. For untold ages man has felt an awareness of that Intelligence. Belief in it is the one point where all monotheistic religions agree. It has been called by many names. Many call it Allah or God. He has numerous attributes. He is Allah, the creator, the Maker, the Fashioner. His are the most beautiful names. All that is in the heavens and the earth glorifies Him, and He is the Mighty, the Wise. (Al Hashr 59:25) He is also Al Wassay, the one who expands the universe, Al Raheem or Al Sameeh who listens to the prayers and Al Razak one Who is Provident and provides the provisions.

As we reflect on the attribute of God Al Wassay and then direct our attention towards the attribute Al Raheem and Al Razak, it expands our horizons. In Sura Baqarah we read,

The similitude of those who spend their wealth in the way of Allah is like the similitude of a grain of corn which grows seven ears, in each ear a hundred grains. And Allah multiplies it further for whomsoever He pleases and Allah is Bountiful, All-Knowing. (Al Baqarah 2:262)



In this analogy God has promised a multiple of 700 times when He returns a favor. However, He says that He may deliver much more if He so pleases. The testimony that we see in the physical world at an atomic level is that God yields an amazing multiple of speed of light squared for yield of energy from mass. If such can be the return in the physical world, do we see any evidence of such yield in the spiritual world. Yes, indeed we do! We see that in the life history of the Holy Prophet Muhammad may the choicest blessings of God be on him and in the life of the Promised Messiah may peace be upon him. Promised Messiah giving testimony about his life, says in a verse:



“God’s blessings transformed a drop of water into a river. Such was the measure of his blessings on me!”

God not only promises expansion in the financial means of the one who spends in His way but also promises peace of mind and serenity in return that human soul is constantly striving for.

Those who spend their wealth by night and day, secretly and openly, have their reward with their Lord; on them shall come no fear, nor shall they grieve. (Al Baqarah 2:275)

We need to imprint the picture of expanding universe; the growing corn field and the massive energy trapped in small amount of mass, in our minds and reflect on it from time to time. This will lead to better understanding of the attribute Al Wassay and Al Razak of Allah the Almighty and will create generosity of spirit. This could result in a lasting and profound effect on our souls and we would acquire the mindset of abundance rather than that of miserliness or greed. May the blessings of Allah be with all of us.

¹ Hazrat Mirza Tahir Ahmad Khalifah Tul Masih the IV. Revelation, Rationality, Knowledge and Truth. Islam International Publications Limited 1998. Page 303

² Al Nahl, Special Issue on Dr Abdus Salam, page 80, Published Fall 1997. Publisher Bait Ul Wahid, 291 Crooks Ave, Clifton, NJ 07011.