Creation of Universe; Qur'anic Concepts and Scientific Theories

<"xml encoding="UTF-8?>

Introduction

Maurice Bucaille in his scholarly work, The Bible,The Qur'an and Science has drawn our attention to some of the startling revelations in the Qur'an regarding astronomical aspects which could not be comprehended properly till the rise of modern science from the 17th century onward. As for instance the impact of the rotation and revolution of the earth and the inclination of its axis on the seasonal changes, changes in the duration of days and nights, and shift in the location of the setting and rising of the sun with the season, could be scientifically explained only in the late nineteenth century .The orbital movement of the celestial bodies such as the sun and the stars came to be scientifically established in the early 20th century.

The Origin of the Universe, its expansion and eventual termination are being scientifically explained now by the Big Bang Model. These modern scientific concepts were clearly visualised in the Qur'an as far back as the 7th century when observational facilities were not available, mathematical principles were not discovered, elementary principles (quarks) and fundamental forces (gravitational, electromagnetic, weak nuclear and strong nuclear) were not identified.

It is therefore proposed to highlight in this papel. the validity of the Qur'anic revelations regarding the creation of the Universe and some salient astronomical phenomena in the light of modem scientific discoveries. They eloquently testify to the Qur'anic proclamation that it contains only the truth and nothing but the truth: "We sent down the (Qur'an) in Truth, and in Truth has it descended"[Children of Israel] XVII: 105).

Creation of Universe: Historical Background

Speculations about the Origin of the Universe date back right from the advent of human civilization. The Vedas, the ancient scriptures of the Hindus conceived of the emergence of a cosmic nucleus Hirnayangarbha (or Golden Egg) from water. This Golden Egg " is considered the source of existence of all mundane and heavenly entities because it contained fire (heat) within itself.') (Mi, 1966) p. 187).

In ancient Greece the presocratic thinkers like Thales) Anaximander and Anaximenes of the 6th century B.C. "developed the view that the formation - of the world occurred-as a natural

sequence of events." The Pythagorean School "stressed the concept of an ordered cosmos governed by mathematical relations) (Encyclopaedia Britannica, 1974) vol. 18) p. 1007). These were mere speculations sans scientific approach.

The work of Copernicus in 1543 imparted scientific outlook to speculations about the Origin of the Universe and the planetary system. He rejected the geocentric concept of Ptolemy and assigned key role to the sun in the planetary system. This ushered in the era of scientific speculations about the Universe and solar system based on telescopic observations and mathematical principles initiated by Galileo- (heliocentric planetary system) and Newton (Laws of Motion) respectively.

Since then distinguished scientists and philosophers such as Tyco Brahe) Emanuel Swedenborg, Immanuel Rant, Heinrich Lambert, William Herschel) Einstein, Friedmann, Hoyle, Edwin Hubble, Carl Sagan, Stephen Hawking, and others have propounded various..scientific theories based on astronomical observations with sophisticated equipments and sound mathematical principles.

Despite these intense scientific investigations of more than three centuries with the help of powerful telescopes, space flights and highly sensitive instruments, the scientists still feel that their "present knowledge of the origin and evolution of the planets, stars, stellar systems, galactic systems and the universe is pitifully small" (Encyclopaedia Britannica, 1974, vol. 18, p. 1007).

However, even after admitting this gross inadequacy of knowledge of the Universe some of the scientists still venture to suggest that its complex system is a product of sheer chance or accident. They refuse to subscribe to the religious and yet rational view that the Universe has been created by Allah (God) with a purpose and design.

References to the creation of the universe are found in the Divine books of the three monotheistic religions, viz., Torah (Jews), Bible (Christians), Al-Qur'an (Muslims). Of these Divine books the Qur'anic texts only will be cited ,because they have remained unaltered since they were revealed to Prophet Muhammad (P.B.H.) more than 1400 years ago. The maintenance of the purity of the original text of the Qur'an and its protection from corruption have been assured by Allah: 'We have, without doubt, sent down the Message and We will assuredly guard it (from corruption) (Al-Hijr: XV:9).

Further the Qur'an alone offers systematic and scientific account of the creation of the Universe and movement of the celestial bodies. It is indeed remarkable that the concepts in these respects revealed in the Qur'an in the early 7th century are being found increasingly valid with the progressive advance of science and sophistication in scientific tools and techniques of

investigation. There are nearly seven hundred verses in the Qur'an which describe the natural phenomena and each one of them conform to the natural laws which are being discovered by the scientists.

Origin of Universe: Scientific Theories

Scientific speculations with regard to the Origin of the Universe have resulted into the emergence of two principal theories viz., the Steady State Theory and Big Bang Model. The Theory of Steady State. conceptualised by Reimann Bondi, Thomas Gold and Fred Royle, assumes that "the universe is of infinite age and obeys a 'perfect cosmological postulate' such that it appears the same at all instants of time as well as at all locations in space," (Encyclopaedia Britannica, vol. 18, p. 1007).

It thus postulates that the Universe is not subject to evolutionary process. Its kinematic properties, like that of other cosmological models are "isotropic, homogeneous and expanding," (Encyclopaedia Britannica, vol. 18, p. 1007).

According to this theory the past cannot be distinguished from the present for they are the same hence the appearances of galaxies will not vary with distance. This, however, is contradicted by the radio astronomical observations which have conclusively established that "the occurrence of radio galaxies is evidently very different at different distances" (Encyclopaedia Britannica, vor. 18, p. 1007).

In contrast to the Steady State Theory , the Big Bang Model also called "fireball theory" (Lemaitre) or the Evolutionary Model Theory, assumes the origin of the Universe in a finite time frame. In terms of Doppler effect "a backwards extrapolation of the presently observed expansion indicates that there has been a time in the past when all the matter in the Universe was highly compressed and extremely hot. This was the time of Big Bang which gave rise to expanding Universe" (Encyclopaedia Britannica, vol. 18, p. 1016).

In its early phase from time to (10 seconds) to time t2 (1000 years) the energy in the form of radiation (photons) is large compared with that in the form of matter. This is followed by a thermal balance between radiation and matter energy during time t3 years (t3 = 10 5 years). After t3 the radiation and matter got "decoupled" leading to a steep fall in the temperature of the matter compared to radiation temperature. The temperature of matter in absolute terms had fallen to 1° K by time t4. This was followed-by galaxy formation and quasi stellar objects in the Big Bang time scale of t4 (10 8 years) and t5 years (5 x 10 9 years).

According to Rubble's discovery (1929) "the distant galaxies are apparently receding at speeds increasing with distance." This recession of galaxies implies an isotropic expansion of the

Universe (Encyclopaedia Britannica, vol. 18, p. 1007).

The validity of the Big Bang Model of the Origin of the Universe has been strongly reinforced by the discovery of "the 3° K microwave background radiation spread allover the universe proved to be the relic radiation of the Big Bang," (Arno Penzias and Robert Wilson).

The Big Bang or the Evolutionary Model also implies that due to the process of contraction all of the material would eventually come back to a-central point in an implosion that would annihilate all forms of matter -stars, galaxies, and even individual atoms. The result would be another "cosmic bomb" which would explode and start the whole process over again. This annihilation of the cosmos bears striking similarity with the Qur'iinic description of the Day of Judgement.

However some of the astrophysicists assert that evidence is against this self-annihilation of the Universe since "the mean density of matter in the luminous visible parts of galaxies falls short of critical value by a factor of about 30" (Encyclopaedia of Physics, 1981, p. 142). Hence based on "esoteric theories" and "uncertain data" they conclude that the Universe will continue to expand indefinitely, (Encyclopaedia of Physics, p. 142).

This will, however, happen only "if the Universe is really completely self-contained having no boundary or edge, it would have neither beginning nor end, it would simply be." Further the scientists have so far failed to offer a model that could describe the Universe in its totality. In case they attempt to do so such a model "would be much too complicated mathematically for us to calculate exact prediction," (Hawking, 1988, p. 144).

Although the scientists feel fairly confident that they "have the right picture at least back to one second after big bang," (Hawking, p. 124), they are nonetheless concerned about this crucial time gap of less than one second in their knowledge. In order to bridge it they must look into the beginning which the astronomers/astrophysicists acknowledge is not possible. In their own words:

"In an evolving Universe the astronomer looks into the past by looking into the distance. But the further back he looks, the less precise the information he gets, and he certainly cannot see the actual beginning" (Encyclopaedia Britannica, vol. 18, p. 1018). Thus astronomers can never explain the Origin of the Universe as an observed fact and verifiable reality, neither a satisfactory mathematical model can be worked out to explain the complex system of the Universe.

However, the latest discovery of a quasar (quasi stellar object -a highly luminous phenomenon) "close to the edge of the Universe hence near the beginning of time" (The Hindu, 27th December, 89) may throw new light on the cosmic evolution. The astronomers estimate that

this quasar is "billions of light years away and that it existed when the Universe was only 7% of its present age," (Lemonick, p. 58). They are finding it problematic to explain its formation "that early, even under the influence of cold dark matter" (Lemonick, p. 58).

This discovery and that of the cosmic bubble which suggests uneven microwave (Huchra-Geller) may upset the current theories dealing with the Origin of the Universe.

Origin of Solar or Planetary System

In addition to the Origin of the Universe the existence of the solar or planetary system has also attracted the attention of astrophysicists and astronomers. They have also theorised about its origin. The important theories among them are: The Nebular Hypothesis, the Tidal Theory, the Planetesimal Theory, the Binary Star Theory , the Electro- Magnetic Theory and the Cepheid Theory .

The Nebular hypothesis of LapJace assumes that the solar system is born out of a rotating gaseous nebula. With its gradual cooling over a period of time the nebula would gradually contract leading to an incrase in its speed of rotation. Consequently the centrifugal force will exceed the centripetal force resulting in the ejection of gaseous matters from the outer layer of the nebula. The ejected matter would then commence to revolve "in the equatorial plane of the nebula, in the same direction as that of the nebular rotation," (Smart, 1959, Pelican, p. 187).

This assumption in the Nebular Hypothesis is not supported by the disproportionately high angular momentum in the sun, WIlich constitutes the balance of Laplace's original nebula. In the Tidal Theory by Jeans and Jeffrey the formation of the planetary system is attributed to the interaction of the sun with a star passing close to it which caused massive gaseous tides leading to the formation of an unstable gaseous filament which broke into many fragments and exists in the shape of planets. This theory has immense difficulty in explaining the angular momentum of the planets and the enormous distances to which they were pulled out due to tidal effect.

The Binary Star Theory, to a large degree, answers objections raised regarding angular momentum but it also fails to account for the massive distances of the planets from the sun and how f did the "companion star" of the Binary System disappear. The Planetesimal Theory of Chamberlin -Moulten and the Cepheid Theory of BaneIji are variations of the Tidal Theory and tHerefore equally inadequate. Dr. Hannes Alfocus' Electro Magnetic Theory of the birth of the solar system is innovative but thoroughly unsatisfactory, for the author does not explain 'how the Sun becomes immersed in a cloud of ionised atoms,"(Smart, 1959, Pelican, p. 203).

The shortcomings of these theories are obvious for none can explain the whole truth cogently

and cohesively. Here again the scientists, acknowledge that "We shall never know beyond a shadow of doubt how the Planetary System came into existence," (Smart, 1959, Pelican, p. 180).

Qur'anic Verses on Creation of the Universe

The aforesaid scientific theories regarding the Origin of the Universe and the planetary system are at best speculations. What is common in all these theories is that the Universe and its planetary system have a definite behavioural pattern which is governed by certain principles. The Universe and the planetary system are subject the certain laws is categorically and unambiguously referred to in the Qur' an. In the following paras we propose to quote the relevant Qur'anic verses relating to the Origin of the Universe and movement of heavenly bodies which are not only categorical, but also anticipate some of the scientific discoveries made centuries later.

In Surah Baqarah (the Heifer) it is pointed out that 'To Him is due the primal origin of the heavens and the earth: when He decreeth a matter, He saith to it: 'Be' and it is" (Al-Baqarah, the Heifer, II: 117). The Qur'an is very clear that the entire Universe had evolved out of a single gaseous nucleus. In Surah Al-Anbiya it is clearly stated that "the heavens and the earth were joined together (as one unit of Creation) before We clove them asunder," (Al-Anbiya,' The Prophets, x:x:I: 29). The sky which was an integral part of this single nucleus was in a gaseous state in accordance with the Qur'anic Verse 11 in Surah.

Fussilat (XLI): "Moreover He comprehended in His design the sky, and it had been (as) smoke". In the light of this verse it is clearly implied that the Universe was created out of a single gaseous nucleus. This is also borne out if we read verse 30 of Siirah Al-Anbiya' (x:x:I) in conjunction with verse 11 of Surah Fussilat (XLI) as mentioned above.

The Qur'anic verses also imply a definite time dimension in the separation of the heavens and the earth. Of the theories pertaining to the creation of the Universe, the Big Bang Model comes closest to the Qur'anic concept. The theory has a definite time scale. The original nucleus according to this theory was a "Primordial fire ball" which underwent a cataclysmic explosion - Big Bang -at the Zero cosmic time T.

It is interesting to observe that the Qur'an speaks of "cloving asunder" the heavens and the earth from a single nucleus. The theory points to the decoupling, after time t3' of the radiation energy and matter leading to a precipitous decline in the temperature of matter vis-a-vis radiation temperature. Presumably this phenomenon of decoupling may be implied in the Qur'an when it speaks the "cloving asunder" of the sky and earth.

The Qur'anic description of the creation of the Universe commences from the "decoupling" phase in its evolution. The Qur'an speaks of the eventual annihilation of the Universe which is also clearly implied in the Big Bang Model as explained earlier. However, no theory of the, Origin of the Universe can speak with the same authority as the Qur'an for man cannot correctly visualise the beginning since his telescopic observations and mathematical formulations fail to provide the clue and the scientists admit it.

Creation of Heavens and Earth in Six Celestial Days or Periods

The Qur'an revealed certain scientific truths with regard to the movement of the heavenly bodies in the seventh century A.D., when superstition and mythological ideas ruled supreme and when scientifically the habitable world was in total darkness. These revelations have now been established as scientific truths. Before highlighting them it is proposed to explain the Qur'anic assertion that Allah "created the heavens and the earth in six days," (Al-A'raf, The Heights, VII: 54).

These six days symbolise celestial days and are not to be treated like the normal six days of the week in our calendar. According to the Qur' an the duration of each celestial day may range between 1000 and 50,000 years. As for instance in Surah Al-Sadah, (The Prostration, XXXII: 5), it is pointed out that "He rules (all) affairs from the heavens to the earth: in the end will (all affairs) go up to Him on a Day the space whereof will be (as) a thousand years of your reckoning."

In Surah Al-Ma'arij, The Ways of Ascent, (LXX: 4). "The angels and the Spirit ascend unto Him in a Day the measure whereof is (as) fifty thousand is years". In the light of this excessively long duration of the celestial days one tends to agree with Maurice Bucaille that "the word days should be taken to mean Periods" (p. 140). Abdullah Yusuf Ali also insists that the six days referred to in the Qur'an signify stages in the Creation and that the Qur'anic days (yawm) should be interpreted to mean "very long periods, or Ages or Aeons." (Maurice Bucaille, p. 142). Thus the process of the creation of heaven and earth in six days has to be perceived in the light of the foregoing clarification.

The creation of the earth is not to be viewed in isolation. Reference to its creation implies the creation of the solar system which according to the Qur'an was created in two celestial days "Say: Is it that ye deny Him Who created the earth in two Days (Fussilat, XLI: 9).

The Qur'an conceives of an integrated system of the Universe including the solar system and the system of galaxies. This process was started simultaneously with the creation of the earth or the solar system and is implied in the following Qur'anic verses: "the heavens and the earth

were joined together (as one unit of Creation) before we clove them asunder ." (Al-Anbiyii,' The Prophets, XXI: 30).

Subsequently they were integrated into a well knit system: "Moreover He comprehended in His design the sky, and it had been (as) smoke: He said to it and to the earth: "Come ye together, willingly or unwillingly." They said: "We do come (together) in willing obedience," (Fuussilat, XLI: 11). This process of "cloving asunder" and "coming together" of the galaxies, solar system and the seven heavens as part of a unified system was accomplished simultaneously in two celestial days. In order to comprehend their correct meaning and significance the two verses 12 and 9 of Sirah Fussilat (XLI) have to be read together.

Any gap between the process of separation and integration will make the emergence of an interlinked gallactic and solar system practically difficult. This separate reference to two days in each of the two verses (9 and 12) imply the same time-span and not additional two days. This simultaneous occurrence is also implied in the following verses. "So. He completed them as seven firmaments in two Days, and He assigned to each heaven its duty and command. And We adorned the lower heaven with lights, and (provided it) with guard (Fussilat: XLI: 12). The Creation of stars in the lower heaven is also pointed out in Surah Al-Saffat, Those Ranged in Ranks (XXXVII: 6-7): "We have indeed decked the lower heaven with beauty (in) the stars, - (for beauty) and for guard against all obstinate rebellious evil spirits."

It is therefore distinctly clear that the seven firmaments, the galactic and the solar system were raised simultaneously and were interlinked as part of the system of Universe within the same space of time and not in two different celestial periods. The Qur'an further reveals in these verses that each of the seven heavens has been assigned specific roles without spelling them out. This has been done presumably to excite the curiosity of man in order to motivate him to probe into the mysteries of the Universe.

However, this revelation again stresses the point that there is always a well defined purpose in all Divine creations. In the remaining four celestial days of creation the Earth was set in order and made habi table for man: "He set on the (earth), mountains standing firm, high above it, and bestowed blessings on the earth, and measured therein all things to give them nourishment in due proportion in four Days in accordance with (the needs of) those who seek (sustenance) (Fussilat, XLI: 10).

The recession of the galaxies which is now firmly established by Hubble's Law and Red Shift, and which implied expansion of the Universe is also clearly indicated in the Qur'an: "With power and skill did We construct the Firmament: For it is We Who create the vastness of Space," (Al-

Dhariyat, The Winds that Scatter, LI: 47).

As indicated by the Big Bang Model the Universe will be annihilated at a particular point of time through the process of implosion (the big crunch), the Qur'an very definitely proclaimed it in Surah Ahqaf, Winding Sand Tracts (XLVI: 3): "We created not the heavens and the earth and all between them but for just ends, and for a term appointed.

" This is also emphasised in Surah Al-Zumar, The Crowds, (XXXIX: 5): "He has subjected the sun and the moon (to His law): Each follows a course for a term appointed." This "term appointed" presumably refers to the "big crunch," which according to the Big Bang Theory will terminate the Universe.

According to the Qur'an this will be"the (Day) of Noise and Clamour (it is) a Day whereon men will be like moths scattered about and the mountains will be like carded wool." Day of Noise and Clamour. CI: 1-5). This description in the Qur'an of the Last Day of Judgement clearly hints at the breaking of all scientific laws -which Hawking also pointed out in the following words: "At the Big Bang and other singularities, all the laws would have broken down" (PL, 183). It is thus clear that what the astronomers have discovered now as scientific truth the Quran announced it fourteen hundred years ago and can be rightly termed as its scientific miracles.

Some Astronomical Phenomena - Qur'anic Description and Modern Scientific Discoveries

Among the celestial objects the Qur'an imparts a special status to the sun as a Source of light and enlightenment controlling productive activities on earth. In Surah Yunus, Jonah, (X: 5) the sun has been descnbed to be a Shining glory whereas "the moon to be a light (of beauty)" Obviously this refers to the reflected light-of moon unlike the sun which Itself generates light. Again in Surah Nuh, Noah (LXXI: 16) this concept is repeated that Allah "made the moon a light in their midst and made the sun as a (Glorious) Lamp?"

In Surah Al-Naba, the (Great) News (LXXVIII: 12-13) the status of sun has been stressed again by calling it "a Light of Splendour" However, what is more revealing is that the Qur'an speaks of the orbital movement of the sun which was discovered only in 1927 when the Netherlands astronomer Jan Oort accounted for the motions of stars as orbital motions in the gravitational field of the alaxy (Encyclopaedia Britannica, p. 1013).

This is what the Qur'an has to say in this regard. " And the Sun runs his course for a period determined for him, Surah Yasin, XXXVI: 38. In Sirah Al-Anbiya', The Prophets (XXI: 33) this course has been defined as a "rounded.. course":. "It is He Who created the Night and the Day and the sun and the moon: all (the celestial bodies) swim along each in its rounded course"

The striking similarity between Jan Oort's discovery about the motions of stars and Qur'anic revelation about celestial bodies is notable.

Finally, the Qur'an points out that this "round course" of the sun and the moon is a movement in their own orbit: "It is not permitted to the Sun to catch up with the moon, nor can the Night outstrip the Day: each (just) swims along in (its own) orbit (according to Law)" (Surah Yasin: XXXVI: 40).

It is a scientific fact that the nights and days are formed because of the earth's sphericity and its rotation on its axis in approximately 24 hours; It is also scientifically proved that the earth's axis is in:, lined by 23 1/2 degrees and that the earth revolves round the sun in its orbit in 365 1/4 days.

These factors account for the occurrence of seasons, for the variations in the duration of days and nights, and for shifts in the position of the rising and setting of the sun from north to south in their respective easterly and westerly horizons.

The rotationary movement of the earth and its sphericity are inevitably implied when the Qur'an speaks of the alternation of days and nights. Due to this rotationary movement "The night cannot outstrip the day ." This phenomenon will continue so long as the Universe lasts. However, the duration of days and nights change with seasons.

During the northern winter, when the sun is in the southern hemisphere, the days are of shorter nights are longer in the northern he is phere. This changing duration of days and nights has been cogently expressed in two verses of the Qur'an. In Surah Luqman (XXXI: 29) it is pinted out: "Seest thou not that God merges the night into Day and merges the Day into Night." The phenomenon of merger will occur only if part of the day or its total duration is absorbed in night and vice versa.

Consequently the day or night lose their identity either partly or completely. There are areas in the northern or southern hemisphere between the Arctic Circle and the North Pole, and the Antarctic Circle and South Pole where days and nights are of six months' duration each. This concept of the changing duration of days and nights is again expressed in Sirah Al-Zumar, the Crowds (XXXIX: 5) in the following words: ... "He makes the Night overlap the Day, and the Day overlap the Night.

" While the alternation of days and nights are associated. with the rotation of the earth on itsi axis, the changing duration of days and nights is inevitably linked with the inclination of the earth's axis and the revolution of the earth in its orbit round the sun.

The inclination of the earth's axis by 23 1/2 degrees and the revolution of the earth round the sun along its orbit besides accounting for changing seasons also cause a significant shift in

the position of the rising and the setting of the sun from season to season as explained below: (1) Firstly it defines two extreme locations for the rising and the settmg of the sun. At the tIme of the Summer Solstice in the northern hemisphere when the sun is at the 11 Tropic of Cancer (23 1/2N) on 21st June the sun rises and sets at the northern extremity of the eastern and western ill horizons respectively.

On the other hand at the time of Winter Solstice when the sun is at the Tropic of Capricorn (23 1/2 S) on 22nd December it rises and sets at the southern. Thus the two Solstices define the extreme angular distances for the nsmg and the settmg sun m the eastern and western horizons. 2) Between these two extremes are a number of intermtermediate positions for the sun to rise and set because of the apparent movement of the sun from Winter to Summer Solstice and vice versa.

These scientifically,determined and distinguishing positions for the rising and setting of the sun were clearly postulated in the Qur'an in the 7th Century. While the Qur'an refers to the east and west in general terms as is commonly understood, it also makes very precise statements regarding the changing ti positions of the rising and setting .of the sun.

In Surah Al-Rahman (LV: 17) it proclaims the existence of two Orients and two Occidents: "Lord of the two Wests." Obviously this is with reference to the positions of the rising and the setting of the sun at the time of the Summer and Winter Solstices as explained in para (1) above.

This is further clarified in the Qur'an when in Surah Al-Rahman (LV:17) it speaks of the 'distance between two Orients', ("He is) Lord of the two Easts and Lord of the two Wests:" i.e., extreme locational distance between the rise of the sun in Summer and Winter Solstices from the eastern horizon.

The intermediate positions between the Solstices for the rising and the setting of the sun is expressed in the Qur'an as "the Lord of all points in the East and West." (Al-Ma'arij, the Ways of Ascent, LXX:40). This is possible only if there are varying locations for the sun to rise and corresponding locations for it to set. The Qur'an has not offered any explanation but the inference is clear. The two extreme locations of east.

Conclusion

The foregoing discussion makes it abundantly clear that despite phenomenal progress man has achieved in science since the Newtonian discovery of the Law of Gravity, his knowledge of the Origin of Universe has not risen above the level of scientific conjecture. For obvious reasons scientists will never be able to present their theoretical formulations relating to the

origin of the Universe as a scientifically verifiable reality.

One of the stunning realities which has clearly emerged out of this discussion is that modern scientific theories and findings regarding the Origin of the Universe and movement of celestial bodies are veering round the concepts as expounded in the Qur'an more than 1400 years ago. In fact the validity of these Qur'anic concepts is being increasingly substantiated with the advancement of science and sophistication of scientific tools and techniques. This is notably marked in relation to the concepts and theories pertaining to the Origin of the Universe and movements of celestial bodies.

The Qur'an unequivocally and emphatically refers to cosmic: laws which harmonise the movement of celestial bodies and bind them together: " And the Firmament He has raised high and He has set up the Balance (of Justice), in order that ye may not transgress (due) balance. (Al-Rahman, LV: 7-8). These verses categorically refer to the forces and laws which maintain the cosmic balance.

These should not be disturbed otherwise the system of the Universe will collapse. The scientists are aware of these cosmic laws and testify that "if the rate of expansion one second after the big, bang had been smaller by even one part in a hundred thousand million, the Universe would have recollapsed before ever reached the present size" (Hawking, p. 128). Further the laws of science give us the values of certain fundamental numbers "Like the size of the electric charge of the electron and the ratio of the masses of the Proton and Electron" (Hawking, p. 132). The scientists now seem to appreciate the significance of this miraculous number game of Allah and declare in unequivocal terms that "these numbers have been so finely adjusted to make possible the development of life.

For example if the electric charge of the electron had been only slightly different stars either would have been unable to burn hydrogen and helium or else they would not have exploded." (Hawking, p. 132). The existence of these subtle cosmic laws in the evolution of universe has forced the scientists to perceive this "either as evidence of divine purpose in creation and choice of the Laws of science or as support of strong anthropic principle" (Hawking, p. 132). Even this strong Anthropic Principle is a part of the Divine will for if the Universe "had been different we would not be here" (Hawking,'p, 131), It is therefore clear that we cannot visualise the operation of these natural laws without the Divine will or a Supreme Creator Allah or God.

The aforesaid discussion significantly points out that scientific discoveries right from the Newtonian Law of Motion to the splitting of the atom by Rutherford and Sodd, Einstein's Theory of Relativity and Quantum Mechanics demonstrate unambiguously that objects and activities which exist in the Universe are governed by definite laws and principles, As for

instance an atom is formed by a unique combination of the elementary particles (quarks) of electron, proton, neutron and position (anti-electron) and conceals an enormous amount of energy :

which is released when the atom is split, It has eventually led to the making of one of the most destructive weapons to destroy mankind, the atom bomb.

The scientists have also speculated that the sun is an inexhaustible source of energy and has been able to sustain it through the process of fusion, Thus whatever scientists have observed in Nature they have discovered a system and an orderly behaviour according to certain norms and laws, Hence the scientists should carefully weigh before they argue for a self-contained Universe "With no singularities or boundaries and completely described by unified theory" (Hawking, p, 184), Can we visualise this finely adjusted system of cosmos to develop through sheer chance or accident without the intervention of a Supreme Controlling Hand?

In the context of human society there is always a human hand behind every work of art whether music, painting, sculpture or architecture; there is always a man behind every machine not only to design, fabricate and run it but also to monitor and control it, The mind of Man works behind every scientific invention and discovery, great literary works, etc, In our own world can we expect any event to occur without someone triggering it? What we consider valid and rational in the development of human society should be treated equally valid and rational in the natural system including the creation of the complex system of the Universe.

BIBLIOGRAPHY

1. The Holy Qur'an, English translation by Abdullah Yousuf Ali Qatar, 1938.
2. S. Muzaffar Ali, The Geography of the Puranas, Peoples Publishing House,New Delhi, 1966.
3. Maurice Eucaine, The Bible, The Qur'an and Science, Seghers Paris,1981.
4. Eugene Merbecher, Quantum Mechanics, John Willey & Sons, New York,1970.
5. Encyclopaedia Britannica, 1974, vol. 18.
6. Robert Eesancon, The Encyclopaedia of Physics, Nostrand RheinholdGo., U.S.A., Ed. 1985.
7. M. Abdus Salam, Islam and Science, 1986.
8. Stephen Hawking, A Brief History of Time -From the Big Bang to Black Holes--Bantam Books -New York, 1988.
9. S. Mohsin Taqi, Qur'an-i-Majid aur Jadid Ilm-i-Falakiyat, (Published in Urdu Daily Siasat, 5th March, 1989).
10. The Hindu, 27th December, 1989, "Science & Technology Supplement," vide, New York Times.

11. Michel D. Lemonick, Great Bubbles in the Cosmos, Time (Weekly), NewYork, pp.57-58.
12. Mir Aneesuddin, Quran, Science and the Universe, 5-9-1070. Gunfoundry, Hyderabad, 1981.
13. Maulana Abul Kalam Azad, The Tarjuman-al-Qur'an, vol. 1,
Al-Fatibah, (Edited and Rendered in English by Syed Abdul Lateef), 1981.
14. GH. Lai (Ed.) (1987), Ideals and Realities -Selected Essays by AbdusSalam -2nd Edition World Scientific Singapore.
.This article has been published in Hamdard lslamicus, Vol. xnI, No. 4, 1990