



**COSMIC VIEW OF LIFE
IN
GURU NANAK BANI**



THESIS

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C E R T I F I C A T E

This is to certify that the contents of the thesis entitled : COSMIC VIEW OF LIFE IN GURU NANAK BANI constitute an original research work of Shri VASDEV SHARMA carried out under ^{my} (joint) supervision and that the work has not been submitted for the award of any other degree anywhere.

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ਹਉ ਢਾਢੀ ਵੇਕਾਰ
ਕਾਰੇ ਲਾਇਆ ॥

Me , the bard , out
of work , the Lord
has employed to His
service .

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A C K N O W L E D G E M E N T S

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Guru Nanak bani teaches us that 'the universe originated from the Absolute Lord and will ultimately merge in Him. He also pervades every thing in the cosmos'.

The Gurbani preachers, scholars and intellectuals have been vigorously high-lighting this concept of Guru Nanak bani in sikh congregations as well as in literature over the years. In order to convince people, they quote a few relevant verses of Nanak Bani in a casual way. This practice of preaching such an important aspect of Nanak Bani can in no way be considered as 'upright'.

In fact, in order to understand this concept of Nanak Bani in its true perspective one must know as to -

- a) how the Absolute Lord created His Ownself ?
- b) what are the characteristics of the universe ?
- c) how, when and from where He created the universe ? and
- d) how and when the universe will merge in Him ?

The answers to these questions from Nanak Bani can only be available, if it is studied in a systematic manner and as a whole. This encouraged me to study one of the most important but neglected aspect of Guru Nanak bani.

I was in search of a scholarly person under whose supervision and guidance, the challenging task could be accomplished. Luckily, I met Dr. Lekh Raj Parwana of Punjab Vidhan Sabha and I saw a ray of hope in him. 'To do good to others' is the foremost characteristic of his personality. He earnestly took me to Dr. Darshan Singh, Professor and Head of Guru Nanak Sikh Studies Department, Punjab University, Chandigarh in the middle of 1987. On the recommendation of Dr. Parwana, Dr. Darshan Singh at once accepted me as his pupil.

In the real sense of the word, Dr. Darshan Singh is a sublime Gurbani scholar. He has fully imbued his soul with the saffron colour of Gurbani. I offer my sincere regards and thanks to him, for the guidance and help which he rendered me, even at the cost of his valuable time, in completing the research work.

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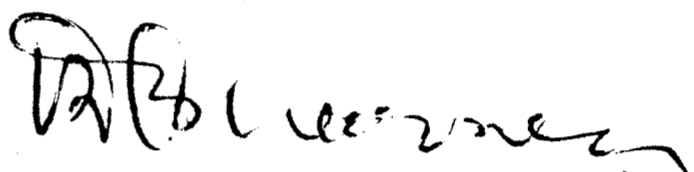
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Besides, I pray to the Al'mighty that He may bless the above mentioned dear ones with unending joys, happiness and prosperity in their precious lives.

I sincerely and unconditionally apologise for any mistake committed by me unconsciously in interpreting or quoting the holy verses.


(VAS DEV SHARMA)

I N T R O D U C T I O N

INTRODUCTION

The human race since its birth has ever been struggling hard to unfold the mystery of the universe. This urge of human mind to solve this problem gave birth to science and metaphysics , two main branches of learning in the history of mankind.

Science and metaphysics both work to understand the real nature of the world. Science analysis in a systematic manner and it admits conclusions only when they are based on physical evidence. At the same time, a scientific theory is always provisional. It is a guide to further development and to its own replacement.

Metaphysics is the philosophical study of the world as a whole. It seeks to define what is ultimately real as opposed to what is apparent. It wants to reveal hitherto unknown facts and on the basis of such facts to evolve a theory about the world. A metaphysical hypothesis that could reasonably have been held in the light of experience a hundred years ago would appear basically just as reasonable to-day in the context of a much richer knowledge.

In the field of science, mathematicians , physicists, geologists, biologists and astronomers have put forward various ideas about the origin , nature and future of the universe. Such ideas about the universe as a whole are called the cosmological and cosmogonic ideas.

So far as status and scope of study of cosmology and cosmogony is concerned, there is yet no general consensus among the scholars in this respect and divergent views have been given by them.

Etymologically cosmology means ' science of cosmos '. It is, therefore, considered as a branch of science. As its subject matter borders closely with astronomy and physics, it is said to be a branch of astronomy¹ as well as that of physics².

Some scholars are of the view that cosmology is not itself one of the physical sciences as it is not experimental. They consider it as a branch of philosophy³.

Another view is that it is primarily an observational science. The tools of its observation earlier were optical telescopes. Now electromagnetic

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| 1. | Cosmology | : p.3 |
| 2. | Cosmological Theory | : preface page v |
| 3. | op.cit. 1 | : p.3 |

of beings evidently does not belong to cosmology. He defines cosmology as ' the philosophical study¹ of the inorganic world ' .

According to Narendra Nath Bhattacharya ' cosmology is that branch of learning which treats the universe as an ordered system and as such it is confined to a description of the salient features of the observed universe in terms of such categories² such as time, space and matter ' .

One of the modern views is that cosmological theory deals with the system of the extremely massive extra-galactic nebulae and its subject matter is the structure of the universe as a whole.³

It is also believed that cosmology like any true science, would be content merely with an accurate and aesthetically appealing description of the⁴ cosmos.

In fact, cosmology is neither a branch of science nor that of philosophy. It has no dispute with psychology, as well, so far as its status and scope of study is concerned. Both scientists and

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| 1. | Cosmology | : p. 27-28 |
| 2. | History of Indian Cosmological Ideas. | : p. 1 |
| 3. | Cosmological Theory. | : p. 1 |
| 4. | Some Mysteries of the Universe. | : p. 2 |

philosophers interpret the observed physical universe in their own way and put forward a thought or a theory accordingly. Indeed, ' cosmology is a thought or a theory advanced by a scholar which interprets scientifically as well as philosophically various aspects of the observed physical universe such as its description, structure and future ' .

Similar is the position of cosmogony in the field of learning. Cosmogony is also a thought or a theory which interprets the observed physical universe in terms of its origin and evolution.

So far as metaphysical field is concerned, prophets, rishis, seers, bhaktas, philosophers etc. have also been dealing with the subject relating to the nature of the universe and life therein from time to time in their writings. Sri Guru Nanak Dev was one of the luminiscent stars amongst them. Besides being a mystic saint, his divine intellectual attributes are like the myriad colours of a rainbow. His was indeed, a pure soul which had mingled with the cosmic soul. His sacred utterances preserved in the holy Guru Granth Sahib in the shape of sweet and melodious poetic verses are like an ocean which contains numerous jewels including wise revelations about the universe as a whole.

So many scholars have culled out different subjects out of Nanak Bani for research but none seems to have touched the subject relating to the universe and life therein as a whole though a few scattered works are available on this subject in the literature about Gurbani. But they do not present the Gurbani thought in its true perspective. For example , Gurbani scholars very promptly declare that the universe is 'infinite (limitless) ' probably on the basis of the following and similar other Gurbani verses :-

" There are nether worlds below nether worlds and lacs of skies over skies."(1)

" The limit of His created creation is not discerned. The bound of His this and yonder end is not known. " (2)

There is no doubt that their inference is true but before arriving at such a conclusion, they ought to have clarified the verses of Nanak Bani which give the impression of a 'finite' universe. Such verses are as follows :-

" The true One Himself established the universe with His hands;
Breaking the egg into two He separated them and yet united them He;
And the earth and the sky turned into His dwellings. " (3)

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| 1. | G.G.S. | : p. | 5 |
| 2. | ibid | : p. | 5 |
| 3. | ibid | : p. | 839 |

" Creating the two mill-stones of the earth and the sky He has separated them. "

The above quoted instance shows that Gurbani scholars draw up their conclusions on the basis of piece-meal study of verses of Gurbani. This practice not only tarnishes the sublime image of the sacred thought of Gurbani but also creates doubts about its authenticity in the minds of conscientious readers of Gurbani .

In order to understand the true meaning of Gurbani, it is necessary that the interpretation of it should be based on the basis of its over-all study and not on piece-meal basis. An effort has been made in the present investigations to interpret the Gurbani thought in this manner.

This work has been based on a comparative study of various scientific theories about the origin and nature of the universe in relation to the holy scriptures such as the Vedas/ Upanishads, the Bible and the Quran with a view to examine Nanak Bani in a wider context.

Brief plan of the thesis is given below .

It has been divided into the following six chapters :-

- I. Concept of the Universe
(Description, Composition and Structure
of the Universe).
- II. Origin and Evolution of the Universe.
- III. Concept of Life.
- IV. Life in the Universe.
- V. Origin and Evolution of Life.
- VI. Future of the Universe.

The basis of each chapter is the scientific theories and related ideas available in the Vedas / Upanishads, the Bible, the Quran and Nanak Bani. The place of Nanak Bani among the holy scriptures as well as in the field of scientific research has been highlighted at the end of each chapter.

After the concluding portion of the thesis, list of abbreviations used, Gurbani verses in Punjabi and selected bibliography have been given.

CHAPTER I

CONCEPT OF THE UNIVERSE

(Description, Composition
and Structure of the
Universe)

PART AScientific View

- I.1.1 Geo-centric System of the World
- I.1.2 Helio-centric System of the World
- I.1.3 Hybrid System of the World
- I.1.4 John Kepler's Helio-centric System of the World
- I.1.5 Conclusion
- I.1.6 Concept of Galacto-centrism
- I.1.7 Composition of the Universe
- I.1.8 Our Galaxy
- I.1.9 Planetary Systems in the Universe
- I.1.10 Motion of the celestial phenomena
- I.1.11 Conclusion
- I.1.12 Structure of the Universe

PART BMetaphysical ViewVedic / Upanishdic View

- I.2.1 Two-fold division of the Universe
- I.2.2 Three-fold division of the Universe
- I.2.3 Sub-divisions of three-fold Universe
- I.2.4 Helio -centric system of the Universe
- I.2.5 Planetary System

- I.2.6 Motion of the celestial phenomena
- I.2.7 Finite Universe
- I.2.8 Position of Earth
- I.2.9 Conclusion

Biblical View

- I.3.1 Twofold division of the Universe
- I.3.2 Three storey structure
- I.3.3 Motion of celestial bodies
- I.3.4 Finite Universe

Quranic View

- I.4.1 Twofold division of the Universe
- I.4.2 Planetary System
- I.4.3 Motion of celestial bodies
- I.4.4 Finite Universe

Nanak Bani View

- I.5.1 Finite Universe
 - I.5.2 Infinite Universe
 - I.5.3 Conclusion
 - I.5.4 Description of the local Universe
 - I.5.5 Position of Earth
 - I.5.6 Motion of Celestial bodies
- I.6 Scientific and Metaphysical View:
A synthesis.

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PART A
Scientific View

The scientific research has put forward various theories about the concept of the universe since its origin. These are discussed below :-

I.1.1 Geo-centric System of the World

In the history of science, the Greek astronomers were the first who studied the physical universe purely on scientific lines. The first of these was Thales (640-560 B.C.) and the last was Claudius Ptolemy who died in about 180 A.D. Besides them, Anaximander, Anaximenes, Heraclitus, Anaxagoras, Democritus, Philolnus, Apollonices, Aristotle, Heraclides etc. also tried to seek rational explanation of the celestial phenomena. Leaving aside the differences, if any, in their scientific outlook on various issues, they were almost in general agreement on the following points :-

- i) that the earth in its fixed position lies at the centre of the universe; and
- ii) that the celestial bodies such as planets, sun and stars revolve around the earth in concentric circular orbits once a day.

Thus the celestial bodies except the earth were believed to be in constant motion.¹ The so-called earth centred system is known as the 'Geo-centric System'. Though

this system bears the name of Claudius Ptolemy but it emerged from series of efforts on the part of earlier Greek astronomers.

The Greek astronomers were able to observe five planets which do find a place in the present day planetary system of ours. They placed the heavenly bodies in the following order of distance from the earth :

Earth : Moon---- Mercury---- Venus---- Sun---
Mars---- Jupiter---- Saturn----Stars

Moon and sun were also considered planets at that time.

I.1.2

Helio-centric System of the World

According to the Helio-centric System of the world, the sun lies fixed at the centre of the universe and the earth alongwith the planets revolve around it.

Aristarchas, the Greek astronomer was the first who evolved the Sun-centred Theory of the world. According to him, the earth moves around the sun in the circumference of a circle, the sun lying at the centre of the orbit. The fixed stars and the sun remain unmoved.

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| 1. | Life in the Universe | : | p.2 |
| 2. | Positive Sciences in
the Vedas | : | p.23 |

Arya Bhatta the great Indian astronomer of the 5th century A.D. also thought of the Helio-centric System. In his 'Arya Siddhanta' he has stated that 'the stars are fixed but it is the earth which caused the daily rising and setting of the planets and nakshatras, by its motion around the sun.'¹

Unfortunately, the supporters of Helio-centric System of the world found few followers. Indeed, it was not until the seventeenth century that the geo-centric hypothesis was finally discarded.

After a reign of about 1300 years of the Ptolematic System of the world, Nicholas Copernicus (1473-1543) boldly dethroned it from its proud position and instead evolved the 'Helio-centric System' known as 'Copernicus System'.² No new planet was discovered by him except treating the earth as a planet. However, moon was no longer considered a planet but a satellite of the earth.³

I.1.3

Hybrid System of the World

Tycho Brahe (1546- 1601) differed with the Ptolematic and Copernicus systems of the world and he attempted to construct a 'Hybrid System' i.e. half-heliocentric and half-geocentric. According to this

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| 1. | Positive Sciences in the Vedas | : | p. 258 |
| 2. | Discovery of the Universe | : | p. 22 |
| 3. | ibid | : | p. 46 |

system , the planets revolve around the sun but the sun itself accompanied by its entire retinue of planets¹ revolves around the earth. This system hardly survived.

I.1.4

John Kepler's Helio-centric System of the World

It was John Kepler (1571- 1630) who declared himself a partisan of the Copernicus system and established the Helio-centric System² of the World.

I.1.5

Conclusion

From the above analysis , we find that conflicting views about the concept of the universe were put forward by the scientists from time to time till the beginning of the classical astronomy in the 16th/17th centuries. The ideas inherited from the Greek astronomers were successfully rejected. The new observations and theories had decisively established the fact that :

- i) the sun lies at the centre of the universe in a fixed position; and
- ii) the earth alongwith other planets revolves around the sun.

The hypotheses about the concept of the universe put forward by the Greek astronomers, Arya Bhatta, Nicholas Copernicus, Tycho Brahe, John Kepler and their contemporary scientists give us the impression that they were talking about the universe

1. Discovery of the Universe : p. 50
 2. ibid : p. 52

' as a whole '. If that is so, the concept of the universe put forward by them was far from the true picture of the universe. In fact, due to their insignificant knowledge in the field of astronomy, they could observe only a tiny part of the universe. This part of the universe is one of the million galaxies scattered through out the space to which the present day scientists have given the name of 'Milky Way- our galaxy'. A galaxy is a large gravitationally bound cluster of stars. However, a galaxy is by no means the universe.

The tool with which these scientists observed the celestial phenomena was the naked eye as no telescopes and such other devices had yet come into existence. The objects which the naked eye without the use of large telescopes could see in the sky are: stars and the inter-stellar clouds that comprise the Milky Way. Therefore, they could not observe what was there beyond the Milky Way. That is why their research work mainly remained centred around the planetary system of our galaxy. The conclusions drawn by them with regard to the position of the earth and the sun in the universe could only be relevant so far as Milky Way is concerned but if examined at the level of macrocosm, they would seem to be hardly relevant. The result is that more than two thousand years scientific research could

only observe a tiny part of macrocosm-our galaxy. Astonishingly , the scientists of this period could not find a consentaneous hypothesis about the concept of even the local universe. This shows that they had not the correct knowledge of the microcosm.

I.1.6

Concept of Galacto-centrism

With the invention of instruments of observation such as telescopes, photographic plates, photo-electric cells, radio-telescopes etc. during the period from the middle of the seventeenth century to-date, the scientists have been able to minutely examine the Milky Way and look deep into the vast space. On the basis of new observations, the scientists have evolved new theories about the concept of the universe and replaced the earlier obscure theories. With the thrust into the stellar depths, it has been found that the sun does not lie at the centre of the universe but it is at an edge of our galaxy in the north side. With this discovery, the Helio-centric Theory of the universe struggled briefly and died in the early twentieth century. This changed the concept of the universe from Helio-centric¹ to Galacto-centrism.

 1. Dynamic Interplay between
 Science and Religion : p. 15

I.1.7

Composition of the Universe

According to the present scientific research, the observed universe is basically composed of galaxies, vast star systems and solar systems. There are about 10^{11} galaxies in the universe and about 10^{11} stars in each galaxy.(1) The most distant galaxy so far measured with a 100" telescope lies at a distance of about 5000 million light years(the distance that a light ray travels in one year, equal to 9,4605 million million kilometers is called a light year). Of course, many more galaxies must exist beyond the observable range.(2)

Beyond the galaxies we find quasars the star like objects whose natures are far from understood. (3)

I.1.8

Our Galaxy

The Milky Way is about 100,000 light years in diameter. It rotates slowly around its axis. It has a total population of 10^{11} stars many of which are solar in type. The sun in the Milky Way is a medium sized star. It is not centrally situated but lies well out toward one edge and is thought to

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1. The Human Mystery : p. 44
 2. Life in the Universe : p. 6
 3. ibid : p. 8

be between 25000 and 30000 light years from the centre
of our galaxy.¹ It has a family of nine planets . In
order of distance from the sun, they are placed as
below :

Sun :	Mercury-----	Venus-----	Earth-----
	Mars -----	Jupiter---	Saturn-----
	Uranus -----	Neptune---	Pluto ----

The planets revolve in almost circular orbits around
the sun. Besides , there are satellites of planets
(moon is a satellite of earth) , asteroids, comets ,
meteorites in the Milky Way . All revolve around the
sun in smaller circles. Sun keeps all of them under
strict control. The planets are held near the sun
by the pull of gravity and kept from being drawn into
it by the speed with which they move through space .
The closer they are to the sun, the faster they move.

I.1.9

Planetary systems in the Universe

There is still not convincing evidence of
another planetary system that is at all like ours
in the universe. However, if we accept our own system
as being of an average size, the number of suns which
we know to exist works out at 100,000 millions multi-
plied by 1000 millions. These suns might have their
own planetary systems.²

1. Dynamic Interplay between
 Science and Religion : p.23
2. The Human Mystery : p.44

Shapley Harlow has assumed that there are at least 10^{11} planets in the universe. (1)

I.1.10

Motion of the celestial phenomena

It has been found by the scientists that the celestial phenomena is in motion. Einstein says:

" the universe is a restless place. Stars, nebulae, galaxies and all the vast gravitational system of outer space are incessantly in motion." (2)

I.1.11

Conclusion

No doubt with the developed observable devices the scientists have been able to look deep into the space but they have not been able to measure the expanse of the universe to its finality. Rather , most of the scientists are of the view that man will never succeed to find out the boundaries of the universe and it will remain a mystery for him for all times to come. In his hypothesis of unlimited complexity, which the Swedish astronomer V.Charlier published as a result of his observation of galaxies, he suggested " that just as the multitude of stars surrounding our sun, belong to a single cloud as our galaxy, galaxies themselves form a much large cloud , only a small part of which falls within the range of our telescopes. This implies that if we

1. Dynamic Interplay between Science and Religion : p. 15
2. Positive Sciences in the Vedas : p. 36

go farther and farther into space, we would finally encounter a space beyond galaxies. However, this super giant galaxy of galaxies is not the only one in the universe and much farther in space, other similar systems can be found. Intriguing as it is, this picture of an increasing aggregation of matter is unfortunately outside the possibility of observational study.¹"

In the view of Einstein,' the universe is a mystery for a civilised man even in the twentieth century. We know nothing about it at all. Our knowledge is but the knowledge of a school children. Possibly we shall have a little more that we do have now. But the real nature of things that we shall never know never.²'

In view of above facts, it may be concluded that though the scientists have been struggling hard to unfold the mystery of the universe for many centuries but they have been able to explore a fraction of it .

1.	Positive Sciences in the Vedas	: p. 30
2.	Dynamic Interplay between Science and Religion	: p. 26

I.1.12

Structure of the Universe

There is no general agreement among the scientists as to what type of universe we live in. They have put forward conflicting views which are enumerated below :-

Aristotle thought that the physical universe must be finite.¹

A finite universe is called spherical or closed and it is said to have a positive curvature.² In such type of universe if I go on and on, eventually (admittedly after a very very long walk) I get back to the place from which I started.³

Lucretius was of the view that the universe is infinite.⁴

During the mediaeval period thinkers tended to follow Aristotle in regarding the universe as finite.⁵

Heinrich Olbers in 1826 predicted the universe as infinite in time and space.⁶

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| 1. | Atoms and the Universe | : | p.210 |
| 2. | Cosmological Theory | : | p. 68 |
| 3. | The Universe at Large | : | p. 37 |
| 4. | op. cit. 1 | : | p.210 |
| 5. | The Structure and the Evolution of the Universe | : | p. 99 |
| 6. | op. cit. 3 | : | p. 29 |

On the basis of his theory of universal gravity , Newton in 1862 pointed out to ' a finite material in an infinite space' .⁷

In 1917 Einstein was able to specify a 'static condition of the universe ' in which Newtonian attraction and cosmical repulsion remain in exact balance .⁸ The static steady-state universe shows no over-all change with the lapse of time.⁹

In 1930 Eddington discovered that Einstein's universe was unstable. He was of the view that if something upsets the balance so that the attraction is weakened then cosmical repulsion has the upper hand and an expansion begins. As the material of the universe separates, the distance between the bodies becomes greater, the attraction still further weakens, the cosmical repulsion ever increases and the expansion becomes faster. On the other hand, if the equilibrium was upset in the other way so that the forces of attraction become superior , then the reverse would occur and the system would contract continuously.¹⁰

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| 7. | The Structure and the Evolution of the Universe | : p. 99 |
| 8. | The First Three Minutes | : p. 32 |
| 9. | Atoms and the Universe | : p.212 |
| 10. | The Individual and the Universe | : p. 81 |

It was on this very basis, the Russian mathematician Alexandre Friedmann predicted either¹¹ an expanding or contracting universe.

The Dutch astronomer De Sitter's world was static but it had the remarkable property of pre-¹²dicting a red-shift proportional to the distance. Red-shift always indicates velocity of recession. The total volume of this type of universe is infinite. He suggests that the universe contracts during an infinite time, reaches a minimum radius¹³ and then starts expanding.

G. Lemaitre and Eddington's model of the universe is finite but unbounded(in a finite unbounded universe there would be no outer boundary¹⁴ of space).

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| 11. | The Individual and the Universe | : | p.81 |
| 12. | The First Three Minutes | : | p.32 |
| 13. | Cosmological Theory | : | p.67 |
| 14. | The Universe at Large | : | p.36 |

PART B
Metaphysical View

Vedic / Upanishdic View

I.2.1

Twofold division of the Universe

The seers of Vedas and Upanishads have basically divided the universe into two parts i.e. earth and heaven. They are mentioned as two-halves :

" As the great world halves (earth and heaven) so are their son's praises, skilled as a man, to act is he the Herald! (1)

" In the beginning, the Being developed and turned into egg. The egg lay for a year and then split apart. One portion of the egg shell was of silver and the other of gold. The silver one became the earth and the gold one heaven". (2)

" Heaven and earth are two halves of the shell of the universe ". (3)

" By these two all that lives, moves on, whatever there is between the heaven and the earth- not a single one of them do I know ". (4)

Sometimes earth and heaven have been spoken as the world-twains :

" For him the twain (earth and heaven) united pour their fulness the rain from heaven, he thrives most highly favoured". (5)

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1. R. V. : 1.59.4
For further details :
R. V. : 1.160.2 , 6.12.1
2. C. U. : III.19.1
3. T. Br. : III.8.9.1
4. B. U. : VI.2.2
5. R. V. : 2.27.15
For further details :
R.V. : 9.78.3 , 10.8.4 , 10.30.9

The heaven and earth have also been called as the two great bowls turned towards each other :

" The two great meeting bowls, hath he united each of the pair is laden with his treasure ". (1)

Once earth and heaven have been compared with the wheels at the two ends of an axle :

" Who to his car on both its sides securely hath fixed the earth and heaven as with an axle". (2)

I.2.2

Threefold division of the Universe

We also find threefold division of the universe into earth, air or atmosphere and heaven in the Vedas and Upanishads. The region of air or atmosphere lies between the earth and the heaven. Heaven, air and earth form the favourite triad of the Rig Veda constantly spoken of explicitly or implicitly as :

" Three are the worlds (earth, middle air, heaven) and moving on above the sky ye guard the firm set vault of heaven through days and nights ". (3)

" Two perfect springs of heat pervade the threefold and come for their delight is Matarisvan". (4)

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| 1. | R.V. | : 3.55.20 |
| 2. | R.V. | : 10.89.4 |
| 3. | R.V. | : 1.34.8 :For further details : |
| | R.V. | : 1.6.10 , 6.69.8 , 8.10.6 ,8.90.6 |
| 4. | R.V. | : 10.64.1 |

"Now there are verily, three worlds,
the world of men (earth) , the
world of the fathers (atmosphere)
and the world of the gods (heaven)".
(1)

"These are three mystic utterances
such as bhuh, bhuvah, svah- these
are earth, atmosphere and heaven
respectively ".
(2)

The solar phenomena which appear to take
place on the vault of the sky having therein moon,
sun, planets, stars, nakshatras are referred to
heaven while those of lighting, rain and wind
belong to the atmosphere.(3)

I.2.3

Sub-divisions of threefold Universe

Each of the three worlds have further
been sub-divided into three parts, such as three
earths, three atmospheres and three heavens :

" Streams, the wise gods have thrice
three habitations (each of the three
worlds having three sub-divisions)
child of three mothers , he is lord
in synods".
(4)

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1. B.U. : 1. 5. 16
 2. T.U. : 1. 5. 1
 3. Vedic Mythology : p.9
 4. R.V. : 3.56.3 : For further details :
R.V. : 1.102.8 , 1.164.10 , 2.27.8

I.2.4

Helio-centric system of the Universe

The vedic view of the universe is 'helio-centric'. The sun is at the centre of the universe and the earth revolves around the sun :

"Expiring when he (sun) draws his breath she (earth) moves along the lucid spheres". (1)

"Two bowls (earth and heaven) of noble kind, between these goddesses the god, the fulgen sun travels by fixed decree ". (2)

"The earth with all its waters revolves round the sun". (3)

"the earth moves round the sun".(4)

"the earth revolves in space, it revolves with its mother water in its orbit, it moves round its father, the sun".(5)

The sun-centred theory of the universe has outrightly been rejected by the modern scientific research.

I.2.5

Planetary System

Five planets were known to the vedic seers.

These are:

Mercury-- Venus -- Mars -- Jupiter--Saturn

Moon was also considered as a planet. They observed 27 nakshatras in the universe.(6)

There is also a reference to comet. (7)

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| 1. | R. V. : 10. 189. 9 | |
| 2. | R. V. : 1. 160. 1 | |
| 3. | Satyarath Parkash : Chap.VIII | |
| 4. | Positive Sciences in the Vedas : | p.235 |
| 5. | ibid | : p.235 |
| 6. | ibid | : p.234 |
| 7. | R. V. : 5. 11. 3 | |

I.2.6

Motion of the celestial phenomena

The celestial bodies were observed as constantly in motion by the seers of Vedas and the Upanishads . They move in group fields as :

"Like birds of air they (celestial bodies) flew with might in lengthened lines from heaven's high ridges to the borders of the sky". (1)

"The solar system and the galaxies of stars move as if in a string, woven by this Vayu". (2)

"Aitareya Brahaman clearly held the view that the sun never sets nor rises and that the apparent motions of the sun are really due to the rotation of the earth". (3)

"The universe is continuously in motion". (4)

I.2.7

Finite Universe

The basic division of the universe into two halves and treating them as two great bowls refers to the spherical shape of the universe. The universe of spherical shape is considered as 'finite' or a closed one. Further, only a finite thing can be divided into parts. Similar is the case of the vedic/ upanishdic universe. The space between the two ends or boundaries of the universe may be of infinite size but the over all view of

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1. R. V. : 5. 59. 7
 2. Sat. Br. VIII.7.3.10
 3. Positive Sciences in the Vedas : p.258
 4. Yaj.V. : XL.1

finiteness of such a universe can in no way be denied. The finite nature of the universe has very well been described in the following Upanishdic hymn :

"Where one sees nothing else, hears nothing else, understands nothing else, that is the infinite;

But where one sees something else, hears something else, understands something else, that is the small (the finite);

Verily, the infinite is the same as the immortal, the finite is the same as the mortal". (1)

From this hymn, we find that the things which are established in others and are subject to the Law of Change, are 'finite '. The universe is established in the Absolute Lord and is subject to change is, therefore, 'finite'.

Besides twofold and threefold divisions of the universe, there is a hymn in the Paingala Upanishad which refers to the vastness of the universe. The hymn reads as under :-

" He (Brahman) created many crores of brahmandas (macrocosms), fourteen worlds to each (of these macrocosms) and globular gross bodies appropriate to each (of these worlds)" . (2)

This notion of the Upanishad did not become the over all basis of the concept of the Vedic / Upanishdic universe. It is treated like a passing reference in the voluminous vedic literature .

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1. C. U. : VII.24.1
 2. Paingala U. :1.7

The universe of the vedic / upanishdic seers having one sun, one earth, one moon, five planets and stars resembles to some extent with the Milky Way- our galaxy, a tiny part of the macrocosm.

I.2.8

Position of Earth

The division of the vedic universe into two parts i.e. earth and heaven shows that they are equal parts of the universe. But according to scientific conclusions , the earth is one of the nine planets of our solar system in the Milky Way. It is a normal planet much inferior in size to some of its companions such as Jupiter, Saturn and also the sun as is clear from the following table :

Diameter of earth	7913	miles
Diameter of Jupiter	88390	"
Diameter of Saturn	71900	"
Diameter of Sun	8,60,000	"

On the basis of these figures we may conclude that the earth occupies a very small place even in our home galaxy and it has no comparison with the macrocosm which has billions of galaxies like our home galaxy in its lap . Therefore , on astronomical grounds the earth can never be one of the two equal parts of the present universe.

I.2.9

Conclusion

In view of the above facts , it may be concluded that the concept of the universe presented by the vedic / upanishdic seers is neither based on correct astronomical calculations nor it seems to be the result of their intuitive knowledge as it is far away from reality. It seems to be based on casual observation of the sky by the seers standing on the earth. They imagined the star studded place as heaven and the sun at the centre between the earth and the heaven (sky) . Further divisions and subdivisions of the universe also seem to be the result of such an observation. However, the seers were right in their outlook in finding out the motion of the celestial phenomena.

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Biblical View

I.3.1

Twofold division of the Universe

The biblical concept of the universe is well founded in the first chapter of the Book of Genesis in the Old Testament. It explains that the universe is comprised of two distinct parts such as earth and heaven. They both denote the complete and organized universe. Earth and heaven, therefore, represent the boundaries of the biblical universe. The two great luminescent bodies such as sun and moon and the stars lie in between the earth and the heaven.

I.3.2

Three storey structure

Dr. Bultmann views the biblical universe as a 'three storey structure', with the earth in the centre, the heaven above and the underworld beneath. Heaven is the abode of God and of celestial beings- the angels. The underworld is hell, the place of torment.

According to this view, the biblical universe is 'geo-centric' in nature.

1. Christian Theology and Natural Science : p.24

I.3.3

Motion of celestial bodies

The Holy Bible has predicted that the heavenly bodies are in motion. They rotate by the power of god.¹

I.3.4

Finite Universe

The biblical universe looks 'finite ' having one sun, one moon and stars therein. It is in conformity with the vedic universe but inconsistent with the modern scientific view.

1. Christian Theology and Natural Science : p.30-31

Quranic View

I.4.1

Twofold division of the Universe

According to the Quran, earth and heaven are the basic units of the universe. The earth is like a bed and the heaven like a canopy in the universe. Every created thing lies in between them :

"To Him belongs the keys of the heavens and the earth" (1)

"Allah has spread out the earth like a bed for you and has made the heaven like a canopy " (2)

"We have made the heaven a guarded and protecting roof" (3)

I.4.2

Planetary System

There is a mention of seven heavens in the Quran :

"He arranged seven heavens in two periods " (4)

These are located above the spheres of earth, water, air and fire. These are :

Moon , Mercury , Venus , Sun , Mars ,
Jupiter and Saturn

Except moon and sun, the other five are referred to as planets of our solar system in the Milky Way.

1.	Quran	: 39.64	
2.	ibid	: 2.23	
3.	ibid	: 21.33	
4.	ibid	: 41.13	:for further details :
	ibid	: 78.16 , 71.16 , 67.2	

The seven heavens lie in order of one above the other . In order of distance from the earth , the position of heavens in the universe is as under :-

Earth : Moon--Mercury--Venus--Sun--
Mars--Jupiter--Saturn (1)

I.4.3

Motion of celestial bodies

The celestial bodies (heavens) and the earth are in constant motion. The Quran says :

"The sun and the moon each gliding freely in its orbits" (2)

"Earth revolves round its axis " (3)

"The sun is moving towards and appointed goal " (4)

"All (heavens) glide along in an orbit " (5)

I.4.4

Finite Universe

Like the Vedas/ Upanishads and the Holy Bible, the Holy Quran does not give the true picture of the universe. Its universe also consists of one sun, one moon, five planets and stars lying in between the earth and the heaven. The universe of the Holy Quran is, therefore, 'finite'.

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|----|--------------------------------|-----------|
| 1. | Studies in Islamic Mysticism : | p.122-123 |
| 2. | The Quran | : 21.34 |
| 3. | ibid | : 27.89 |
| 4. | ibid | : 36.39 |
| 5. | ibid | : 36.41 |

Nanak Bani View

The way in which Guru Nanak has presented the concept of the universe in his bani is a typical one. On examination of facts in his bani, it seems that he is speaking of the universe which is 'finite' as well as 'infinite' in nature.

I.5.1

Finite Universe

Guru Nanak has divided the universe into twofold and threefold. In twofold division, he has compared the universe with two mill-stones (earth and heaven). The sky is like a canopy over the earth :

" Creating the two mill-stones of the earth and the sky, He has separated them. Without the Guru there is pitch dark ." (1)

" Separating the sky and the earth, He has spread the canopy of the firmament ." (2)

Guru Nanak has used the word 'tribhavun' a number of times in his bani which denotes the universe having three realms of sky, earth and under-world :

" God created the whole world with ease. In the three worlds is the one luminous Lord." (3)

Twofold and threefold division of the universe suggest that it is 'finite'.

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| 1. | G.G.S. | : | p. 580 |
| 2. | ibid | : | p.1276 |
| 3. | ibid | : | p. 930 :For further details: |
| | ibid | : | p. 930, 943, 1021 ,412, 474 |

I.5.2

Infinite Universe

Following verses of Nanak Bani present the universe as 'infinite ' having in it countless micro-cosms , earths , skies , under-worlds , continents , solar systems etc.

" There are more worlds beyond this earth more and more ." (1)

" Innumerable are thy names and innumerable thine abodes, O Lord Innumerable are thine realms inaccessible and inscrutable." (2)

" The limit of His created creation is not discerned. The bound of His this and yonder end is not known.

If there be any account of His, then alone man can write that the Lord's account finishes not and while describing the account man himself finishes.

There are nether worlds below nether worlds and lacs of skies over skies." (3)

" Numberless are the Indras , the moons , the suns , numberless universes and numberless countries." (4)

" In that realm, there are continents, worlds, solar systems. If some one tries to describe them, then know that there is no limit or bound of them.

There are universes over universes and creations over creations there. " (5)

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| 1. | G.G.S. | : | p. | 3 |
| 2. | ibid | : | p. | 4 |
| 3. | ibid | : | p. | 5 |
| 4. | ibid | : | p. | 7 |
| 5. | ibid | : | p. | 8 |

" Millions are the countries, earths
and spheres. Millions are the suns,
moons and stars. " (1)

" Millions are the skies and the
universes." (2)

According to Guru Nanak , the expanse of
the universe is so vast that it is beyond mind's
conception. Many a persons tried to find out the
limits of the universe but failed in their endea-
vour:

" Many bewail for knowing the bounds
of the universe but its limits are
not found and beyond mind's concep-
tion. The more we describe , the
more obscure it becomes . " (3)

Guru Nanak further says that even the
Brahman, granter of boons could not find the extent
of the universe :

" Brahman the granter of boons with
his progeny went to the lotus tube
to ascertain the worlds extent.
Proceeding further he could not
find the limit thereof. " (4)

Guru Nanak is also of the view that a
person having the wealth of divine knowledge; who
is Guruward; who always abides in the true name of
God and is awakened to higher consciousness attains

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| 1. | G.G.S. | : | p. | 276 |
| 2. | ibid | : | p. | 276 |
| 3. | ibid | : | p. | 5 |
| 4. | ibid | : | p. | 350 |

the knowledge of the islands, the spheres and the under-worlds :

" By reflecting on the name of God, the knowledge of all the spheres of the universe is acquired. " (1)

" By obtaining the wealth of divine knowledge, the insight into the three worlds is acquired. " (2)

" By means of the Guru it comes to possess the knowledge of the three worlds. " (3)

It may be pointed out that even such an exalted one does not know the limits of the universe.

Guru Nanak was such a blessed soul but he himself showed his helplessness to describe the expanse of the universe. He says :

" Countless are the continents and the underworlds, I can reckon them not." (4)

Guru Nanak seems to have once for all settled the issue that never never a man can find the limit of the universe :

" As a fish living in the river can never know its limits , similarly the earthly man can never, find the limits of the universe. " (5)

Guru Nanak has said that it is only the Creator, the Absolute Lord who knows the secret and expanse of his creation :

" O Nanak, call Him Great. He Himself knows His Oneself. " (6)

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|----|--------|---|----|------|
| 1. | G.G.S. | : | p. | 3 |
| 2. | ibid | : | p. | 60 |
| 3. | ibid | : | p. | 415 |
| 4. | ibid | : | p. | 1283 |
| 5. | ibid | : | p. | 25 |
| 6. | ibid | : | p. | 5 |

I.5.3

Conclusion

No doubt, the above facts of Nanak Bani give us the impression that the universe (macrocosm) is 'finite' as well as 'infinite'. It would mean that Nanak Bani contains contradictory statements in it. But this is not true. The fault lies with our limited knowledge due to which we are unable to understand the true nature of Nanak Bani. In fact, Nanak Bani is of the sole view that the universe (macrocosm) is 'infinite' and no body knows how vast is its expanse. The universe (microcosm) in which we live is one of the countless universes (microcosms) in the macrocosm. It would mean that every microcosm is 'finite' in size in an infinite macrocosm. In order to make this point clearer, we may take an example of a house in a city having a very large number of houses. We will find that every house in the city is built-up on a finite space of finite size. Similar is the position of our universe (microcosm) in which we live. Thus the verses of Nanak Bani which suggests that the universe is of finite size relate to our own universe and not to the macrocosm which is infinite.

Description of the local Universe

I.5.4

Guru Nanak has depicted our home universe (Milky Way) in a splendored way. According to him,

the earth and sky are like two mill-stones. The sky is like a canopy. Sun and moon are like two lamps and stars in the sky look like studded pearls :

" In the sky's salver, the sun and the moon are the lamps and stars with their orbs are the studded pearls. " (1)

Guru Nanak further says that there are nine divisions of the earth, seven islands, fourteen regions of the universe (probably it refers to seven upper and seven under-worlds), the three worlds (earth, sky and underworld) and the four ages. They all abide in the mansions of the Lord:

" The sun and the moon are two lamps which light the fourteen worlds or bazars. " (2)

" Though He be known in the nine continents and all were to (follow in his train) or (walk with him)." (3)

" He remains absorbed in the love of the Lord, who is pervading the fourteen worlds, nether land, continents and the solar systems. " (4)

" Establishing the nine regions, seven continents, fourteen worlds, three worlds, four ages and the four sources of creation, the Lord has seated them all in His Mansions. " (5)

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|----|--------|---|----|------|
| 1. | G.G.S. | : | p. | 663 |
| 2. | ibid | : | p. | 789 |
| 3. | ibid | : | p. | 2 |
| 4. | ibid | : | p. | 840 |
| 5. | ibid | : | p. | 1190 |

No doubt, this description of the local universe is not well within the framework of astronomical principles, particularly so far as position of earth is concerned but it has very well brought forward geographical /physical values of the local universe such as division of earth into nine parts, location of seven islands, division of atmospheric as well as underworld into parts (layers) etc. Guru Nanak was inhabitant of this universe and his divine message was for his co-inhabitants, learned as well as illiterates. In order to localise his divine message and with a view to keep smooth rapport with the masses, he depicted the local universe in the manner as he observed while preaching his gospel here on the earth .

I.5.5

Position of Earth

As the sky is a place for heavenly bodies, Guru Nanak says that the earth is a home for Lord's meditation. For him earth is 'the mother '. Guru Angad Dev considers the earth as 'great mother '. It is the abode of creatures of various types, colours and names. It is like ' karam-kashetra ' for its

inhabitants . Nanak Bani says :

" God created nights, seasons, lunar days, weekdays, wind, water, fire, nether lands. In the midst of these, He established the earth as a home for the Lord's meditation. Therein He placed beings of various types and colours. " (1)

" Air is Guru, water the father, earth 'the great mother' ." (2)

" Creating the earth, God has made it the place to practise faith ." (3)

No doubt, the earth is a very small planet but according to above facts , it has a proud place in our universe .

I.5.6

Motion of celestial bodies

Nanak Bani is also of the view that the celestial bodies are ever in motion as :

" Were I to arrest both the moon and the sun, in their courses, and were my seat to become stable . " (4)

They are under the strict control of the Absolute Lord and perform their allotted functions under His Will constantly :

" In Lord's fear wind and breeze ever blow;
In lords fear flow lacs of rivers;
In Lord's fear, fire performs the forced labour;
In Lord's fear the earth is trampled under burden ;
In Lord's fear is the sun and in Lord's fear the months; They travel myriads of miles without an end. " (5)

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|----|--------|---|----|------|
| 1. | G.G.S. | : | p. | 7 |
| 2. | ibid | : | p. | 8 |
| 3. | ibid | : | p. | 1033 |
| 4. | ibid | : | p. | 180 |
| 5. | ibid | : | p. | 464 |

I. 6

Scientific and Metaphysical View :
A synthesis.

The concept of the universe of the Vedas/ Upanishads, the Holy Bible and the Holy Quran is almost the same and it relates to the microcosm (our home universe-- the Milky Way) and not to the macrocosm. Even the composition of the microcosm presented in them is inconsistent with the scientific view about the Milky Way. It seems that the concept of the universe of these scriptures is based on casual observation of the universe by their authors. Ordinarily , when a person sees the universe around him, it looks the same to him as is described in these scriptures. It may be pertinent here to add that the Vedas/ Upanishads, the Holy Bible and the Holy Quran are neither treatises on cosmology nor primers on astronomy but these are religious scriptures. This is the reason the authors of these scriptures depicted the universe in such a way. However, the universe of the scriptures is fully adaptable for conveying their religious message to the masses. The concept of the local universe of Nanak Bani generally conforms with the concept of the universe of these scriptures. However, these scriptures have no comparison at all with Nanak Bani so far as the concept of 'macrocosm ' is concerned.

Agreeing with Guru Nanak , the scientists at last have come to the conclusion that the vast universe having millions of galaxies, solar-systems, suns, stars etc. is beyond one's mind's conception as well as observable range and the human mind will never be able to find out the extent of the cosmos.

Guru Nanak has come to the conclusion that the universe is ' infinite ' ;whereas scientists have still to decide whether the universe is 'finite ' or 'infinite ' .

Thus in the midst of Vedic/ Upanishdic seers, saints of the Holy Bible, Prophet of the Holy Quran, philosophers and scientists of all ages, Guru Nanak is the only one whose theory of the universe is more meaningful and believable. He did not acquire this knowledge by experimenting in a scientific observatory. Actually he imbued himself with the true word of the Lord and meditating upon it, he crossed over to the super-consciousness state where with the grace of the Al'mighty he was able to see the cosmos in its real perspective . He was thrilled to see the wonderful world wherein he observed countless earths, suns, moons, stars, spheres, solar systems etc. Like a 'superb scientist ' , Guru Nanak uncovered the scientific truths through his intuitive knowledge.

CHAPTER II

ORIGIN AND EVOLUTION
OF THE UNIVERSE

PART AScientific ViewRelativistic Theories

- 2.1.1 Early state of the Universe
- 2.1.2 Origin and Evolution of the Universe
- 2.1.3 Chronological order of origin of the Universe
- 2.1.4 Steady State Theory
- 2.1.5 Difference between Relativistic and Steady State Theories
- 2.1.6 Conclusion

Origin of the Solar System

- 2.1.7 Description of the Solar System
- 2.1.8 The Nebular Hypothesis of Laplace
- 2.1.9 Hypothesis of tidal disruption
- 2.1.10 The dust- cloud hypothesis
- 2.1.11 Theory of passing star
- 2.1.12 Theory of Binary star
- 2.1.13 Theory of broken gaseous nebula
- 2.1.14 Conclusion
- 2.1.15 Age of planets
- 2.1.16 The creation of matter
- 2.1.17 Age of the Universe

PART BMetaphysical ViewVedic/ Upanishdic View

- 2.2.1 Pre-creation state of the Universe
- Origin of the Universe
- 2.2.2 The Creator
- 2.2.3 Vedic doctrine of Monotheism
- 2.2.4 Upanishdic doctrine of emanation of the Universe
- 2.2.5 Upanishdic doctrine of creation of the Universe
- 2.2.6 Desire as the primal seed
- 2.2.7 The creation of matter
- Mode of creation
- 2.2.8 The Knower
- 2.2.9 Creation through Maya (Power)
- 2.2.10 Creation through word
- 2.2.11 Creation through penance
- 2.2.12 Creation through semen
- 2.2.13 Creation through golden-egg
- 2.2.14 Creation through sacrificial Purusha
- 2.2.15 Origin of the celestial bodies
- 2.2.16 Origin of earth and heaven
- 2.2.17 Conclusion
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- 2.2.19 Age of the Universe

Biblical View

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- Origin of the Universe
- 2.3.2 The Creator
- 2.3.3 The creation of matter
- 2.3.4 Stages of creation
- 2.3.5 First day's creation
- 2.3.6 Second day's creation
- 2.3.7 Third day's creation
- 2.3.8 Fourth day's creation
- 2.3.9 Fifth day's creation
- 2.3.10 Sixth day's creation
- 2.3.11 Mode of creation
- 2.3.12 Concept of the expanding universe
- 2.3.13 Age of the Universe

Quranic View

- 2.4.1 Pre-creation state of the Universe
- Origin of the Universe
- 2.4.2 The Creator
- 2.4.3 The creation of matter
- 2.4.4 Stages of creation of the Universe
- 2.4.5 Mode of creation
- 2.4.6 Concept of the expanding universe
- 2.4.7 Age of the Universe

Nanak Bani View

- 2.5.1 Pre-creation state of the Universe
- Origin of the Universe
- 2.5.2 The Creator
- 2.5.3 Absolute Lord as eternal
- 2.5.4 Absolute Lord as self-existent
- 2.5.5 Absolute Lord creates at His own will
- 2.5.6 The creation of matter
- Mode of Creation
- 2.5.7 The Knower
- 2.5.8 Creation through myriad ways
- 2.5.9 Creation through order
- 2.5.10 Creation through word
- 2.5.11 Concept of the expanding universe
- 2.5.12 Age of the Universe
- 2.6 Scientific and metaphysical view:
A synthesis.

PART AScientific View

There are several scientific theories which describe the initial state, origin and evolution of the universe. Two of these theories have drawn greater attention of the present day scholars. These theories are :-

- i) Relativistic theories and
- ii) Steady-State theory

The concept of the universe based on these theories is discussed below :

Relativistic Theories

2.1.1

Early state of the Universe

The basis of this class of theories is the General Theory of Relativity proposed by Albert Einstein in 1917. This is the best theory of gravitation in the field of cosmology. This theory shows that the physical universe which we observe to-day, at a certain initial instant was compressed into an infinitely small volume of space and that at a particular instant, the entire universe suddenly took on a finite size. The galaxies which are rushing apart at present were closer together at the initial instant. In fact, galaxies, the stars, the atoms or atom-nuclea had no separate existence. All the matter of the universe was concentrated into a 'gigantic nucleus'

 1. Cosmic Evolution : p.243

or ' primeval atom ' of hyperdense material.¹ The matter was subjective to enormous temperatures and pressures . Such an agglomeration of elementary atomic particles could only be extremely unstable. The scholars call this phase of the universe as 'the pre-stellar phase '² or ' the early universe'.

Such pre-stellar phase of the universe was first postulated by Abbe G.Lemaitre as early as in 1932 whose hypothesis of the 'primeval atom ' constituted the most far reaching 'cosmogonic theory ' and the most comprehensive cosmology.³

2.1.2

Origin and Evolution of the Universe.

The origin of the universe is completely mysterious . It originated from the 'primeval atom'.⁴ The primeval atom was like a fire ball. Actually the cosmic fire ball was the whole universe. Measured by astronomical concepts the 'bomb of explosion ' must have been a cloud of about the size of our solar system.⁵

According to scientists between five to twenty thousand million Years ago, the primeval atom exploded instantaneously with prodigious violence

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|----|-------------------------------------|-------------|
| 1. | Discovery of the Universe | : p.229 |
| 2. | ibid | : p.227 |
| 3. | ibid | : p.228 |
| 4. | The Human Mystery | : p. 31 |
| 5. | A synthesis of Evolutionary Theory. | : p.168-169 |

and the early universe started expanding rapidly.¹
 After the first explosion, the universe was filled
 with spiral nebulae different from one another in
 size and shape and having a somewhat irregular distri-
 bution in space.²

According to A.G.Lemaitre owing to great
 density of matter, the force of gravitation was
 strong and after three or four thousand years of
 the initial explosion, the expansion of the universe
 was slowed down by the force of gravitation but not
 entirely to a stand still. During this slowing down
 phase of the universe, the galaxies, stars, sun and
 planets were formed from an immense aggregation of
 gas and dust. As the expanding motion continued and
 the mean density of matter steadily decreased, cosmic
 repulsion finally pre-dominated over the universal
 attraction and the world entered into its present
 phase of expansion.³ The beginning of the universe
 is, therefore, inherent in the relativistic theories.
 Supporters of this theory are of the view that the
 universe is still expanding uniformly and isotoro-
 pically that is, the same in all directions.⁴ George
 Gamow gave this the name 'big-bang theory' of the
 origin of the universe.

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|----|---------------------------|---|-----------------|
| 1. | Discovery of the Universe | : | p. 229 |
| 2. | Cosmological Theory | : | p. v (pre-face) |
| 3. | op. cit. 1 | : | p. 230 |
| 4. | The First Three Minutes | : | p. 43 |

2.1.3

Chronological order of origin
of the Universe.

From the above analysis, it appears that the 'gravitational instability' is the main cause of the structure of the universe. On the basis of this hypothesis of origin of the universe, we can draw up the chronological order of ^{its} origin in the following order :-

Chaos	(pre-stellar phase of the universe)
⋮	
Nebulae	(explosive phase of the universe)
⋮	
Universe	(slowing down phase of the expanding universe)

In fact, the cosmogonic hypothesis of 'primeval atom' postulated by the scholars of the relativistic theories in the real sense of the word does not represent the 'primeval seed' from which the primeval atom of the universe originated but it merely specifies the chaotic state of the universe which existed a few thousand million years ago from which present day universe evolved in due course of time.

2.1.4

Steady - State Theory

In complete contrast to the relativistic theories stands the Steady-State Theory put forward in 1948 by T.Gold, H.Bondi and F.Hoyles. According to this theory, 'the universe is uniform in space , unchanging in time when viewed on a sufficiently large scale but it is not unchanging in detail. The universe is much the same at all times and that it never had a beginning '.¹

The most striking feature of this theory is the process of continual creation. Each individual galaxy ages owing to depletion of its material resources. However, aging of the individual members does not imply that the universe as a whole is aging. Individual galaxies age and move apart from each other owing to expansion. In the increasing spaces between them , new created matter 'out of nothing ' condenses to form new galaxies, so that the average distance remains the same. Condensation is the process of birth of a galaxy, expansion of regions hard to see is the process of deaths and growing up comes in between . Although each galaxy ages in this manner, a birds-eye view of the system will always reveal the same picture just as in the case of our population.²

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1. The Universe at Large : p. 41
 2. ibid : p. 43

2.1.5

Differences between Relativistic and
Steady- State Theories.

i) According to evolutionary theories, all the galaxies were formed more or less at the same time and that no new galaxies are forming now.

The Steady- State Theory supposes that new galaxies are being born all the time as the old galaxies get farther and farther away from each other, the new ones form in the spaces between them.

ii) The evolutionary theories declare that the universe had a beginning and it was compressed into a primeval atom at an initial instant.

According to Steady -State Theory, the universe was the same all the times and it had never been a beginning.

Conclusion

2.1.6

No doubt , the Relativistic and Steady - State Theories are the popular theories but none of them has been regarded as the final and authentic theory by the scientists. The problem about the origin of the universe still remains unresolved in so far as the scientific research is concerned. Many scientists have criticised these theories on one ground or the other. Arthur Eddington said, " the theory of the expanding universe is in some respects

so preposterous that we naturally hesitate to commit ourselves to it. It contains elements apparently so incredible that I feel almost an indignation that any one should believe it except myself.¹ It is the impression of most of the scientists that we do not actually observe galaxies rushing away from us.² Some scientists are of the view that the hypothesis of expanding universe is rather chilling. The new hypothesis based on Steady-State Theory of the English cosmogonogists quiets our fears somewhat. We can relax until the next hypothesis about this uneasy universe rises on the horizon of science.³

Nevertheless all these cosmogonic theories are likely to be made obsolete by the startling new discoveries and unexpected methods of exploration of the universe.

Origin of the Solar System

2.1.7

Description of the Solar System

The solar system the only which we know is our own controlled by the sun. The sun has a family of nine members called planets which

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| 1. | Design of the Universe | : p. 171 |
| 2. | The First Three Minutes | : p. 29 |
| 3. | op. cit. 1 | : p. 173 |

revolve around it. They are :

Mercury , Venus , Earth , Mars,
Jupiter , Saturn , Uranus , Naptune
and Pluto

The word 'planet' originates from the Greek word 'planetes' which means wanderer since their positions relative to the fixed stars constantly changing.¹

Numerous theories have been put forward by the scientists, mathematicians, philosophers etc. on scientific lines from time to time about the origin of the planets. Some of them are discussed below :-

2.1.8

The Nebular Hypothesis of Laplace

The first theory of the origin of planets was proposed by the German philosopher Immanuel Kant and elaborated by the French Mathematician and astronomer Pierre Simon Marquis de Laplace. Laplace's 'nebular hypothesis' about the origin of the solar system was first published in 1796. It is also called the 'Kant-Laplace nebular hypothesis'. According to this hypothesis, the solar system arose from the condensation of a primordial nebula, a cloud of gas and dust. In their view, the sun and the planets were formed roughly at the same time from the identical nebula. Contracting under the influence of

1. Cosmic Evolution ; p.89

gravitational forces , the cloud began to rotate more and more rapidly owing to the conservation of angular momentum. As a result of the large centrifugal forces generated by this rapid rotation, matter was thrown out from the periphery of the contracting nebula forming an equatorial belt of gas and dust. As the contraction continued , the nebula shed successive rings of matter. The rings were thought to have condensed, at a later time to form the planets.¹

George Louis Leclerc Comte de Buffon in 1750 expressed the view that the planets were, forcibly torn from the sun by some sort of cosmic accident.²

2.1.9

Hypothesis of tidal disruption

T. C. Chamberlin, Geologist and F.A.Moulton astronomer at the beginning of the present century assumed that the sun travelled along until it almost collided with another star. Then as the two stars passed within a few million miles of one another each was partly torn asunder by tidal forces generated by their mutual attraction. As the passing star receded rapidly into space with its retinue of fragments, the

1. Intelligent Life in the Universe: p. 162
 2. The Story of the Earth : p. 3-4



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pieces torn from the sun fell back into elliptical orbits about it and out of these fragments, born of a stellar catastrophe, the solar system evolved.¹

2.1.10

The dust - cloud hypothesis

In 1944 C.F.Von Weizsacker developed a new theory based on the premise that our solar system evolved from a dust cloud. According to him the sun was formally surrounded by a disc shaped nebula agigated by turbulent vortices. Accretion took place in the zones between larger eddies and gradually the planets were built up.²

2.1.11

Theory of passing star

Sir James Jeans (1876-1946) believed that the original material from which the planets were formed was ejected by the sun after the sun had already reached its present form. The ejection was caused by the near collision of a passing star. The gravitational tidal forces of the interloper star drew out a filament of material from the surface layers of the sun. The filament remained within the gravitational influence of the sun as the interloper passed. After a period of time, the ejected material condensed and became the planets.³

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| 1. | The Earth | : p. 117-118 |
| 2. | ibid | : p. 121 |
| 3. | Intelligent Life in the Universe | : p. 165 |

2.1.12

Theory of Binary star

Lyttleton and Hoyle were of the view that the sun used to be a binary star and that the companion underwent a supernova explosion, the recoil led to the final parting of the two bodies and the last stages of the out burst ejected material which was retained by the sun and led to the formation of planets.¹

2.1.13

Theory of broken gaseous nebula

In 1951 G.P. Kuiper assumed that our solar system originated from a broken gaseous nebula into several large, rotating gaseous masses, one for each of the planets.²

2.1.14

Conclusion

Besides the above mentioned theories, there are so many other theories put forward by astronomers, physicists, geologists etc. on the subject but none has been considered complete or final. They have been discarded one after the other by the scientists on different grounds. The problem formulating a satisfactory theory of the origin of the solar system cannot be regarded as

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| 1. | The Story of the Earth | : p. 13 |
| 2. | The Earth | : p. 122 |

yet solved. But on the basis of various theories , it can safely be said that the planets were formed from some sufficiently dense gas and dust medium which originally surrounded the sun.

2.1.15

Age of planets

Our galaxy is about ten to fifteen thousand million years old. The age of the planets is reckoned somewhere in the region of 4.7 million years by the scientists.¹

2.1.16

The creation of matter

All objects (inanimate and animate) in the universe are composed of matter. Every substance of matter consists of molecules. The molecules are the hard discrete particles of a substance. The smaller units into which a molecule is broken are called atoms. For example, each molecule of water consists of two atoms of hydrogen (H) and one atom of oxygen (O) ; this is expressed in its chemical formula H_2O . All the innumerable substances which occur on earth can be analysed into their constituent atoms. To-day we know that all the matter consists of more than 102 elements.²

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1. Cosmic Evolution : p. 89
 2. Modern Physics : p. 4(introduction)

Analysis of all known terrestrial substances shows that common substances are being formed out of the combinations of about 14 different atoms . They are :

Hydrogen(H), Carbon (C), Nitrogen (N),
Oxygen (O), Sodium (Na), Magnesium (Mg),
Aluminium(Al), Silicon(Si), Phosphorus(P),
Sulphur(S), Chlorine (Cl) , Potassium(K),
Calcium (Ca) and Iron (Fe)

The whole earth, with its endless diversity of substances , is found to be a building built of standard bricks. And of these only a few types, about 14 occur at all abundantly in the structure, the others appearing but rarely.¹

The studies of meteorites, terrestrial rocks and oceans, solar winds and rocks brought back from the moon by Apolo Missions reveal that:

" Hydrogen is the most abundant cosmic element followed by helium. In the solar system their relative abundances are :

Hydrogen	: 90 %
Helium	: 8 %
Carbon, Nitrogen and Oxygen.	: 1.8 %
All other elements put together.	: 0.2 %

The 'big-bang ' and the 'Steady- State' theories are generally considered as the two main sources which describe the initial as well as creation state of matter of the universe respectively.

1. The Universe Around Us : p. 101-102
2. Modern Physics : p. 268

According to the 'big-bang theory ', all the mass of the universe was initially confined to a small and extremely dense sphere in the shape of a fire-ball. The fire-ball having all the matter of the universe cannot have existed for ever as science does not believe in the eternity of things. The matter, therefore, must have originated at a particular instant in the past. Travelling as far back in time as we can from the state of fire-ball, brings us not to the creation of matter but to its edge.

The 'Steady - State theory ' states that the matter is being continuously created to fill the emptiness caused by the recession of galaxies due to expansion of the universe. This theory, therefore, suggests that the matter of the universe is created 'out of nothing'. It is an established fact of the scientific research that 'something cannot be created out of nothing'. Therefore, this theory also does not solve the problem of creation of matter.

In view of the above facts, it may be concluded that the solution of the problem 'as to how the matter originated in the universe ' is beyond the reach of science.

2.1.17

Age of the Universe

As has been stated earlier, the supporters of Steady - State theory do not envisage beginning of the universe. It is the protagonists of the theory of expanding universe who are of the view that the universe originated at a particular instant in the past. They have not arrived at a definite conclusion so far rather they have put forward conflicting views in this regard. Some scientists are of the view that the age of the universe must be less than 20, 000 million years.¹ Others say expansion of the universe must have begun between 10,000 and 20,000 million years ago.² It has also been stated that the age of the universe is 8.8 to 19.4 billion years.³ Others say that the big-bang occurred about 19 billion years ago according to the present estimates. By continuous slowing of the expansion rate by gravitational pull, this figure has to be reduced to 10 to 12 billion years.⁴ From Einstein's General Theory of Relativity and assuming with Wheeler an actual time of 10 billion years from the big-bang and the present recessional

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| 1. | The First Three Minutes | : p. 26 |
| 2. | ibid | : p. 43 |
| 3. | Cosmic Evolution | : p.221 |
| 4. | The Human Mistry | : p. 13 |

speed giving 20 billion years, it can be concluded that the total life time of the universe will be 59 billion years of which 10 billion years have already passed.¹

From the above facts, it can very well be concluded that there is no general agreement among the scientists on the issue of age of the universe.

1. The Human Mystery : p. 31

PART BMetaphysical ViewVedic / Upanishdic View

2.2.1

Pre- creation state of the Universe

The following vedic / upanishdic hymns clearly describe the pre-creation state of the universe :

" Then was neither non-existent nor existent. There was no realm of air, no sky beyond it. What covered in and where ? and what gave shelter ? Was water there , unfathomed depth of water ?

Death was not then , nor was there aught immortal, no sign was there, the days and nights divider.

That One thing, breathless, breathed by its own nature, apart from it was nothing whatsoever.

Darkness was there, at first concealed in darkness this All was indiscriminated chaos.

All that existed then was void and formless. " (1)

" In the beginning the world was Soul alone in the form of a Purusha. " (2)

" The Self verily was (all) this One only in the beginning. " (3)

" There was nothing whatsoever here in the beginning. By death (darkness) indeed was this covered or by hunger, for hunger is death. " (4)

" In the beginning this (world) was non-existent. " (5)

From the above hymns, we find that the pre-creation state of the universe was a state of utter

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| 1. | R. V. | X. 129. 1-3 |
| 2. | B. U. | 5.1 |
| 3. | A. U. | 1.1 |
| 4. | B. U. | 1.2.1 |
| 5. | C. U. | III.19.1 |

darkness and indiscriminate chaos. There was nothing whatsoever in existence i. e. no realm of air, no sky, no water, death, life, sun, days, nights etc. In such a void and formless state, only the Absolute Lord abided. He has been called by the names of Purusha, Self, Being, Non-Being, Atman etc.

It may be stated here that the 'indiscriminated chaos' has been identified with the 'undistinguishable water' by most of the vedic scholars¹. We find that the sage of Rig Veda hymn X.129 in the first stanza of this hymn was very much in doubt whether there existed water in the pre-creation state of the universe? But he seems to have dispelled his doubt in the next stanza when he says that 'besides the Absolute Lord, there was nothing in existence whatsoever then', which includes water also. Thus to identify the 'indiscriminated chaos' with the 'undistinguishable waters' is against the spirit of the hymn.

2.2.2

Origin of the Universe
The Creator

According to the vedic / upanishdic thought, the universe is not eternal but had a beginning. It is also not self-existent. It was created by the Absolute Lord.

1. The Teachings of the Vedas : p.117-118

2.2.3

Vedic doctrine of Monotheism

From the study of vedic hymns, we find that various acts of creation of the universe have been assigned to various gods such as Maruts, Indra, Agni, Visvadevas, Visvakarma, Varuna etc.:

- " The Maruts have made heaven and earth, increase and grow in sacrifices they delight, the strong and wild. " (1)
- " He (Indra) who fixed fast and firm the earth that staggered and set at rest the agitated mountains. " (2)
- " He (Agni) who made all that lives, who passes all in might, who orders service to the gods. " (3)
- " Tvastar the God, the omniform creator, begets and feeds mentioned in various manner. His verily, are all these living creatures. Great is the God's Supreme and sole dominion. " (4)
- " Who (Varuna) measured out the ancient seat, who pillard both the worlds apart as the unborn supported heaven. " (5)
- " Visvadevas thy with their might have stayed heaven and earth and prithvi, the Lord of Light, the firmament, the lustrous spheres. " (6)
- " Visvakarma seeing all, producing the earth, with mighty power disclosed the heavens. " (7)

1.	R.V.	: 1. 85. 1
2.	R.V.	: 2. 12. 2
3.	R.V.	: 3. 16. 4
4.	R.V.	: 3. 55.19
5.	R.V.	: 8. 41.10
6.	R.V.	:10. 65. 4
7.	R.V.	:10. 81. 2

The above vedic hymns show that the vedic religion is polytheist. Each god seems to be supreme in his own place. But this is not true. The evidence contained in the vedic hymns itself advocates the doctrine of 'monotheism'. There is one and only one intelligent being as author of the universe though He is represented under various names. Views of some of the vedic scholars in this respect are given below:

Aurbindo Ghosh is of the view that vedas advocate 'monotheism'.¹

H.H.Wilson states that there can be no doubt that the fundamental doctrine of the vedas is 'monotheism'.²

M.Adolphe Pictel is of the view that the religion of the undivided Aryans is 'monotheism'³ more or less vaguely defined.

Vedic hymns expressing the vedic concept as 'monotheism' are given below :-

" Aditi is the heaven, Aditi is mid-air, Aditi is the mother and the sire and son, Aditi is all Gods, Aditi five-classed men, Aditi all that hath been born and shall be born. " 4

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| 1. | The Teachings of the Vedas : | p. 107 |
| 2. | ibid : | p. 107 |
| 3. | ibid : | p. 107 |
| 4. | R. V. I.89.10 | |

" They call Him Indra, Mitra, Varuna, Agni and He is heavenly nobly-winged Garutman. To what is One, sages give many a title: they call it Agni, Yama, Matarisvan. " 1

From the above evidence of vedic hymns, there remains no doubt about the fundamental doctrine of 'monotheism' in the vedas. Thus there is only one Supreme Being, who Himself is the creator of the Universe.

2.2.4

Upanishdic doctrine of emanation of the universe.

On examination of upanishdic hymns, one group of scholars is of the view that the Absolute Lord did not create the universe but He has transformed Himself into it. S.Radhakrishnan states that no doubt, the upanishads refer to the early vedic cosmological speculations (which includes the creation of the universe by the Absolute Lord) but these are not the real interest of the upanishads.² The scholars of this group base their concept on the following phrases appearing in the hymns of the upanishads :

" that from which the things are born "
 " May I be many, May I grow forth "
 " From Brahma things arose "
 " the universe proceeds from God "
 " (things)issue forth from the imperishable "

1. R.V. I. 164. 46 :For further details :
 R.V. 1.164.6, 2.1.2, 2.1.3, 2.1.4, 2.1.5, 2.1.6,
 2.1.11, 3.54.8, 6.45.16, 10.114.5, 10.129.3
2. Principal Upanishads : p. 82

The scholars are of the view that the words 'arose', 'born', 'proceed', 'emerge', 'issue forth' etc. suggest emanation and not creation.¹ A few relevant hymns from the upanishads are given below :-

" The world comes from or born from Brahman and return to Brahman, whatever exists owes its existence to Brahman." (2)

" Being thought, May I be many, May I grow forth. It sent forth fire..." (3)

" From this Self verily ether arose, from ether air..." (4)

" The universe proceeds from God. " (5)

" As a spider sends forth and draws in (its thread), as herbs grow on the earth, as the hair (grows) on the head and body of a living person, so from the imperishable arises here the universe. " (6)

" As from a blazing fire, sparks of like form issue forth by the thousands ,even so, O beloved many kinds of beings issue forth from the immutable and they return thither to. " (7)

On the basis of such like hymns, the scholars have come to the conclusion that the Absolute Lord did not create the universe but became it. It is the self-projection of the Supreme Lord.⁸ The universe is the manifested state of Brahma or Brahma manifests itself.⁹

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1. Principal Upanishads : p. 542(n)
 2. T.U. III & B.U.III.8
 3. C.U. VI.2.3
 4. T.U. 2.1.1
 5. Svet.U. 1.4
 6. Mundaka U. 1.1.7
 7. ibid II.1.1
 8. Op. cit 1 : p.82
 9. ibid : p.90

2.2.5

Upanishdic doctrine of creation of the Universe.

On the other hand, Samkara , Ramanuj, the learned interpreters of upnishads and other scholars believe that the universe is the handiwork of the Supreme Lord :

" He willed, He thought and He created. Tapas is the creative power..Samkara."(1)

" Brahma is considered as the creator...Ramanuj ." (2)

" The whole world proceeds from the imperishable Brahma. The actual creator is Isvara, the personal God who is acting through His power of maya. " (3)

Isvara and Sakti are regarded as the parents of the universe :

" O father-mother, this world of ours was created by the compassion of your joint protectorship to the end that by your mutual help, your joint design may fulfil itself. " (4)

" I think of the mother of all the worlds, who creates the universe of real-unreal nature. " (5)

The Brahm Sutra refers to the creation of the world as an act of lila, play, the joy of the poet eternally young. ⁶

1.	Principal Upnishads :	p. 548
2.	Wisdom of Upnishads:	p. 4
3.	op. cit. 1 :	p. 734
4.	ibid :	p. 734
5.	ibid :	p. 734
6.	ibid :	p. 86

Besides above views of the learned scholars, the following hymns of the upnishads can be quoted as evidence to the effect that the Absolute Lord had Himself created the universe but He did not became it:

" The Self, verily, was all (this) one only in the beginning. Nothing else whatever winked. He thought, 'let me now create the worlds and He created these worlds. " (1)

" the God...having created the Lords, the great-self, exercise his Lordship over-all." (2)

" Who (God) having begun with works associated with the three qualities, distributes all existents. " (3)

" Prajapati (the creator) was desirous of progeny. He performed austerity and thereafter produced matter and life thinking that together they would bring forth creatures. " (4)

" There is the One Lord, besides whom there is no second, who creates all the worlds and rules with His powers." (5)

The upnishads also refer to the origin of all the living things from different sources which suggest creation but not emanation :

" Now of these (living) beings there are only three origins, those born from egg, born from a living being and born from a sprout. " (6)

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| 1. | A. U. 1.1-2 |
| 2. | Svet.U. 5.3 |
| 3. | Svet.U. 6.4 |
| 4. | Prasna U.1.4 |
| 5. | Svet.U.III.2-3 & VI.1.12 |
| 6. | C.U. VI.3.1 |

The internal evidence of the upnishads , therefore, clearly states that the Absolute Lord created the universe by His might and it did not emanate of its own from Him. ^{However,} / in whatever way the upnishdic scholars interpret the hymns, one thing is clear that ' the universe owes its origin to the Absolute Lord.....He is the root cause of the Universe'.

2.2.6

Desire as the primal seed

The universe came into existence only when the Absolute Lord desired to create it :

" Prajapati (the Lord of creation) verily was desirous of offspring. He performed austerity (to create)." (1)

" The Self verily, was all this(world), One only in the beginning. Nothing else whatsoever winked. He thought (desired) let me now create the worlds. " (2)

" Thereafter rose 'desire ' in the beginning. Desire is the primal seed and germ of the spirit. " (3)

The Absolute Lord is behind the desire. It is, therefore, not eternal. It has its origin in the creator, the Absolute Lord. It has no independent

1. Prasna U. 1.4
2. A. U. 11.6
3. R.V. X.129.4

existence of its own. It merely expresses the mental state of the cosmic mind. As and when the Supreme Lord desired to create, He created the universe. It is in this context stated that ' desire is the primal seed and germ of the spirit '. The principle cause of the universe is the Supreme Lord and not the 'desire '.

2.2.7

The creation of matter

It is an established vedic view that except the Absolute Lord nothing existed whatsoever(including matter) prior to the creation of the universe. Therefore, the matter of the universe is not eternal but a created thing.

As to the material from which the Supreme Lord created the universe , a vedic seer poses the question :

" What was the tree, what wood in sooth, produced it, from which they fashioned out the earth and the heaven? " (1)

The answer to this question is given in the Taittiriya Brahman as under :-

" Brahman was the wood and the tree(the material of the world)." (2)

- 1. R.V. 10.31.7 & 10.81.4
 2. Tat.Br. 2,8,9.6

Prasna Upnishad says :

" Prajapati (the Lord of creation) verily, was desirous of offspring. He performed austerity. Having performed austerity, He produced the pair matter and life; thinking that they would produce creatures for him variously. " (1)

From the above hymn, it is inferred that the Supreme Lord before executing the creation work , created the matter of the universe 'out of Himself '.

Some ignorant people say that the universe as well as matter has come 'out of nothing'². This is quite absurd. The Absolute Lord is the source of the world. He is the Lord of creation. He can never be termed as 'nothing ' but He is ever-existent. He is not like a thing to be created by a creator but He is self-existent. Samkara argues that the Supreme Brahman who is conceived as the source of the universe must be regarded as existent. We cannot conceive of the world as produced from nothing. The world effect must have an existent cause.³ Thus the vedic knowledge emphatically declares that 'something cannot be created out of nothing '.

Some vedic scholars say that water was born earlier than other elements, some say it was air and

1. Prasna U. 1.4
2. The Teachings of the Vedas : p.114
3. Principal Upnishads : p.646

others refer to fire . Individually, they were also the cause of origin of other elements. Such ideas of the scholars are based on the following hymns :-

" Fire was the first to evolve from the primal reality and that from fire came water and from the water the earth. " (1)

" From this self, verily, ether arose, from ether air, from air fire, from fire water, from water the earth, from the earth herbs, from herbs food, from food the person. " (2)

" From the subtle elements rose ether, from ether air, from air fire, from the fire the water and from water the earth. " (3)

In fact, it is the Absolute Lord who created the matter (i.e. air, water, fire, earth and ether). The upanishad says :

" From Him (Brahman) are born life, mind, all the sense organs, ether, air, light, water and earth, the supporter of all. " (3A)

" Life-breath(air) springs from the Self.. ether from the Self..heat(fire) from the Self..Water from the Self..Indeed all this world from the Self. " (4)

" As small sparks come forth from the fire, even so from the Self come all worlds (which includes matter). " (5)

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| 1. | C. U. :VI.2.3-4 | |
| 2. | T. U. :II.1.1 | |
| 3. | Subala U. I.1 | : 3A.Mundaka U.II.1.3 |
| 4. | C. U. :VII.26.1 | |
| 5. | B. U. :II.1.20 | |

" In whom (Purusha) the parts (16 parts which includes air, fire, water, ether & earth) are well established as spokes in the centre of the wheel. " (1)

" He created life, faith, ether, air, light, water, earth, sense organ, mind, food, vital vigour, austerity, hymns, works, worlds and name(these are considered as the 16 parts of the cosmic Purusha)." (2)

From the above hymns we find that all the elements of matter have their origin in the Brahman. Therefore, none of them could be the cause of the origin of other elements.

Samkara suggests that the seer has no eye to the order of creation(i.e. of elements) for it is only interested in making out that all effects are derived from Being.³

Dr.S.Radhakrishnan is of the view that the reference in all such passages is not to the elements, as such, but to the presiding divinities.⁴ This view point is clear from the following verses :-

" That indeed is Agni (fire), that is Adity (the sun) that is Vayu(wind) and that is the moon. That indeed is the Pure. That is Brahman. That is waters. That is Prajapati." (5)

Out of thirty-three gods as postulated by the seers eight are vasus which are:-

" fire, earth, air, sky, sun, heaven, moon and the stars " (6)

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|----|------------------------|--------|
| 1. | Prasna U : VI.6 | |
| 2. | ibid : VI.4 | |
| 3. | Principal Upanishads : | p. 449 |
| 4. | ibid : | p. 449 |
| 5. | Mundaka U. II.1.3 | |
| 6. | B. U. : III.9.3 | |

2.2.8

The Knower

The vedic seers have tried to unfold the mystery of the nature of the universe. To the extent that there is one Absolute Lord , the creator, they are successful but as regards mode of creation, they have not been able to solve this riddle. Different conceptions have been put forward by them according to their wisdom. But none of them could be considered as authentic . In fact', no body knows how the Absolute Lord created the universe. It is the Absolute Lord who Himself knows how he created the universe.

The Rig Veda says :-

" Father who made us he who, as Disposer knoweth all races and things existing. Even He alone, the Dieties name-giver-him other beings seek for information."(1)

" The entire mystry of creation is known only to God ." (2)

On the basis of above evidence of the Rig Veda, there remains no doubt to concede the fact that the vedic seers did not know how the Absolute Lord created the universe . The theories put forward by them in this connection can be divided into various heads such as:
Maya (power) , word, semen, penance, golden-egg, sacrificial Purusha etc.

- 1. R.V. : 10.82.3
2. R.V. : 10.129.7

2.2.9

Creation through Maya (Power)

The Svetasvatara upnishad describes God as 'mayin', the wonder working powerful being, who creates by his powers.¹ The Taitreya Upnishad also says :

" With the help of His own maya(power), the Lord creates the universe. " (2)

The power is inherent in His nature . The Upnishad says :-

" The self-power of the Divine is hidden in its own qualities. " (3)

Thus this power or sakti is contained in the Supreme Lord as oil in oil-seeds. It is not independent of Him.⁴ According to Narda this power is eternal, primeval and ever-lasting. He further says that nothing is able to stir without its aid.⁵ In the Rig Veda it has been stated that ' by the great power of warmth was born that unit '⁶ This hymn suggests that through the power of tapas or the fervour of austerity, the one evolved into determinate self-conscious being.⁷

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|----|----------------------|------------|
| 1. | Principal Upanishads | : p. 83 |
| 2. | T. U. : 11.6 | |
| 3. | Svet. U. : 1.3 | |
| 4. | op. cit. 1 | : p.710(n) |
| 5. | ibid | : p. 83 |
| 6. | R.V. : 10.129.3 | |
| 7. | op. cit. 1 | : p. 35 |

2.2.10

Creation through word

The vedas / upanishads are of the view that the Absolute Lord the heavenly builder and artificier created the off-springs what he spoke by the speech or what word he uttered that it became :

- " The earth of the sacred word bhuh was born of the lifted foot and the directions or the middle region were born of the sacred word bhuvah. " (1)
- " The word is the creator of the universe, the powerful one, for by the word is all this made. " (2)
- " In the beginning was only the Lord of the universe. His word was with him. This word was His second. He contemplated. He said, " I will deliver this word so that one will produce and bring into being all this world. " (3)
- " Prajapati spoke 'rasmih ' or the 'ray ' and produced the sun. " (4)
- " Prajapati spoke the three great words bhu, bhuvah and swah and these were the earth, middle region and heaven. "(5)

2.2.11

Creation through penance

Some of the vedic/ upanishdic seers are of the view that when the Absolute Lord desired to create the universe, He practised penance :

" The creator practised penance and created all this whatever is here."(6)

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1. R.V. 10.72.4
 2. The Teachings of the Vedas : p.118
 3. Tandy Brahman : 20,14,2
 4. The Story of Creation : p.143
 5. Jaimini Br. 1.101
 6. Upnishdic Challenge to Science:p.155

" There was no existence of the universe in the beginning. The non-existent entity desired to have a form and began to practise fervour (penance) as a result of which smoke was produced. Then fire flames and rays were produced in succession and so on. " (1)

2.2.12

Creation through semen

One view is that the universe originated through the semen of the Absolute Lord :

" From the semen of Prajapati what became shining at first, that became the yonder sun. " (2)

" Waters were the wives of Varuna (a form of Agnih). Agnih set his heart upon them. They were roaming for union. His semen fell that became the earth. " (3)

2.2.13

Creation through golden-egg

It has also been stated in the vedas/ upanishads that the Absolute Lord created the universe through the golden-egg as :

"in the beginning a golden-egg was born. The year indeed was not then in existence. This golden-egg floated in a circle for as long as the space of a year. After that in a year's time, the Purusha was born (the egg got converted into the form of a man ? He was Prajapati the protector of the progeny). " (4)

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|----|---------------------------|---------|
| 1. | Indian Cosmological Ideas | : p. 26 |
| 2. | The story of creation | : p.143 |
| 3. | ibid | : p.133 |
| 4. | ibid | : p.106 |

" The Purana says that God first created the waters which are called Nara and released his seed into them. The seed grew into a golden-egg from which Brahman was born of his own accord and so He is called Svayambhu. Brahma divided the egg into two halves of heaven and earth. " (1)

" In the beginning, this (world) was non-existent. It became existent. It grew and turned into an egg. " (2)

" The Prajapati impregnates the water and becomes manifest in them in the form of a golden-egg or germ (Hiranayagarbha) from which the whole universe sprang. " (3)

2.2.14

Creation through sacrificial Purusha.

In Rig Veda , the gods are represented as having fashioned the universe from the dismembered limbs of Purusha, the primeval male. When they sacrificed him, moon was born from the mind and sun from his eye. Mid-region was born from his navel and sky from his head. Earth was born from his feet and from his ear the regions were born.⁴

Origin of the celestial bodies

2.2.15

The Vayu Purana says that the celestial

bodies were born out of the sun as:

" Stars, 27 Nakshatras, moon and the planets all those should be known as born of the sun. " (5)

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1. Brahma Purana : I.1.38
 2. C. U. III.19.1
 3. R.V. 10.121.1
 4. R.V. X.90.13-14
 5. Vayu Purana :50.99 & 53.28

This idea of Vayu Purana fully conforms with the prevalent scientific view of origin of planets.

2.2.16

Origin of earth and heaven

We find various accounts of creation of earth and heaven in the vedas/ upanishads as :

" Apah were certainly such as had every thing dissolved in them. Prajapati assuming the shape of a boar dived near (only a small distance below). As big as his snout was, so much clay it brought out. That became the earth. " (1)

" Apah certainly were (allied with) specially arranged agni parmanus, that what was the sarah of the apah, solidified that became the earth. " (2)

A seer in Rig Veda poses the question which of the two , heaven and earth is the first and which is the latter?³

The answer is given in the Yajur Veda according to which of all the worlds bhumi is the first.⁴

According to Rig Veda, the chronological order of creation is as follows :-⁵

Earth
|
Spaces
|
Sun

-
- | | | |
|----|-----------------------|----------|
| 1. | The Story of Creation | : p. 130 |
| 2. | ibid | : p. 130 |
| 3. | R.V. : 1.185.1 | |
| 4. | Yaj. V. 37.4 | |
| 5. | R.V. 10.72 | |

The earth has also been stated to born earlier than the sun as :

" Earth sprang from the production power , the regions from the earth were born. " (1)

" Then ye brought surya forward who was lying hidden in the sea. " (2)

2.2.17

Conclusion

From the above facts of the vedic texts, it is found that there are conflicting views about the mode with which the Absolute Lord created the universe. Earth has been stated to be born of word, golden-germ , semen of Varuna, feet of the Purusha and water. At one place moon is said to have been born from the mind of the Purusha and at another place it has been said to be originated from sun. As regards sun, one vedic seer says that it was born from the eye of the Purusha whereas another vedic seer says that it was born from the head of the Prajapati. It has also been stated that it originated through word of God. In the vedic view the earth was born before the sun whereas the scientific view is that the earth was born much later than the sun and it originated from the sun. Thus, we may conclude that the vedic seers did not know as to how the

Absolute Lord created the universe. - - - - -

1. R.V. : 10.72.4
2. R.V. : 10.72.7

2.2.18

Concept of the expanding Universe

According to the vedic view , the universe had a beginning. Initially, heaven and earth were joined in one i.e. the universe was in a compressed state in the form of a mundane egg :

" The two great meeting bowls hath he united, each of the pair is laden with his treasurer. " (1)

" When the united pair were rent asunder all the Gods complained. The Gods to the Nasatyas cried, Bring these together once again. " (2)

At a particular instant, the Absolute Lord with his might divided the egg into two halves. The lower portion became the earth and the upper portion became the heaven :

" In the beginning, this (world) was non-existent. It became existent. It grew. It turned into an egg. It lay for a year. It burst open. Then came out of the egg shell two parts, one of silver, the other of gold. That which was of silver is this earth; that which was of gold is the sky. " (3)

In the beginning, the expansion of the universe was very slow. The three worlds were well-nigh contiguous to one another, then the heavenly

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1. R.V. : 3.55.20
 2. R.V. : 10.24.5 : For further details:
R.V. : 1.159.4, 3.54.7
 3. C.U. : III.19.1-2

world could certainly be touched. The following hymns clear this view point :-

" The sun was previously in the region of the earth and the gods pushed it upto the heavenly regions. " (1)

" The sun was within the arms length from the earth and could be touched, so close it was. " (2)

" The sun was first here, close to the earth and was roasting the earth by its heat." (3)

Subsequently, the earth, the middle region and the heaven started expanding on all sides till they assumed their complete form. The expansion of the universe was by means of vayu , agni, power of god, rta., eternal law etc.:

" The separation was effected by vayu." (4)

" Come oh Agni, to separate and make these worlds expand . " (5)

" Indra hath evermore possessed surpassing power, he forced far from each other, heavens and earth apart. " (6)

" Ye (Visvedevas) raised the sun to heaven by everlasting law and spread broad earth, the mother, out on every side. " (7)

1.	Taittiriya Samhita	: VII.3.10
2.	Shat.Br.	: 1.4.1.22
3.	Jaimini Brahmana	: 1.87
4.	op.cit. 1	: 3.413
5.	op.cit. 1	: 51.15
6.	R.V.	: 10.113.5, 10.89.1, : 3.46.3, 6.17.7, 1.103.2
7.	R.V.	: 10.62.3 & 5.1.7

The expanding universe was unfirm and unsteadied. When as per the divine plan, it reached its final position, the Absolute Lord made it stable. Hence no further expansion of the universe. The Rig Veda says :

" The earth hath spread herself in all her fullness." (1)

" Visvakarma, the father of the eye, the wise in sport created both these worlds submerged in fatness. Then when the eastern ends were firmly fastened." (2)

" As this earth, the great, bore these fruits and trees. Earth attains its full size-when the earth attained its full size, it was called ' the great' ." (3)

2.2.19

Age of the Universe

As regards age of the universe is concerned, a vedic seer has emphatically declared that it is beyond mind's conception to know the time of the origin of the universe. Even the gods do not know as they were born later than the origin of the universe :

" Who verily knows and who can here declare it, when it was born and whence comes this creation?

The Gods are later than this worlds production. Who knows then whence it first came into being ? " (4)

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|----|---------------------------|
| 1. | R. V. : 2.11.7 |
| 2. | R. V. :10.82.1 |
| 3. | R. V. :10.60.9 & 10.111.5 |
| 4. | R. V. :10.129.6 |

Biblical View

2.3.1 Pre- creation state of the universe

No direct account of the pre- creation state of the universe has been given in the Holy Bible. The opening stanzas of first chapter of the Book of Genesis give the account of the first stage of the creation state. These stanzas are as follows :-

" When God began to create the heaven and the earth. " (1)

" The earth was a desolate waste with darkness, covering the abyss and a tempestuous wind raging over the surface of waters. " (2)

In order to determine the pre-creation state of the universe, we have to examine these stanzas minutely.

By the phrase ' when God began to create the heaven and the earth ' it implies that before their creation, they did not exist at all. The phrase "then the earth was a desolate waste with darkness, covering the abyss' suggests that before its creation earth was invisible and without form. By the phrase "when God began to create ' it also implies that God was there before the creation state. It may be stated here that

Christianity believes in the eternity of God.³

1.	The Bible	: 1.1
2.	ibid	: 1.2
3.	The Bible and the World	: p.7

Eternity implies a substance existing eternally which is ever the same and because of its perfection it never undergoes any alteration. Eternity must be predicted only of God, because the idea of eternity has been abstracted only from God. Time, on the other hand, must be predicted of the material world, by saying that the world exists in time, or is subject to time, because the idea of time has been abstracted from the world. What is eternal is not in time and what is subject to time is not eternal. Eternity, however, is the cause of time and time depends on eternity and cannot be conceived without it.¹

The phrase ' a tempestuous wind raging over the surface of waters ' suggests that the air and water were in existence in the beginning of the creation process and are material things. Therefore, these are not eternal. They might have been created by the Lord at a particular instant before commencement of the six days creation work. Therefore, they belong to the first stage of the creation state and not to the pre-creation state of the universe.

Thus in the pre-creation state of the universe there was no sun, moon, planets, earth, heaven, stars, atmosphere, air, water, fire, creatures etc. but it was the state of utter darkness. Alone the Lord existed then.

1. The Bible & the World : p.7

It may be mentioned that in six days creation story, there is no reference to the creation of matter at all.

As to the source of origin of matter is concerned, the Bible says :-

" So the word became flesh and blood." (1)

In the Bible the 'word ' is identified with 'God ' as :

" What God was, the word was." (2)

From the above verses of the Bible, it implies that the Lord Himself became the matter with His omnipotent power. This idea fully conforms with the vedic view that 'the God Himself was the tree and the wood out of which He fashioned the universe '.

2.3.4

Stages of creation

The Bible says that the God created the universe in six days. The 'six days ' mentioned in the creation story has no linkage with the physical days born on account of the creation of the sun on the fourth day. It has been stated in the Bible that the Lord's one day is equal to one thousand years of our own. The relevant statement runs as follows :-

" With the Lord One day is as a thousand years and a thousand years as one days." (3)

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|----|-----------|------------------|
| 1. | The Bible | : John 1.14 |
| 2. | ibid | : John 1.1-2 |
| 3. | ibid | : Peter II.3.8-9 |

From this statement of the Holy Bible, it can be inferred that the Lord completed the creation work of the whole universe in 6000 years. However, the creation period of 6000 years calculated on the basis of the biblical statement does not conform with the period of million million years as speculated by the scientists. It seems that 'creation in six days' mentioned by the Saint narrating the creation story does not refer to the Lord's six days but he has divided the creation work of the universe of the Lord into six stages.

The biblical account of six days creation is discussed below :-

2.3.5

First day's creation

On the first day, God created the light.¹
 This light was not the physical light which the sun, moon and stars shed as they were not in existence then but it was the 'divine light'. This divine light is the source of all life that exists in the universe. It is through this light, the sun, moon and stars are able to shine. In fact, the divine light is the vital force of the universe. If it is withdrawn from the universe, there will remain nothing but utter darkness. Before creation of the
 1. The Bible : 1.3-5

light , matter was already in existence. Therefore, in order to create the universe, spirit was required to be created. Thus the Lord created the light which is identified with the spirit of the universe and subsequently, He created the whole universe.

2.3.6

Second day's creation

On the second day, God created the firmament (without its hosts such as stars, sun and moon). The Bible says :

" The God said :

Let there be a firmament in the middle of waters to divide the waters in two.

And so it was, God made the firmament, dividing the waters that were below the firmament from those that were above it, and God called the firmament sky. " (1)

"

2.3.7

Third day's creation

On the third day, God created the earth alongwith its hosts such as vegetation, seed-bearing plants and fruit trees. The Bible says :.

" Then God said :

Let the waters below the sky be gathered into one place so that the dry land may appear. And so it was, God called the dry land earth and the gathered waters seas, God saw that it was good.

1. The Bible : 1.6-8

Then God said :

Let the earth produce vegetation,
seed-bearing plants and the various
kinds of fruit trees that bear fruit
containing their seed;

And so it was, The earth brought
forth vegetation, the various kinds
of seed bearing plants and the various
kinds of trees that bear fruit contain-
ing their seed. " (1)

2.3.8

Fourth day's creation

On the fourth day, God created sun,
moon and stars in the firmament, the sources of
physical light in the universe and originators of
days and nights. The Bible says :

" Then God said :

Let there be luminaries in the firmament
of the sky to separate day from the
night, let them serve for signs, for fixed
times and for days and years and let them
serve as luminaries in the firmament of the
sky to shed light on the earth.

And so it was.

God made the two great luminaries, the
greater luminary to rule the day and the
smaller one to rule the night and the
stars also. God set them in the firmament
of the sky to shed light on the earth, to
rule by day and by night and to separate
the light from the darkness. " (2).

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1. The Bible : 1. 9-13
2. ibid : 1.14-19

There is no reason to question the propriety of even a single statement of the Bible but the idea of creation of sun, moon and stars on the fourth day does not seem to be as rational as it should be. The biblical statement ' when the God began to create the heaven and the earth ' ¹ itself suggests that the Lord will create the heaven alongwith its hosts i.e. stars, sun, moon earlier than the earth and its hosts. But the creation story tells us that the Lord created the firmament (heaven) without its hosts on the second day whereas He created the earth alongwith its hosts (plant life) on the third day. As a rational Being , the Lord should have created the sun, moon and stars alongwith the firmament on the second day.

If considered on astronomical and botanical grounds, the creation of stars, sun, moon after creation of the earth alongwith plant life, looks totally unscientific. Astronomy says that the earth was born much later than the stars and the sun. The scientific research has established the fact that life on earth originated thousand million years after its creation. Under the natural law the developed plant life on earth as mentioned in the creation story can

 1. The Bible : 1.1

never be possible without the light / heat of the sun as the plants take their food from the earth as well as the sun. The laws of nature ever remain the same and can never change with the passage of time.

Under these circumstances, creation of stars, sun and moon on the fourth day does not seem to be justified at all. However, there is no ambiguity about the creation statement of the stars, sun and moon appearing in the Bible. But the order in which these biblical statements have been placed seem to be faulty which could be due to the negligence on the part of the composer or the printer of the first translated text of the Bible. If we place the creation work of the fourth day on the third day and third day's work on the fourth day, then the creation of stars, sun, moon, earth and plant life in due order is fully justified in view of the scientific grounds.

2.3.9

Fifth day's creation

On the fifth day, God created the sea . creatures and the birds. The Bible says :

" Let the waters teem with shoals of living creatures and let birds fly over the earth across the firmament of the sky. " 1

1. The Bible : 1.20-23

2.3.10

Sixth day's creation

On the sixth day, the Lord created the animals. The Bible says :

" Let the earth bring forth various kinds of living creatures, the various kinds of domestic animals, reptiles and wild beasts of the earth. Let us make man in our own image. " (1)

2.3.11

Mode of creation

As regards mode of creation of the universe is concerned, the Bible says :-

" In the beginning the word existed. The word was with God and the word was divine.

It was he that was with God in the beginning. Every thing came into existence through him and apart from him, nothing came to be. " (2)

Therefore, the 'divine word' is the mode of creation.

2.3.12

Concept of the expanding universe

The concept of the expanding universe has not been fully developed in the Bible. The following statement of the Bible suggests that initially the universe was in a compressed state and later on it expanded to its present state :-

" God made the firmament, dividing the waters that were below the firmament from those that were above it. " (3)

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- | | | |
|----|-----------|--------------|
| 1. | The Bible | : 1.24-26 |
| 2. | ibid | : John 1.1-4 |
| 3. | ibid | : 1.6-8 |

2.3.13

Age of the universe

The Christian world had a beginning. It did not exist always. It must have begun a finite time ago. The Bible says :-

" There were heavens and earth long ago
created by god's word. " (1)

How long ago ? The Bible does not undertake to offer an answer to this question.

1. The Bible : Peter II 3.5

Quranic View

2.4.1

Pre- creation state of the universe

As in the Bible , we do not too find any specific statement in the Holy Quran which could throw light on the pre-creation state of the universe. However , on the basis of creation statements which we have in the Quran, we can very well visualise that state. The things which we observe to-day in the universe , such as sun, moon, stars, earth, inanimate and animate were not in existence then. That state was of total void and utter darkness. Only Allah existed then. Allah is one. He is self-existent :

" Your God is one God, there is no God but He. " (1)

" He is Allah, the single, Allah the Self-existent and Besought of all. He begets not, nor is He begotten. " (2)

Origin of the Universe

2.4.2

The Creator

Allah is omnipotent. He is the sole creator of the universe. He creates as His will and what pleases to Him :

" Allah is the creator of all things. He is the One, and the whole of creation is under His complete control. Are there any partners of Allah who have created the like of His creation so that the two creations appear alike. "(3)

- | | | |
|----|-------|-----------|
| 1. | Quran | : 2.164 |
| 2. | ibid | : 112.2-4 |
| 3. | ibid | : 13.17 |

" Allah is the creator of all things and He is Guardian over all. To Him belongs the keys of the heavens and the earth."

(1)

" He is Allah, the Creator, the maker, the fashioner. "

(2)

" Allah has power to do all that He wills."

(3)

2.4.3

The creation of matter

In order to create the universe, Allah first of all created the matter . The matter (having five elements of water, fire, air, ether and earth) was in the shape of a solid mass in the beginning. The quran says :-

" Do not the disbelievers realise that the heavens and earth was a solid mass, then we split them asunder. " (4)

It can safely be argued that as there existed nothing in the pre-creation state of the universe, Allah created the matter 'out of nothing '. It may be mentioned that it is the law of nature that nothing could be created out of nothing. Law of nature ever remains the same. The Quran says :

" But thou will never find any change in the way (law) of Allah." (5)

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- | | | |
|----|-------|-----------------------------------|
| 1. | Quran | : 39.63-64 |
| 2. | ibid | : 59.25 ; For further details : |
| | ibid | : 15.87, 21.34, 25.3, 31.11 |
| 3. | ibid | : 29.20-21; For further details : |
| | ibid | : 22.15, 22.19, 85.17 |
| 4. | ibid | : 21.31-32 |
| 5. | ibid | : 35.44 |

The matter is not eternal as is Allah but a created thing by Allah. Thus it has its origin in the Allah. The Allah is the cause and the matter is its effect.

2.4.4

Stages of creation of the universe

After creating the matter, Allah created the heavens and earth and all between them in six periods. The word ' periods ' mentioned in the Quran refers to the creation stages :-

" Allah is He who has created the heavens and the earth and that which is between the two in six periods. " (1)

" Your Lord is Allah who created the heavens and the earth in six periods. He has created the sun, the moon and the stars. " (2)

" Ask them; Do you disbelieve in Him Who created the earth in two periods i.e. stages and set up equals to Him ? He is the Lord of the worlds. He placed in the earth firm mountains, rising above its surface, and blessed it with abundance, and provided therein nurture for its dwellers in proper measure, equally for all seekers, in four periods. Then He turned to the earth, submit ye to my command, willingly or unwillingly. They said : We have submitted willingly. He arranged them in seven heavens, in two periods, and He invested each heaven with capacity to discharge its function. We adorned the lowest heaven with lights for protection. " (3)

1.	Quran	: 32.5, 11.8, 50.39
2.	ibid	: 7.55
3.	ibid	: 41.10-12

It has been stated in the Quran that heaven was in the form of mist in the beginning. It was this mist which gradually solidified and attained the present position of the celestial bodies such as stars, sun, moon etc. The scientific research has also come to the conclusion that the planets, sun, moon and stars are the solidified states of gas¹-es.

2.4.5

Mode of creation

Allah created the universe through the Divine Word 'Kun ' which was with him. As and when he spoke the word 'kun ' concerning a thing, that thing emerged in the universe :

" Allah is indeed the Supreme Creator, the All- knowing. His power is such that when He intends a thing He says concerning it, " Be(kun), and it is." (2)

Thus 'speech ' or 'word ' is the 'mode of creation'.

2.4.6

Concept of the expanding universe

The Quran presents the idea of an expanding universe. Initially, the universe was a solid mass. Heaven and earth were joined in one. As per the divine will the solid mass expanded and attained the form of heaven and earth. The Quran says :

" The heavens and the earth were a solid mass, then we split them asunder. " (3)

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- | | | | |
|----|-------|---|--------------|
| 1. | Quran | : | 41-10-12 |
| 2. | ibid | : | 36.82, 2.118 |
| 3. | ibid | : | 21.31 |

In the beginning the expansion was very slow. The earth and heaven were very close to each other and were of small size. Later on, they were expanded to their perfection. The Quran says :-

" We have built the heavens as a manifestation of several of our tributes and surely, we go on expanding the universe. We have spread out the earth like a bed. " (1)

" Are you harder to create the sky? He (Allah) made it and He has raised its height and fashioned it flawless. He has made its night dark and its morn bright. He created the earth alongwith it. " (2)

The idea of gradual expansion of the universe as mentioned in Quran is in conformity with the scientific view proposed by the supporters of the evolutionary theories. However, according to Quran, the universe in which we live is complete and flawless. Hence no further expansion of the universe as is envisaged by the scientists .

2.4.7

Age of the universe

As regards age of the universe is concerned, Quran does not give any answer to this question. It

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| 1. | Quran | :51.48-49 |
| 2. | ibid | :79.28-29 |

is beyond human mind's conception. Even the angels do not know the time of creation as they do not have full knowledge of the things of the universe. The Quran says :-

" Holy are Thou; No knowledge have we save that which Thou hast taught us. Thou alone art the All-Knowing. " (1)

It is Allah only who has detailed knowledge of every thing in the universe. He only knows the secrets of the heavens and the earth. The Quran says :

" I know the secrets of the heavens and of the earth. " (2)

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1. Quran : 2.33
2. ibid : 2.34

Nanak Bani View

2.5.1

Pre- creation state of the universe.

Guru Nanak has described the pre- creation state of the universe as a wondrous state in which the Absolute Lord remained self- absorbed :

" As for the beginning one can only think and talk in terms of wonder. The profound Lord then did dwell within His Ownself. " (1)

He is of the view that the knowledge of that state of the universe is beyond mind's conception. It is the Absolute Lord who alone knows that state :

" Through thirty- six yugas the world was enveloped by chaos. The creator Lord Himself alone knows that state. " (2)

However, Guru Nanak has tried to describe that state in his bani. According to him that was the state of utter darkness . Then was a total void. That was a chaotic state. The earth, sky, day, night, moon, sun, mines of creation, speech, air, water, life, death, continents, under-worlds, heaven , hell, time etc. were not in existence except the Absolute Lord who was in seedless trance then. "3

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| 1. | G.G.S. | : p. 940 |
| 2. | ibid | : p.1061 |
| 3. | ibid | : p.1035 |

Such a state remained for thirty-six yugas before
the origin of the universe :

" For countless ages, there was utter
darkness;
There was no earth and no sky but
the Infinite Lord's will alone was
pervasive;
There was neither day or night nor
moon nor sun but the Lord alone sat
in profound trance;
Neither there were mines of creation,
nor speech, nor air nor water;
Neither creation, nor destruction, nor
coming nor going;
There were no continents, nor under-
worlds, nor seven oceans, nor rivers,
nor the flowing of water;
Then there was no higher, middle and
lower plane;
Neither there was hell, nor heaven,
nor death nor time. " (1)

" Then there was neither the sky, nor
the under world nor the three
worlds;
Then there was one absolute Lord
alone and nothing was yet created." (2)

" For good many ages, there was all
darkness and the infinite and illimi-
table Lord was seated in trance;
The Lord sat all alone in inky dark-
ness and the world of strife was not
in existence then.
This wise passed the thirty-six ages." (3)

" For aeons of years He created the chaos
and abided in it seated in Himself." (4)

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| 1. | G.G.S. | : p. 1035 |
| 2. | ibid | : p. 509 |
| 3. | ibid | : p. 1076 |
| 4. | ibid | : p. 553 |

Origin of the universe

2.5.2

The creator

It is the law of nature that every thing has some basis behind its origin. So far as the universe ' as a whole ' is concerned, the Absolute Lord is the doer and the cause. Guru Nanak says :-

" The Primal Purusha, the Creator Lord is the only doer and the cause. " (1)

The omnipotent and unapproachable Lord has Himself created the universe. There is no other creator but only one God. Guru Nanak says :

" There is but one God. True is His name and creative His personality. " (2)

" The Supreme Being creates all beings. And also day and night. And the woods, glades and the three worlds, and water. And the four Vedas, the four sources of creation. And the nine divisions of the earth, islands, and all the spheres. Lo from the one word they were created." (3)

" Nay, there is no other creator but one only God. " (4)

Guru Nanak has said that the Absolute Lord (non-creative) was in seedless trance i.e. in an inactive/state before creation of the universe. Now the question arises as to how He created the universe

in such a state ? Guru Nanak is of the view that in

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|----|--------|---|----|----------------------------|
| 1. | G.G.S. | : | p. | 1385 |
| 2. | ibid | : | p. | 1 |
| 3. | ibid | : | p. | 1003 |
| 4. | ibid | : | p. | 839 ;for further details : |
| | | | | : p. 842, 949, 1032, 37 |

order to create the universe, the Absolute Lord from His inactive (Nirguna) state became active (Sarguna) :

" From formless, the Lord assumed the Immaculate form and from attributeless He became with attributes. " (1)

As such, He is called 'Nirguna Brahma ' and ' Sarguna Brahma '. From this statement one may think that Nanak Bani postulates two Gods i.e. Nirguna and Sarguna . But this is not true. Gurbani has clarified that Nirguna and Sarguna Brahma are not two different Gods but these are two different states i.e. non-creative and creative states of the one Absolute Lord as :

" He is the Absolute; He the Related One, Who , by His power has bewitched. " (2)

The issue as to how the Nirguna Brahma became Sarguna Brahma also needs to be clarified. Nanak Bani teaches us that the Absolute Lord is beyond the reach of senses. He is indefinable and unknowable. He was not established by any one. But He is self-existent. But no body knows as to how He became existent. It is the Absolute Lord who

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1. G.G.S. : P. 940
 2. ibid : P. 287 & 290 (M.5)

alone knows His Ownself :-

" O Nanak, call Him Great.
He Himself knows His Ownself." (1)

Similarly, the Absolute Lord alone knows as to how He became Saguna from Nirguna. However, we can imagine that He became 'Sarguna' from 'Nirguna' with His own power, which is inherent in Him as fire is inherent in wood.

2.5.3

Absolute Lord as eternal

The universe has a beginning whereas the Absolute Lord is beyond time and is eternal. Guru Nanak says :-

" True in the prime, true in the beginning of ages, true He is even now and true He, verily shall be, O Nanak. " (2)

" The greater alone is seen to be eternal. All others continue coming and going." (3)

" Eternal only is the deathless God. " (4)

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| 1. | G.G.S. | : p. | 5 |
| 2. | ibid | : p. | 1 |
| 3. | ibid | : p. | 54 |
| 4. | ibid | : p.1076 | : For further details: |
| | | : p. | 6, 24, 437 |

2.5.4

Absolute Lord as Self-existent

The Absolute Lord is not only eternal but He is also self-existent as He has got no father and mother. He created Himself His ownself :

- " That pure One is all in all Himself.
He is neither established nor created
by any one. " (1)
- " The Lord of Himself created His ownself
and assumed He Himself the Name. " (2)
- " When the Lord created Himself, then
there was not another. " (3)

2.5.5

Absolute Lord creates at His own will

The Absolute Lord is not bound by any authority or regulation to create the universe. He is free to do so. He creates at His Will. Nanak Bani says :

- " At His will the Lord creates the
universe. " (4)
- " When He so willed then He created
the world. " (5)

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1. G.G.S. : p. 2
2. ibid : p.439
3. ibid : p.509
4. ibid : p.292
5. ibid : p.1036 :For further details :
: p.150, 1059, 786, 1037, 1043

2.5.6

The creation of matter

According to Guru Nanak the universe is made of five elements which are :

" water, fire, air, dust and sky "

Nanak Bani says :

" The water, fire, air, dust and the sky (are the five elements). In that house of five elements abides the mortal. " (1)

" Of the five elements, thou created the world of form, let any one try his hand with the sixth if he may." (2)

" Accomplishing the universe of the elements, the true Lord Himself has created the universe. " (3)

Thus according to Nanak Bani, matter of the universe consists of five elements. However, according to scientists, the five elements referred to in Nanak bani are not elements in the present sense of the word. They are combinations formed out of about 102 elements known to the scientists to-day. They are of the view that :

" Water" can be interpreted as a condensed form of matter because it contains hydrogen which is the most abundant element in nature.

" Fire " can be interpreted as indicative of heat which is the form of energy.

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| 1. | G.G.S. | : p. 1031 |
| 2. | ibid | : p. 736 |
| 3. | ibid | : p. 839 |

- " Air " is associated with pressure ingredients. There would be no seasons and climates if pressure ingredients do not exist.
- " Dust" is the same as plasma which is the fourth state of matter. It consists of charged particles.
- " Sky " is the term used in common language but here it means space which exists between various solar systems comprising a galaxy or between various galaxies that constitute the universe.

As regards creation of matter is concerned, Guru Nanak is of the view that the Absolute Lord created the matter from His ownself as :

" From His Absolute-self, He has created the air and water. " (1)

" From the Absolute Lord have become manifest the five elements." (2)

It may be submitted here that there is a verse in Nanak Bani which suggests, as the Gurbani scholars interpret it, that from the Absolute Lord was born air, from air was born water and from water the three worlds i.e. the universe. The relevant hymn is as follows :-

" Sachhe Te pawna bhaeya, pawney te jal
hoey;
Jal te tribhuvan sajeya ghat ghat
jot samoey. " (Punjabi version)(3)

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| 1. | G.G.S. | : p. 1037 |
| 2. | ibid | : p. 1038 |
| 3. | ibid | : p. 19 |

" From the true One came the wind(air),
 from the wind(air) came the water.
 From the water sprang the three
 worlds and He, the Lord pervaded all."
 (1)

The esteemed Gurbani scholars have not been able to interpret this verse in its true sense. Their interpretation of the words ' pawna ' and ' pawney ' as 'wind(air) ' and ' jall ' as ' water ' is not only ambiguous but unscientific too so far as this verse of Nanak bani is concerned. There is no denying the fact that the great Gurus have used symbolic language to explain the eternal truths in Gurbani . The words so used give ordinary as well as particular meanings. Similar is the case of words ' pawna , pawney and jall '.

According to Guru Nanak a living being is made of body (union of five elements of air, fire, water, earth and ether), Soul and breath :

" The Soul and body (of five elements)
 belong to Him. It is He who has infused
 breath in us. " (2)

" The body (of five elements) is in the
 power of breath. " (3)

In both the above mentioned verses ' sah'(breath)
 and ' pawne '(breath) are independent of 'air' one
 of the five elements constituting the body of jiva.

1.	Hymns of Guru Nanak	:	p. 56
2.	G.G.S.	:	p.1011
	ibid	:	p. 63

'Sah ' or ' pawne ' is the breath (prana) of the individual as well as of the cosmos 'as a whole '.
Nanak Bani further says :-

" Every where the Lord has staged the play of breath in the beings (body of five elements and Soul);
Withdrawing His might, He makes the beings fall. " (1)

It may also be submitted that at the time of death of an individual, the Soul and breath(prana) leave the body behind . In Sidh Ghost, a Sidha asks Guru Nanak :

" Where does the breath(prana) reside?" (2)

Guru Nanak gives the answer as under :-

" This breath is seated in its place in the home of navel region. " (3)

The navel region is a particular place in the body of five elements where 'breath ' is seated.

The Sidha further asks GuruNanak :

" When there was no support of the navel lotus, in which home, the breath did stay then ? " (4)

Here the Sidha means to say that when the body of five elements did not exist, then where the breath resided.

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| 1. | G.G.S. | : P. | 1033 |
| 2. | ibid | : P. | 945 |
| 3. | ibid | : P. | 945 |
| 4. | ibid | : P. | 946 |

Guru Nanak has clarified the position as
under :-

" When there was no support of the navel
lotus, the breath then stayed in its
own home imbued with the Lords love." (1)

The Sidha also asked Guru Nanak :

" What is the origin of life? " (2)

Guru Nanak replies :

" The breath is the origin of life. " (3)

From the above facts of Gurbani, it is quite clear that ' pawna ' means ' prana or breath ' and not air in its ordinary sense. Without prana or 'breath, the microcosm as well as the macrocosm made of air, water, fire, earth and ether cannot exist. The Absolute Lord, therefore, first of all created the ' prana ' of the universe. The true interpretation of the phrase ' sachhe te pawna bheya ' is that ' from the Absolute Lord originated the prana ' of the universe and not air or wind one of the five elements of matter. The wind or air is one of the five elements of matter. Guru Nanak has stated that all the five elements of matter originated from the Absolute Lord. How then the air can be the cause of origin of other elements such as water ? So there is no logic in the statement that ' air ' gave

1. G.G.S. : p. 946
2. ibid : p. 942
3. ibid : p. 942

birth to 'water '. Even otherwise, none of the five elements of matter can exist independent of the others in the atmosphere except in the air-tight test-tubes of the scientists.

Before interpreting the connected phrase ' pawne te jall hoey ', I would like to interpret the next phrase ' jall te tribhuvan sajeya " on the basis of the following Gurbani statements though already referred to above :-

" Accomplishing union of elements, the true Lord Himself has created the creation." (1)

" Of the five elements, thou created the world of form, let anyone try his hand with the sixth if he may. " (2)

If the phrase ' jall te tribhuvan sajeya ' suggests that the Absolute Lord created the three worlds (universe) from water, the other two verses suggest that the Absolute Lord created the universe from the matter consisting of five elements such as water, air, fire, earth and ether . Water is one of the five elements of matter. Would it mean that Gurbani contains contradictory statements in its lap. Certainly not ! Gurbani is the true word of God revealed to

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1. G.G.S. : p. 839
 2. ibid : p. 736

the great Gurus by the Al'mighty. It is the limitation of the human mind which is unable to understand the true nature of Gurbani. Guru Nanak has not used the word 'water' in its ordinary sense but he has used it in the sense of 'matter' as a whole of the universe consisting of five elements. When we interpret the phrase 'jall te tribhuvan sajeya' as 'the God created the three worlds (universe) from the matter consisting of five elements' the interpretation not only looks logical but also scientifically true.

In the context of the above facts, now I will like to interpret the phrase 'pawney te jall hoey' which means matter originated from 'breath' or 'prana'. It has already been made clear that a living being is made of three elements such as Soul, Body (of matter) and Prana. Prana is, therefore, one of the three elements of a living being. How could one element be the cause of origin of the other two elements. Therefore, matter did not originate from prana. Indeed, it originated from the Absolute Lord.

Thus the word ' pawney ' used in the verse under consideration neither means ' prana ' nor ' air '. Guru Nanak has personified this word with the Absolute Lord. From the phrase ' pawney te jall hoey ', therefore , means 'matter originated from the Absolute Lord '.

To sum up , the true interpretation of the verse :

" Sachhe Te pawna bhaeva, pawney te jall hoey;
Jall te tribhuvan sajeya ghat ghat jot samoey. "

is as under :-

" From the Absolute Lord, originated prana and matter (five elements) and from matter the three worlds (the universe) and in every heart He infused His light. "

Mode of creation

2.5.7

The Knower

Guru Nanak has categorically stated that except the Absolute Lord, no body knows how He had created the universe :

" None knows the mystery of the world." (1)

" He Who created, alone knows its mystery. " (2)

" Thou, Who has made it understands it. It is all play of thine. " (3)

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| 1. | G.G.S. | : p. 937 |
| 2. | G.G.S. | : p. 788 |
| 3. | ibid | : p. 138 |

Guru Gobind Singh has also emphatically declared in his bani that ' none can tell how the Lord created the universe ' :

" Every one explains the creation process according to his intellect but no one can tell O Lord how you first created the universe. " (1)

2.5.8

Creation through myriad ways

At the advent of Guru Nanak, different vedic/ upanishdic ideas about the mode of creation, which have been discussed earlier, were prevalent then . Each one of them was considered as authentic by respective scholars. But Guru Nanak categorically refuted all their claims and declared that the Absolute Lord created the universe in myriad ways :

" God has fashioned the world by diverse contrivances of various colours and kinds. " (2)

" The Lord hath spread out in a myriad ways. " (3)

" Millions has He made in millions of ways. " (4)

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| 1. | Dasam Granth | : p.1387 |
| 2. | G.G.S. | : p. 6 |
| 3. | ibid | : p. 276 |
| 4. | ibid | : p. 276 |

2.5.9

Creation through order

Guru Nanak has stated in his bani that the Absolute Lord created the universe through His order, which is divine in nature. It is identified with the ' Law of Nature '. It is through this order, He created the universe :

" By the Lord's order, bodies are produced. " (1)

" Thou O Lord created the world of myriads kinds in Thy Will. " (2)

Not only the Absolute Lord creates through His order but every thing in the universe do its allotted deeds according to the divine order :-

" In Lord's fear wind and breeze ever blow;
 In Lord's fear flow lacs of rivers;
 In Lord's fear, fire performs the forced labour;
 In Lord's fear the earth is trampled under burden;
 In Lord's fear the cloud moves head-long;
 In Lord's fear the Dharamraj stands at His door;
 In Lord's fear is the sun and in Lord's fear the moon;
 They travel myriads of miles without an end;
 In Lord's fear are the men of miracles, Bhudhas, the demigods and the yogis;
 In Lord's fear is stretched the sky;
 In Lord's fear are the warriors and the very powerful heroes;
 In Lord's fear multitudes come and go;
 The Lord has written the writ of His fear over the heads of all;
 Nanak, the true formless Lord alone is fearless. " (3)

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| 1. | G.G.S. | : p. 1 |
| 2. | ibid | : p.786 |
| 3. | ibid | : p.464 |

Thus except the Absolute Lord every thing in the universe is bound by Law of Nature.

Guru Nanak is also of the view that no body has the power to narrate the nature of the divine order. It is, therefore, as mysterious as the Absolute Lord :

" His order cannot be narrated. " (1)

" O Thou infinite unfathomable Lord,
I know not how far-reaching is thy
command. " (2)

" How great is the Lord's command
over them, all can be known not
nor can the Lord's deeds be described." (3)

2.5.10

Creation through word

We also find verses in Nanak Bani according to which the Absolute Lord created the universe through 'word' :

" With one word, Thou didst effect the
worlds expansion and whereby lacs
of rivers began to flow. " (4)

" The Supreme Being creates all Beings;
And also night and day. And the woods
and glades. And the three worlds, four
vedas, four sources of creation, nine
divisions of the earth, islands and
all the spheres.
Lo from one word (of God) they were
made born." (5)

1.	G.G.S.	: p.	1
2.	ibid	: p.	786
3.	ibid	: p.	1241
4.	ibid	: p.	3
5.	ibid	: p.	1003

" Through the word is the creation
and dissolution (of the universe)."
(1)

From the above verses, the position of
word can be determined as under :-

Absolute Lord

!

Word

!

Universe

Thus the word was before origin of the universe
and the word had its origin in the Absolute Lord.
As to how the Absolute Lord created the universe
through word, Nanak Bani does not give any answer
as it has made it clear that ' no body knows as
to how the Absolute Lord created the universe '.
Therefore, the nature of the ' word ' of Nanak
Bani is absolutely different from which we find
in the vedas/ upanishads, the Bible and the Quran.
According to these scriptures, the ' word '
which the Absolute Lord spoke became the object
of the universe.

1. G. G. S. : p. 117-M.3

2.5.11

Concept of the expanding universe

According to Nanak Bani , the universe in the beginning was in a compressed state. Earth and heaven were joined together and they were like two mill-stones. They were in the shape of an egg. By the 'might ' of the Absolute Lord, they expanded to the present state. The following verses of Nanak Bani clears this view point :-

" Creating the two mill-stones of the earth and the sky, He has separated them. " (1)

" Creating the universe, the Lord has, extended it. " (2)

" Separating the sky and the earth He has spread the canopy of the firmament . " (3)

" Breaking the egg into two (heaven and earth) i.e. creating the spheres, the Lord has established them apart."(4)

On the basis of above facts, we may conclude that 'expansion' is the primary feature of the universe of Nanak Bani.

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| 1. | G.G.S. | : p. | 580 |
| 2. | ibid | : p. | 1038 |
| 3. | ibid | : p. | 1076 |
| 4. | ibid | : p. | 839 |

2.5.12

Age of the universe

Nanak Bani has emphatically declared that the time when the Absolute Lord created the universe is beyond mind's conception. Even the learned pandits, qazis, yogis, naths etc. do not know the time of creation. It is the Absolute Lord, the creator who alone knows as to when He created the universe . The following verses of Nanak Bani clears this view point :-

" What the time, what moment, what lunar day, what week day , what the season and what month when the world came into being ?

The pandits find not the time even though it be mentioned in the Puranas texts.

Nor do the qazis, who scribe the writing of Quran know the time.

Neither the yogi nor any one else knows the lunar day, week day, season and month.

The creator, who creates the world,
He Himself knows the time. " (1)

1. G.G.S. : p. 4

2.6

Scientific and metaphysical view :
A synthesis .

The description of the pre-creation state of the universe in the Vedas and Nanak Bani is almost the same. They have clearly stated that ' except the Absolute Lord nothing whatsoever existed then '. Nanak Bani gives detailed account of non-existent things in that state as compared to the vedas. The Bible and the Quran give no direct account but they are suggestive in this respect. Guru Nanak has also stated that the pre-creation state was a wondrous state and is indescribable. The idea of pre-creation state of the universe of the scriptures is almost in conformity with that of the supporters of the evolutionary theories. But Nanak Bani and other scriptures are totally against the Steady-State theory of the universe put forward by a group of scientists.

Nanak Bani and other scriptures believe that in the beginning the universe was a solid mass. According to Guru Nanak it was in the shape of an egg. Under the divine order, it expanded gradually to its present state. The scientists have also put forward similar views about the initial as well as expansion states of the universe. The fire-ball postulated by G. Lemaitre in 1932 can be equated with the ' solid mass in the shape of an egg ' as described by Guru Nanak.

The basic difference between Nanak Bani and scientific view is that the former believes in the 'creator' who is behind the creation and expansion of the universe ; whereas the latter believes that the 'matter' of its own evolved to the present state of the universe.

As regards creation of the matter is concerned, Nanak Bani has stated that the Absolute Lord created the matter of the universe 'out of Himself '. The scientists do not give any answer as to from where the initial fire-ball(the matter of the universe) originated.

So far as age of the universe is concerned, we find exaggerated statements put forward by the scientists. They are not unanimous on this issue. From their views we find that the universe originated between eight to twenty thousand million years ago. The views of the scientists look merely speculative . Their views does not solve the problem at all. Nanak Bani has clearly stated that ' a son cannot describe the birth of his father ' ¹ Similarly the earthly man can never be able to describe as to when the universe originated .

1. G.G.S. : p. 284 (M. 5)

Whatever may be the position of the scientific knowledge to-day but from the above analysis, it seems that the problems relating to the origin of the universe, origin of matter, age of the universe etc. are beyond the scope of scientific research. It seems that it will never be able to solve these problems unless it postulates a creator behind the universe as they believe in the creators of all other things.

Nanak Bani is very clear on these issues stating that the Absolute Lord created the universe. He Himself is the matter of the universe and no one knows as to how and when the Absolute Lord created the universe. It is the Absolute Lord who alone knows the mystery of the universe.

In nutshell, we may conclude that there is no originality in the views of the scientists about the pre-creation and expansion states of the universe put forward by them in the 20th century as these were already recorded in Nanak Bani about five centuries earlier.

CHAPTER III

CONCEPT OF LIFE

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- 3.1.1 Material things
- 3.1.2 Living organism
- 3.1.3 Living matter
- 3.1.4 Difference between living and non-living matter
- 3.1.5 Concept of vitalism
- 3.1.6 Characteristics of living things
- 3.1.7 Conclusion

PART BMetaphysical View

- 3.2 Vedic/ Upanishdic view
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- 3.4 Quranic view

Nanak Bani View

- 3.5.1 Living organism
- 3.5.2 Constituent elements of living body
- 3.5.3 Separation of body and soul
- 3.5.4 Conclusion
- 3.5.5 Soul and life- two distinct things
- 3.5.6 Divine light as life
- 3.5.7 Prana as life
- 3.5.8 Conclusion
- 3.6 Scientific and Metaphysical View: A synthesis.

PART AScientific view

3.1.1

Material things

Science divides the material things of the universe into two types, such as animate (living) and inanimate (non-living) things. Animate things consist of plants, animals and birds. All other things such as rocks, metals, minerals, gasses etc. are inanimate or dead. The living things move or vibrate whereas non-living things can neither move nor vibrate.

3.1.2

Living organism

A living thing is often described as a living organism. An organism is something that exhibits organization . Simplest as well as most complex plants and animals show various degrees of organization. Organization is, therefore, an essential feature of all living things. A living organism like a human being has organs such as hands, legs, eyes, ears, nose etc.

3.1.3

Living matter

All organs of a living thing are made up of cells. The smallest of the plants and the animals consist of a single cell. The larger organizations are made up of many cells. Inside, each cell, there is a complicated mixture of chemicals called 'protoplasm' or 'living matter'. The protoplasm inside a cell is never at rest. All living beings consist of one or more protoplasmic cells. It is the 'protoplasm' or 'living matter' that assumes many different forms of plants, birds and animals during the course of development. The living cell is like a factory in which energy in the form of motion, heat, electricity and light is always being produced.

The chemical analysis of the protoplasm shows that it is made up of elements which also occur in nature in the non-living world. 80 per cent of protoplasm consists of water which is made up of the elements of hydrogen and oxygen. These two elements together with nitrogen and carbon make up 90 per cent of protoplasm. The remaining part is made up mostly of eight other elements, namely;

phosphorus, sulphur, potassium, magnesium, iron, sodium, chlorine and calcium. Traces of a few other elements are also present in the protoplasm. In addition to the chemical compounds, protoplasm contains proteins including enzymes, fats and fatty substances, carbohydrates and inorganic substances.¹ Thus the 'protoplasm' or 'living matter' is a composite structure of solid, liquid and gaseous material which is inorganic in nature. On this very basis the scientific research has concluded that the living matter does not contain any element which is not found in the non-living matter. Energy too, which is the basis of all life activities is not different from the energy existing outside living bodies.² Hence it is the non-living matter which itself evolved to that of living matter and assumed different forms of living organisms. This shows that life like every thing else in the universe is material in nature. But it is not inherent in every sort of material.

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1. The Story of Life : p. 30
 2. ibid : p. 90

3.1.4

Difference between living and non-living matter.

Now the question arises as to what sort of the thing makes non-living matter different from living matter ? It could be some kind of mysterious thing which transformed non-living matter into living matter. The scientific research has not been able to find out such a thing otherwise the scientists would have made the living matter from the non-living matter. It may be submitted that many scientists tried to prepare living matter from non-living matter in the laboratory but they could not succeed and it is still merely a dream.¹ The thing which distinguishes the living matter from non-living matter can, therefore, be called life. If that is withdrawn from the living matter that would become dead or inanimate.

However, the scientists are of the view that there is no clear-cut line of demarcation between the living and non-living matter. Viruses that cause various diseases such as small-pox, infantile, paralysis etc. are considered living as well as non-living² by the scientists. Similarly organic compounds having element of carbon are called carbon compounds.

All carbon compounds may be called organic compounds

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1. The Story of Life : p. 6
 2. ibid : p.89

but a few are usually treated as inorganic.¹ This suggests that the line of demarcation between inorganic and organic compounds is not as sharp as it seems to be .

3.1.5

Concept of vitalism

In olden times many thought that organic compounds were synthesized into living organisms by means of a vital force. To this vital force were attributed properties that made it more or less a supernatural force controlling and guiding the life activities of living things. Many earlier chemists tried to synthesize such organic substances artificially in the laboratory but they failed. This failure was supposed to confirm the theory of vitalism. It was taken to prove that :

- i) living matter was fundamentally different from non-living matter;
- ii) vital force was a force fundamentally different from all other forces; and
- iii) it was something beyond the reach of man. Man could not understand it, imitate it or control it.

However, the 'vital force theory' was short lived.

1. The Story of Life : p. 90

It may be stated that the present scientific research has succeeded in synthesizing artificially most of the organic compounds from inorganic constituents. The scientists feel that there is no fundamental difference between organic and inorganic compounds as the forces governing the formation of organic systems are as natural as those governing the inorganic.

3.1.6

Characteristics of living things

Life is revealed to us when it enters organs that for one reason or another are sufficiently receptive. The material body in which life is displayed to us may take many forms. The scientists distinguish the living from non-living things on the basis of their properties and characteristics which are as follows :-

Spontaneous movement

A very obvious property of many living things is their power of movement. This movement takes place naturally in all living matter. In one kind of movement the entire body is transferred from one place to another. Such movements are made by animals that move from one place to another.

There are many plants that move about freely from place to place like animals. Such plants are very small and live in water. Even the fixed plants show slow movement of their parts while they are growing. The roots and shoots grow and extend in various directions in the soil and in the air. Apart from these, there is the natural movement of protoplasm inside the cells.

Irritability

Irritability is also one of the fundamental properties of protoplasm both in plants and animals. The ability of roots to grow in darkness away from light or of shoots to grow towards light are examples of responses to stimuli i.e. effects of external causes. In this case light is the stimulus, the external cause. The resultant mode of growth, either away from or towards light, is the response, the effect. The capacity to respond to a stimulus is called 'irritability' .

Metabolism

Metabolism is another feature characteristic of all living beings regardless of whether they are plants or animals.

Living organisms require food , water , air etc. for maintaining their life and for performing various activities. Transformation or complete change of food into the substance of the body and then its breakdown , with consequent production of energy is called ' metabolism ' .

Growth

Growth is a common characteristic of all living organisms. Animal or plant growth is the result of the change of the non-living matter of food into the living matter of their bodies. A tiny seed grows into a gigantic tree and a small baby grows into a fully developed man.

Re-production

Scientists consider the power of re-production as the most important distinguishing property of living beings. Reproduction is the production of one or more individuals from those already in existence. Reproduction is common to both plants and animals. Living systems not only produce new individuals essentially like themselves, they also introduce slight variations from generation to generation eventually producing new individuals astonishingly unlike themselves.

To sum up, all living organisms - plants and animals are characterised by the presence of protoplasmic cells, the power of spontaneous movement, irritability, metabolism, growth and re-
¹production .

3.1.7

Conclusion

Life , in fact , is a mysterious thing. Many attempts have been made by the scholars , scientists etc. to understand its true nature. They have been able to know a great deal about it but they do not know its real nature. It still remains
²a riddle for them. However, on the basis of above facts, the scientists have tried to define life. The usual practice is to describe the distinctive properties of a living organism. As to the dictionary definition of life, it has been considered dull and colourless which states that ' life is that state of an animal and a plant in which it is capable of performing its natural
³functions. The generally accepted view about life among the scientists is that ' life is a system capable of performing a number of such functions

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|----|---------------------|-------|
| 1. | The Story of Life | : p.9 |
| 2. | ibid | : p.6 |
| 3. | The Miracle of Life | : p.7 |

as eating , metabolizing, excreting, breathing,
 moving, growing, reproducing and being responsive
 to external stimuli ¹ .

To sum up , it may be concluded that the
 non-living matter itself evolved into living
 matter and assumed the form of different living
 organisms and became capable of performing all its
 natural activities as mentioned above.

The modern science is of the view that
 life is not a thing separate from the body. It is
 a process, made up of all the movements and
 activities of the materials with/⁻ⁱⁿthe body. Biology,
 the science of living things studies this process.

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1. Encyclopadeia Brit^anicca
 Vol.13 : p. 1083

PART BMetaphysical view

3.2

Vedic / Upanishdic view

The vedic / upanishdic seers believed

that :-

- a) a living being is made of two distinct things i.e. material body and the soul. The body is like a house in which the soul stays for a limited period; and
- b) at the time of death of a living being, the soul leaves the body and the activities of the living being such as breathing, moving, eating etc. come to an end. The soul was, therefore, considered as the life of a living being .

A few verses from the vedic/ upanishdic literature in support of the above ideas are given below :-

" The creator produced a couple matter and life (soul) saying to Himself that these two will produce all manner of creatures for me. " (1)

" Breath is life- like breath which is life. " (2)

" Breath is life of beings- it is called life of all. " (3)

" Life is the spirit of the body." (4)

" Atman means life to move everywhere." (5)

1.	Prasna U.	:	1.4
2.	R.V.	:	I.LXVI.1
3.	T.U.	:	II.3.1
4.	Principal Upanishads	:	p.544
5.	R.V.	:	I.LXIII.VIII

" I (Indra) am the breathing spirit, meditate on me as the intelligent self, as life as immortality. Life is breath and breath is life. For as long as breath remains in the body so long as there is life ." (1)

Breath or prana is identified with the
2
soul.

" Verily, indeed, this body dies, when deprived of the living self, the living self does not die. That which is the subtle essence this whole has for its self. " (3)

Besides the ' spirit or breath is life ' hypothesis, we also find ' Brahma (universal consciousness) is life ' hypothesis in the vedic literature:

" For in the veda life itself is the Absolute and the Absolute life. "(4)

" Life is consciousness. " (5)

" Brahma is consciousness. " (6)

" Life is Brahma . " (7)

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| 1. | Kausitaki U. | : III.2 |
| 2. | Principal Upanishads: | p.667 |
| 3. | C.U. | : VI.11.3 |
| 4. | The Creative Vision | : p.337 |
| 5. | A.U. | : III.3 |
| | Kausitaki U. | : III.3 |
| 6. | A.U. | : III.3 |
| 7. | op.cit.1 | : III.3 & |
| | T.U. | : III.3.1 |

Keeping in view the over- all vedic/ upanishdic thought about life, it may be inferred that ' Brahma is life ' hypothesis relates to the universe ' as a whole ' and not to the individual living beings. Here Brahma is identified with the universal soul. As is an individual soul to a living being so is the universal soul or Brahma to the universe. The universe is alive because of its soul i.e. Brahma. As and when the soul of an individual living being leaves the body, the living being dies. Similarly if the universal soul or Brahma withdraws Himself from the universe, it will dissolve forthwith alongwith all its hosts. It may be stated here that the death of an individual or individuals do / does not effect the life of the universe at all and it remains alive. All kinds of life in the universe such as plant life, animal life and bird life could only be possible if the universe itself is alive. In view of this the vedic/ upanishdic seers evolved the hypothesis that ' Soul (individual or universal) is life'.

3.3

Biblical view

The creation story as mentioned in the Book of Genesis of the Old Testament teaches us that the matter and the spirit are two essential elements of a living thing. The Bible says :

" While creating man as a living being, the Lord made the material body of man out of dust of the ground and then He breathed into his nostrils the 'breath of life '." (1)

Here the 'breath of life ' means the spirit.

The Bible further says that ' in all the wild beasts of the earth, the birds of the air and the reptiles there is a living spirit." It is, therefore, the individual spirit which gives life to material body of individual living creatures. Thus the 'spirit itself is life'and is separate from the material body.

Besides the life of the individual beings, the Bible also refers to the life of the universe 'as a whole '. According to it, except the material elements, the universe in the beginning was devoid of life. In order to set through His creation plan, the Lord first of all created life or life principle of the cosmos on the first day. The God said ' let

there be light and there was light ' . The light created on the 1st day was not the ordinary light but the divine light which is life of the universe 'as a whole ' . It is, therefore, the divine light due to which the universe is alive. It is the vital force or the life principle of the universe. It can be identified with the universal soul as the vedas speculate.

Thus the Bible teaches us that the 'vital force or the universal soul' is the life of the universe whereas individual soul is the life of all individual living creatures.

3.4

Quranic View

The Quran is of the view that man as a living being is a unit of body and soul. The body of man is made of dust in which the soul dwells :

" We created man from an extract of clay. " (1)

" After creation of man- Allah breathed His spirit into him. " (2)

The above verses of Quran show that the body without soul is lifeless. It is the soul which gives life to the material body. Thus 'Soul is life ' is the teaching of Quran .

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| 1. | The Quran | : 18.38, 22.6, 23.13 |
| 2. | ibid | : 32.10, 38.37 |

Nanak Bani view

3.5.1

Living organism

Nanak Bani is of the view that a 'living thing' is not made of matter only as the scientists feel but it is a unit of material body and soul. This view point of Nanak Bani is clear from the following verses :-

- " Having created the body the Lord put the soul within it. " (1)
- " Destiny has brought about the union of body and soul. " (2)

3.5.2

Constituent elements of living body

The body is made of five elements and the soul is subtle in nature. Nanak Bani says :-

- " Uniting the five elements, body is made. " (3)

The five elements are: air, water, fire, earth and ether . Guru Nanak says :-

- " The water, fire, air, dust and the sky- in that house of five elements abides the mortal. " (4)

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| 1. | G.G.S. | : p. 138 |
| 2. | ibid | : p. 139 : For further details : |
| | | : p. 154, 465, 155 |
| 3. | ibid | : p.1026 and 1039 |
| 4. | ibid | : p.1031 |

3.5.3 Separation of body and soul

Nanak Bani is of the view that body and soul of a living being are destined to depart from each other at an appointed time. That state of the living being is called ' death '. Guru Nanak says :

" Body fall and soul depart at death." (1)

" When the soul departs from within dreadful becomes the forlorn body." (2)

3.5.4 Conclusion

From the above views of Nanak Bani, it looks that it is in general agreement with the concept of life presented in the vedas / upanishads, the Bible and the Quran stating that :-

- i) a living thing is a unit of material body and soul;
- ii) at the time of death, soul leaves the body; and
- iii) soul is life.

3.5.5 Soul and life - two distinct things

Nanak Bani is totally against the concept of the scriptures that the ' soul(individual or universal) itself is life '. According to it , the soul and life are two distinct things as is

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| 1. | G.G.S. | : p. | 418 |
| 2. | ibid | : p. | 19 |

clear from the following verses :-

" Why should we in our mind grow
oblivious of Him who is the owner
of our soul and life. " (1)

" I have no one to call my own
without Him to whom belong my
soul and life. " (2)

3.5.6

Divine light as life

According to Nanak Bani ' light of the
Absolute Lord ' is the life of the universe and
all its hosts such as sun, moon, stars, plants,
animals and birds. It says :

" Within us is the sublime light of God,
the life of the world. " (3)

" The rays of divine light have spread
out and there is illumination every-
where. " (4)

" In the lamp of the sun and the moon,
the entire light is thine O Lord. " (5)

" Thou art completely contained in sea,
land, lower and upper regions and in
every heart is thine light. " (6)

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|----|--------|------|------|---------------------------------|
| 1. | G.G.S. | : p. | 16 | |
| 2. | ibid | : p. | 59 | : For further details: |
| | | | p. | 139, 422 |
| 3. | ibid | : p. | 1039 | |
| 4. | ibid | : p. | 1033 | |
| 5. | ibid | : p. | 1036 | |
| 6. | ibid | : p. | 795 | : For further details: |
| | | | p. | 663, 876, 1109, 1013, 992, 1276 |

3.5.7

Prana as life

Prana has also been referred to as the life of the living beings in Nanak Bani :

" The soul and body all belong to Him. It is He who has infused breath (vital force) in us. " (1)

" Everywhere the Lord has staged the play of breath in the beings. Withdrawing His might He makes the being fall. " (2)

" The body is in the power of breath." (3)

The word ' breath ' mentioned in the above verses neither means the act of breathing by the living beings nor the soul but it denotes the 'vital force ' or ' the might ' of the Absolute Lord which gives life to the living being, a unit of body and soul.

3.5.8

Conclusion

From the above facts of Nanak Bani, it may be inferred that the ' Divine Light ' or ' Prana ' is the 'vital force ' or 'life principle ' or ' life' of the entire universe. The ' Divine Light ' and 'Prana ' are, therefore, identical with each other.

1. G.G.S. : p. 1011
2. G.G.S. : p. 1033
3. G.G.S. : p. 942

As long as the vital force exists in the universe, it will remain alive. As and when the Absolute Lord withdraws it from the universe, it will dissolve. Similar is the position of all living beings. When the Absolute Lord withdraws the 'vital force' or 'prana' out of them, they die forthwith. The soul and body depart from each other. The body mingles with the dust and the soul leaves for another journey to attain a new body according to its deeds. In fact, neither the soul nor the body has its separate entity. The soul manifests through the body and the body has no existence of its own unless it is united with the soul. They are mysteriously and intricately united to become a living thing with the vital force by the Absolute Lord. The 'divine light' or 'prana' or 'the vital force' is, therefore, the link between the body and the soul. It remains there as long as the Absolute Lord desires. Due to the presence of 'vital force' or 'prana', the unit of body and soul is capable of performing its natural functions such as eating, breathing, excreting, moving, metabolizing, growing, reproducing and being responsive to external stimuli, the functions which a living organism performs according to the scientists.

Thus according to Nanak Bani , 'a living thing is a unit of three elements such as material body, soul and divine light or prana '. The Absolute Lord is the source and controller of the 'divine light' or ' prana '. At His will the 'divine light ' or ' prana ' remains in the universe as well as in the individual living beings.

From the above analysis of Nanak Bani, it is found that the ' concept of life ' presented in it is basically different from that of the scriptures. Nanak Bani is of the view that ' soul is not life ' but it is one of the three constituent elements of a living thing. The union of soul and body without the 'Divine Light ' is not possible. It is, therefore, the 'Divine Light ' which gives life to the unit of body and soul. If there is no vital force-there will be no life. Thus divine light is the cause of the life in the universe as well as in the individual living things which has its origin in the Absolute Lord.

It may be mentioned that there is a mention of 'Divine Light ' as life of the universe in the Holy Bible but this idea did not develop further even in the Bible itself because like other scriptures Bible also advocates the doctrine stating that 'spirit is life '.

3.6

Scientific and Metaphysical view:
A synthesis .

The ' concept of life ' presented in the vedas/ upanishads, the Bible and the Quran is based on the primitive view of life which we find in the stories then prevalent among the Bushmen of Australia, Maoris of New Zealand, Eskimos of Alaska, the ancient Greeks, Egyptians, Babylonians etc. stating that 'the creator made man out of clay and then blew his breath into mouths, nostrils and navels of man'¹ .

The word 'breath ' is identified with the 'soul or spirit '. The word 'spirit' which comes from the latin word means ' to breathe '² . In the vedic literature it has also been stated that ' to breathe means soul, spirit, self both individual and universal'³ . Thus the ancients were of the view that ' a living thing is a combination of body and soul, the two distinct things '. It was also believed by them that as long as the spirit dwells in the body, there is life. As soon as the spirit leaves the body, the breathing process stops and the living being dies. Thus the soul or the breath was believed to be the life of the living things. On this basis, the scriptures evolved the hypothesis that 'spirit or soul is life ' .

1. How Life Began : p. 11
2. ibid : p. 8
3. The Teachings of the Vedas. : p. 73

It is the Nanak Bani which gives new meaning to the ' concept of life ' stating that the 'Divine Light ' is the life of the universe as well as the individual beings , a unit of body and soul, and due to which they perform their natural activities.

The ' concept of life ' of Nanak Bani and scientists is like two fixed poles standing apart. Science does not consider life separate from the body; whereas Nanak Bani is of the view that the life (vital force) is a distinct thing from the unit of body and soul. According to Nanak Bani a living organism is a combination of three elements such as body, soul and prana; whereas the scientists do not believe in such a hypothesis. They believe that it is the non-living matter which evolved to different living organisms.

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CHAPTER IV

LIFE IN THE UNIVERSE

4.1

PART A
Scientific view

There is no general consensus among the scientists about the existence of life in the universe. Conflicting views have been put forward by them in this respect. A group of scientists believe that life is scattered through out the universe; whereas others oppose this idea on the ground that there is no clear-cut evidence of existence of life anywhere else in the universe except our own earth. Even our solar system has been a matter of dispute. The issue whether life exists on other planets besides our own earth or not, has not been finally resolved. Views of some of the scientists who support or oppose the idea of existence of life through out the universe are given below :-

" In 1938, the Spanish astronomer E.Holmberg's investigations showed that there are many stars which like our own sun are surrounded by circulating planets. It seems, therefore, that our solar system is not unique. There can be no doubt that planets revolve round other stars too, and very many of these are comparable with our earth. There is, therefore, nothing

to hinder us from supposing that life exists on some of them, may be even on many of them.¹

Frenchman de Montlivault, H.Richter, Lord Kelvin in Britain, M.Nagner were also of the view that there are many worlds of life besides our own.² "

The scientists are generally of the view that life cannot exist on any other planet except the earth in our solar system. Mercury is so close to the sun that temperature on its sunlit side is estimated to reach nearly 500° C. Venus, though about twice as far from the sun as Mercury, probably has surface temperature of nearly 100° C. Liquids boil on these planets. Therefore, they are not considered suitable for any kind of life.

Of the planets farther than earth from the sun, Jupiter, Saturn, Uranus, Neptune and Pluto are all too cold that liquids freeze hard on these planets and their atmosphere contains poisonous gasses such as hydrogen, helium, methane and ammonia. Therefore, these planets are too unsuitable for any kind of life.

It is believed that there is some form of life on Mars but this is yet to be decided finally. -

1. The Origin of Life on Earth : p.52
2. ibid : p.54

The earth is the only member of our sun's family known to have living creatures on it. Alone among the planets in the solar system though not perhaps among those belonging to the millions of sun-like stars in the universe, the earth's composition and distance from the sun seem to have provided exactly the right conditions in which evolution of an advanced form of life could develop.

In view of the facts stated above, it may be inferred that the problem of existing of life in the universe except our own planet earth, still remains unsolved.

PART BMetaphysical view

4.2

Vedic / upanishdic view

According to the vedas / upanishads, the earth is the only place in the universe where life exists. Earth is one of the two equal parts of the universe . The other part is 'the heaven ' which is the abode of sun, moon and stars. Life originated only on the earth. Before origin of life, the earth was totally unfit for plant or animal life and was void of life. It was barren or bald :

" Earth was without hair (life)
or bald. " (1)

" And verily the earth was then
barren and without hair (life)." (2)

Gradually, the earth became suitable for life . As to how and when the earth became suitable for life, the Vedas and Upanishads do not give any answer. It is perhaps beyond the mind's conception. A few ^{only} vedic verses in support of existence of life/on earth are given below :-

" The Absolute Lord has created the
earth for men. " (3)

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|----|-----------------|---------------------|
| 1. | Aittireya Br. | : 24/23 & |
| | Taittireya Sam. | : 2/1/2 |
| 2. | Kathak Sam. | : 12/13 |
| 3. | R. V. | : 2.20.7 & 1.164.10 |

" It is the earth that nourisheth
all life. " (1)

Vedic seers treated earth as the mother
and the heaven as the father. It is only the
mother which gives birth to the living things.
Hence, it is the earth on which life exists.²

The above vedic facts fully affirm the
idea that ' life exists only on the earth in the
universe '.

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1. R. V. 2. 17. 5
2. R. V. 6. 51. 5

4.3

Biblical View

The Bible says that ' the heaven of heaven 's is the Lord's but the earth had been given to the children of men '¹. It also states that the God created sea creatures, all plant life, birds and animals on earth for the benefit of man. This shows that all kinds of life exists only on earth . It may also be stated that there is no evidence available in the Bible about the existence of physical life anywhere else in the universe besides our own earth.

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1. Psalms : B. IV--115-116

According to Quran animal and plant life exists only on earth. The earth is the habitable place for men . For the benefit of man Allah has created all kinds of cattle and plants on earth . A few verses of Quran in support of above ideas are given below :-

" For you (men) there is in the earth a place of abode and provision for a time . " (1)

" He has created horses, mules and donkeys that you may ride them. " (2)

" Allah has made for you skins of the cattle, habitations which are easy for you to transport and easy to set up and He provides for you from them wool and furs, house-hold goods and articles for use over a period. Allah has made for you , of that which He has created, trees and other means of shade. " (3)

" We produced for you thereby (on earth) gardens of date-palms and vineyards in which these are for you abundant fruits and of them you eat." (4)

Thus the above verses of Quran show that Allah has created every kind of living species only on the earth in the universe.

1.	The Quran	:	2.37-39
2.	ibid	:	16.6
3.	ibid	:	16.81-82
4.	ibid	:	20.20-23

4.5

Nanak Bani View

In contrast to the Vedic / Upanishdic, Biblical and Quranic view, Nanak Bani states that besides our own earth , life is scattered through out the cosmos. According to Nanak Bani, there are countless worlds in the cosmos like our own. In our world, God has created earth as a place of meditation for its inhabitants . It is like a mother and in its lap, play of birth and death is going on. It is inhabited by all kinds of plant, bird and animal life. Nanak Bani says that similar is the position of other worlds in the cosmos where life exists. A few verses of Nanak Bani confirming the idea that life not only exists in our own world (earth) but it also exists in other worlds in the cosmos , are given below :-

Existence of life on earth

" In the midst of these (air,water, fire and nether lands) He (God) has established the earth as a home for meditation. Therein He placed beings of various types and colours. " (1)

" To die and to live God has given us the earth. " (2)

" It is for the pious persons that the true Lord has created the earth. Therein He has set agoing the play of birth and death. " (3)

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1. G.G.S. : p. 7
 2. ibid : p.877
 3. ibid : p.941

Existence of life throughout
the universe.

- " The earth and the sky, He has made places for habitation. " (1)
- " As many as are the creatures and living beings in the ocean, land, underworld and sky or wheresoever they are, amongst them all thou O lord art contained. " (2)
- " All the worlds(ours is one of them) all the continents and all the beings of the universe (cosmos), all of them, the Lord derives according to His will and His pen flows as are our deeds. " (3)
- " Thou alone art the true Lord of mine and other beings of numberless worlds. " (4)
- " There are beings in water, on land, in the world, in the universes and in the germs within the forms. " (5)

The above verses of Nanak Bani clearly states that the life not only exists on earth but also exists throughout the cosmos .

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| 1. | G.G.S. | : p. 839 |
| 2. | ibid | : p.1127 |
| 3. | ibid | : p.1241 |
| 4. | ibid | : p. 15 |
| 5. | ibid | : p. 466 |

4.6

Scientific and Metaphysical View :
A synthesis .

The hypothesis put forward by some scientists that ' life is scattered through out the universe ' is neither based on laboratory tests nor on observational data. In fact, this problem is beyond the scope of laboratory tests unless some material from the outer space i.e. beyond our galaxy is brought here for tests. Under the present circumstances, it is not possible because of our voyage limitations in the space. Alternatively , this problem could be solved by observers in an observatory. However, the range of modern scientific observational instruments is so limited that nothing could be observed as to what lies beyond the Milky Way - our universe. The idea about existence or non-existence of a thing beyond the Milky Way could, therefore, be purely speculative. The basis of above mentioned hypothesis seems to be that ' as life exists in our world on earth, likewise it may exist in other worlds ', can in no way be considered as scientific. That is why most of the scientists oppose this hypothesis due to lack of scientific evidence. In view of this, one must agree with the idea that ' scientific research has not been able to trace out any sign of life in

any place in the universe besides our own earth. However, it may be stated that signals received recently from some binary stars of other galaxies are believed to indicate the existence of life in other galaxies. But it will take time to arrive at a final conclusion.

So far as source of Nanak Bani about the existence of life through out the cosmos is concerned, Guru Nanak has said in his bani that :

" By truly believing in God's name, the knowledge of all spheres (in the universe) is acquired. " (1)

" Imbued with the Name, the mortal gains the knowledge of the three worlds. " (2)

He has also stated that even the true Lord can be seen through the Name as :

" The Lord has no form and colour and who is free from darkness and wordliness is recognised and seen through the Name , O Nanak. " (3)

Guru Nanak was the blessed one who had met the true Lord :

" Meeting with the True Guru, I have obtained the Immaculate Lord and so shall not, again go round this dreadful world ocean. " (4)

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| 1. | G.G.S. | : p. | 3 |
| 2. | ibid | : p. | 941 |
| 3. | ibid | : p. | 944 |
| 4. | ibid | : p. | 1255 |

The above verses of Nanak Bani clearly show that Guru Nanak had not only the knowledge of the entire cosmos but he had also met the True Lord. Imbued with the Name of the true Lord, his soul could travel through-out the universe and observe all the things in its every nook and corner. Thus the assertion of Guru Nanak that ' besides our earth, life is scattered through-out the universe' is based on his soul's practical experience and is not merely speculative like that of the scientists supporting this hypothesis. It may be submitted here, that anybody can observe the things in the cosmos like Guru Nanak by reaching his spiritual status . Even otherwise, if we consider the hypothesis of some scientists about the existence of life through out the universe as authentic, then it can also very well be concluded that Guru Nanak was the first who with his intuitive knowledge made a statement about the existence of life through-out the universe much earlier than such scientists.

CHAPTER V

ORIGIN AND EVOLUTION

OF LIFE

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- 5.3.1 Life has a beginning
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- 5.3.3 Theory of Special Creation

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- 5.4.1 Life has a beginning
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- 5.6 Scientific and metaphysical view:
A synthesis.

Very many scientists have tried to somehow evade the problem of origin of life either by promoting the hypothesis of ' Eternity of Life ' or by becoming open idealists and relegating the question from the field of science to that of faith.¹

In Darwin's opinion life must have arisen sometime and somehow but we are still completely unaware of the manner in which it took place.² Ernst Hackel is of the view that any detailed hypothesis whatever concerning the origin of life must, as yet , be considered worthless because upto now we have not any satisfactory information concerning the extremely peculiar conditions which prevailed on the surface of the earth at the time when the first organisms developed.³

The scientists generally believe that living things originated in one of the three ways, such as :-

- i) that they could result from the reproduction of other living creatures of their own kind ;
- ii) that they could result from the reproduction of very different kinds of living creatures;and
- iii) that they could be formed spontaneously, solely from materials that were not alive .

1. The Origin of Life on Earth : p.73
 2. ibid : p.75
 3. ibid : p.77-78

The hypothesis that living things come only from living things is called ' bio-genesis '. In contrast , the hypothesis that living things can arise from non-living things can be called either 'spontaneous generation or abio-genesis '. These hypotheses are discussed below :-

5.1.2

Bio-genesis hypothesis

This hypothesis can further be divided into two distinct hypotheses such as :-

- i) like produces like; and
- iii) like produces unlike .

According to the ' like produces like ' hypothesis, the offspring are produced by parents of their own kind or species.

The ' like produces unlike ' hypothesis was regarded for centuries as a way of reproduction. As the years and centuries passed, however , biologists began to reject entirely the hypothesis that one species of animal or plant can suddenly change into another. This method of reproduction, therefore, was gradually eliminated.

The scientists have finally come to the conclusion that parent and offspring are always the same kind of organism and that ' like produces like '. This is called ' genetic continuity ' now regarded as a fundamental fact of biology .

5.1.3

Spontaneous Generation hypothesis

The formation of living creatures from materials that are not alive , is known as the hypothesis of ' spontaneous generation '.

This hypothesis has a long history. Aristotle (384-322 B.C.), the famous Greek philosopher and scientist believed in spontaneous generation. Other Greek philosophers such as Empedocles, Democrites and Epicurus also supported this view point. Aristotle and other observers knew that many kinds of fishes mated, laid eggs and that the eggs grew into fishes of the same kind as the parents. But these early writers also believed that other kinds of fishes might be formed solely from the mud in the bottom of a pond. In this case there would be no mating of the parents, no eggs deposited. Through-out the middle ages a belief in spontaneous generation held undivided sway over the minds of people.

Jean Baptise van Helmont (1652) also supported the hypothesis of spontaneous generation. He stated that if wheat grains and a dirty shirt were put in a pot, mice would be formed from the interaction of the grains and the dirt of the shirt . The next familiar examples of spontaneous generation related to the objects that were decaying. The seventeenth century

biologists observed appearance of maggots in decaying flesh and in warm weather the carcass of an animal rapidly filled with writhing maggots. The biologists also saw earth worms coming out of the soil and frogs emerging from the slime on the surface of a pond.

Descartes suggested that spontaneous generation was an entirely natural process occurring independently of any sort of metaphysical life principle whenever the material conditions were raged.¹

Antony van Leeuwenhoek (1632-1723) experimented and found that decayed fermental matter was producing living things where none had been before.²

Naturalist J.T.Needham (1713-1781) also believed in this hypothesis. He experimented and found that micro-organisms arose spontaneously from putrifying organic substances. F.Elfuing agreed with the idea of Needham.³

F.A. Pouchet (1800-1872) argued that life must somehow arise from non-living matter, if not how life came about in the first instance and so he supported the idea of spontaneous generation.⁴

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| 1. | The Dawn of Life | : p. 91 |
| 2. | How Life Began | : p. 15 |
| 3. | The Origin of Life on | : p. 23 |
| 4. | ibid Earth | : p. 26 |

Biologists such as Brussels, Harveen, Francis Bacin, F.Engels and K.Atimiryazev also supported the idea of spontaneous generation of living things from lifeless matter.

However, this hypothesis was not accepted by most of the scientists . They were of the view that the grounds on which this hypothesis was evolved were totally irrelevant to support the hypothesis. They argued that :-

" the earth worms grew out of tinny eggs that had been laid by other worms; frogs grew from jelly like eggs laid by parent frogs on the surface of water; and they did not see how the mice invaded the grain. "

French scientists Louis Pasteur (1822-1895) was one of the challengers of this hypothesis . He was of the view that organisms that appeared in infusions were derived only from spores present in the air. Thus, if life appeared in Pouchet's infusions, this probable meant that the experiments had not been carried out properly. He made infusions of yeast and sugar. When exposed to air, they soon had a rich growth of bacteria and protozoans. When he was careful to prevent air from reaching some of the infusions, however, no organisms appeared. He actually proved that spontaneous generation cannot occur.

Italian physician F.Redi (1626-1697) outrightly rejected this hypothesis on the ground that ' living things could not grow suddenly out of dead matter. ".

W. Preyer said that ' life can come only from other life'.

Lord Kelvin was of the view that ' dead matter cannot become living without coming under the influence of matter previously alive '.

By the end of 19th century, biologists had come to the conclusion that :-

- a)All observations and experiments thought to be examples of spontaneous generation were shown to be false; and
- b)In no experiment could it be shown convincingly that spontaneous generation could occur.

In view of the above facts, it was, therefore, felt that :-

- i)Life comes from life only;
- ii)Like produces like; and
- iii)Life cannot possibly have come from non- life.

Now the question arises as to how life originated in the universe in the first instance. The scientists have put forward different hypothesis to solve this problem, a few of which are discussed below .

5.1.4

Hypothesis of Eternity of Life

Eternity of life means ; life always existed and had no beginning; living organisms never arose at any time or place from inert material and in the history of earth, there were no geological periods in which life did not exist.

Russian Plant Physiologist and Bio-chemist S.Kostycher was of the view that ' life only changes its form but never arises from dead matter '¹. This gave the idea of ' eternity of life '.

F.Engels was of the view that " we may only assume that life is just as old and just as eternal as matter itself and the whole controvertial point about the origin of life seems to me to be disposed of by this simple assumption'².

The British Physicist W.Thomson and later Lord Kelvin wrote, " dead matter cannot become living without coming under the influence of matter previously alive. This seems to be as sure a teaching of science as the Law of Gravitation. Hence followed the complete autonomy of living creatures and consequently also life must be regarded as eternal '³.

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| 1. | The Origin of Life on Earth | : p. 46 |
| 2. | ibid | : p. 46 |
| 3. | ibid | : p. 45 |

The concept of ' eternity of life ' is incompatible with the generally accepted scientific concept of the universe according to which the universe as well as the earth have a beginning; they are, therefore, not eternal. In the beginning the earth had no sign of life because it was too hot and totally unfit for the existence of living organisms. Thus , life is the latter product than that of the earth. This shows that life originated in the universe at sometime in the past and , therefore, is not eternal . Hence , hypothesis of 'eternity of life' has no place in the present day scientific field .

5.1.5

Hypothesis of Pure Chance

Many scientists believed in the sudden appearance of living molecules, particles of viruses or genes which were endowed with all the attributes of life from their very formation. This approach is associated in the works of T.H.Morgan on the 'Gene Nature of Life '. According to him the first organic things which showed signs of life were genes. According to H.J.Muller life did not arise before the gene. Thus the genes formed the basis of the first living things.

The bodies of animals and plants are composed of cells and the products of cells. Genes are physical units located on chromosomes within the nucleus of the cell. They are of tremendous importance in the life of

the cell, organism and species. The genes control by their actions each and every step of an organism's development from the first effects in the zygote, through the development of the embryo or seedling to the full functioning of the adult .The genes can be extracted from one organism and be made to enter another.

As regards the way in which the primary formation of the gene molecules took place the followers of Morgan gave vague answer that ' gene molecules ' arose purely by chance.¹ French Author A. Dauviller pointed out that ' pure chance ' seems to be the most important factor of formation of such a living configuration.² It may be stated here that the chance combination of organic molecules seems to be a highly improbable event in the field of scientific knowledge.

5.1.6

Hypothesis of transportation
of life on earth.

Transportation through meteorites

The idea that ' fragments of stars bearing seeds of life might reach the earth and thus impregnate it' was first put forward by Frenchman de Montlivault and later developed by H.Richter in 1865 . The scientists such as M.Nagnev, Lord Kelvin in Britain, H.Helmholtz in Germany and Van Tieghem in France also supported this idea as they were generally of the view that life is

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1. The Story of Life : p. 95
2. ibid : p. 96

scattered throughout the universe and travels in the
 form of germs with ¹meteorites.

Transportation through cosmic dust
 under the pressure of light.

Swedish Physical Chemist S. Arrhenius was also of
 the view that life is distributed through-out the space.
 He tried to prove by direct calculations that it is possible
 for particles of matter to pass from one heavenly body to
 another. He considered that the main agent in this case
 could be the pressure of the rays of light ².

P. Lebedev, Russian Physicist showed that light
 asserts pressure on those objects on which it falls and
 the pressure can cause minute particles of dust to move
 through a vacuum at a considerable speed. Arrhenius also
 thought that the earth might have been colonized in this
 way by spores of micro-organisms coming into our solar
 system from other parts of the universe. His theory was
 supported by many physicists and biologists such as
 S. Kostychev, Plazarev, and A. Nemilov.

This hypothesis was rejected by the scientists
 on the ground that life probably does not exist on neigh-
 bouring planets in the solar system. However, this
 hypothesis suggests only transfer of life on earth from
 space but it does not solve the problem as to how life
 originated in the universe.

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| 1. | The Origin of Life on Earth | : | p. 53-54 |
| 2. | ibid | : | p. 58 |
| 3. | ibid | : | p. 58 |

5.1.7

Hypothesis of accidental mixing
and combination of chemicals.

The scientists are also of the view that as against the earth's present atmosphere which is composed of nitrogen, oxygen, carbon dioxide, water vapor and traces of other gases, the atmosphere of the primitive earth was composed of methane, ammonia, water vapor and hydrogen. It is believed that these relatively simple substances gradually combined into increasingly complex molecules. Finally, these complex molecules associated to form systems that had a unique feature: they were self producing. That is, they could make from the chemical substances around them other systems like themselves. Life had started.¹

How could all this have come about? No chemist can combine methane, ammonia, water vapor and hydrogen and produce a living creature. However, the scientists believe that some of the steps that must have occurred in the origin of living things can be repeated in the laboratory.

Darwin foresaw how life might have arisen in some warm little pond where the right chemicals collected under the energizing light of the early sun. From this snug little scene has grown the vision of a seething organic soup in the brimming seas of the primitive earth.²

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| 1. | Biological Science | : p. 635 |
| 2. | Signs of Life | : p. 61 |

V. Omeljanski believed that life appeared on the earth as a result of an unknown combination of matter and energy during the period when organic life became possible on earth.¹

I. B. S. Haldane was of the view that the waters of seas and lakes held a solution unimaginably complicated mixture of mineral salts, acids, colloidal particles of clay and other materials and a vast holgepodge of carbon compounds, This watery conglomerate that is the ' hot dilute soup ' was the medium in which life was to develop.²

P. Becquerel developed a theory regarding origin of life which he called ' radio biogenesis ' according to which ' organic substances arose directly from carbon dioxide, water and minerals under the influence of the ultraviolet radiation of the sun and the radio-activity of the rocks at some particular geological period. Some truly colloidal systems were later built up and the germs of life developed from these systems'.³

Keeping in view the above observations, there is certainly a good reason to believe that the first appearance of life on earth resulted from some kind of chemical reaction in the oceans.

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| 1. | The Dawn of Life | : p.102 |
| 2. | ibid | : p.139 |
| 3. | The Origin of Life of Earth | : p. 56 |

The living things are made of most abundant elements in the universe i.e. hydrogen , carbon, nitrogen and oxygen. The chemical composition of life is a mystery, the mystery is how these chemicals were assembled into the first living thing . Scientists believe that emergence of living creatures on earth was chemically inevitable, ' a forced process '¹.

This assertion of the scientists do not seem to be based on facts but it is merely a speculative one. Although the scientists asserted that life could be generated from inorganic chemicals, they had extremely vague ideas about how this might be accomplished.²

5.1.8

Conclusion

From the above hypotheses of origin of life put forward by the scientists , we find that none of them could be considered as authentic and final. They merely look speculative. The scientific research has, therefore, not been able to know as to how life originated in the universe in the first instance. It still remains a mystery for the scientists.

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| 1. | Signs of Life | : p. 61 |
| 2. | Encyclopaedia Britannica
Vol.13 | : p. 1083-G |

Evolution of Life

5.1.9

Concept of evolution

Most of the scientists are of the view that the important feature of our universe is its over-all evolution. Two important evolutionary events took place in the history of the universe at different times. These relate to the 'cosmic evolution' and 'organic evolution'. In the case of cosmic evolution, cosmic dust clouds evolved into stars and planets. Organic evolution refers to the evolution of living organisms.

According to the scientists, there are over a million varieties of animals and almost half as many plants in the world to-day. The great variety of living organisms had not been there from the very beginning of earth nor has it come about suddenly. Living things have their own history. Plants and animals were different in the past from what they are to-day. They had a beginning long long ago. Then they developed from their original form to newer and newer forms through ages. The present rich variety of species of living things on earth has been the result of a never ceasing evolution from lower towards relatively higher forms. The theory of evolution, therefore, suggests that the first form of life to appear on earth must have been a small and very simple organism.

5.1.10

Pre- Lamarck period

Ideas about evolution in nature are found in the writings of Greek philosophers. Heraclitus was of the view that all things flow and change (life presumably included). The notion that life arises from non-life and animals from plants, a clear-cut evolutionary concept was postulated by Empedocles (495-435 B.C.)¹. Aristotle emphasised the idea of gradual change from simple and imperfect to more complex and perfect.² While the views of the Greek philosophers were speculative, little more was written in this vein for the long duration of the middle ages. However, it was not until the eighteenth century that the evolutionary ideas were again entertained by the scholars of that time. Many of them accepted evolution as a basic trend and hypothesized about possible mechanisms. To mention just a few, these were Spinoza, Leibnitz, Schopenhauer and Kant discussing these things on a purely speculative level. People like Boethe in Germany, Buffon and Saint Hilaire in France and many others from all over Europe were making some attempts to collect scientific evidence for a theory of evolution.³

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1. Modern Science and the Nature of Life. : p. 102
 2. The Story of Life : p. 79
 3. Pre-historic Life on Earth: p. 21

5.1.11

Lamarck 's hypothesis of evolution

Actually , it was Jean Baptize Lamarck (1744-1829) who came out whole- heartedly for evolution as the general explanation of the history of life. His theory of evolution was based on two facts ,such as :

- i) the law of use and of disuse; and
- ii) the law of inheritance of acquired characters.

He evolved his theory on the basis of animal's needs to what might be called ' desires'. Needs (food for example) would create desires to satisfy the needs in a certain way (eating the leaves of trees rather than competing for the available grasses). Satisfying the desires would lead to the use or disuse of certain parts of the body. These parts would either be strengthened or enlarged or would diminish in size and become weak and functionless, depending upon whether they were used or not used. In time, the changes would become inherited or so Lamarck believed and thus the environment would have directly stimulated the altered nature of the species . However, the theory of Larmarck did not find favour of the scholars of that time.

 1. Man and other Living Things : p.295

5.1.12

Darwin's hypothesis of Natural Selection.

Charles Darwin of Paris (1809-1882) lead the evolutionary theory to a splended victory. His theory is based on the concept of Natural Selection. It is summed up as under :-

" Rapid rate of reproduction, on the one hand and limited food, space and various other conditions of life, on the other hand result in a struggle for existence. The struggle for existence leads to the natural selection of individuals with favourable varieties in preference to those with unfavourable or indifferent varieties i.e. the survival of the fittest and the elimination of the unfit. This is repeated in every generation. Natural selection thus brings about the gradual evolution of new species of those already in existence." ¹

The staunch supporters of Darwin's theory of Natural Selection were Thomas Henry Huxley and Joseph Hooker in England, Asa Grey in America and the brilliant German Ernst Hackel.²

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| 1. | The Story of Life: | : p. 83 |
| 2. | Modern Science and the Nature of Life. | : p. 110 |

5.1.13

Mutation Theory

Dutch botanist Augo de Vries produced the Mutation Theory according to which new species appear by sudden changes rather than by gradual changes of the sort described by Darwin. Supporters of this theory believed that new species arose because of changes in chromosomes and genes, which are known to control the appearance and activities of living bodies. This theory¹ has been enthusiastically received by the people.

5.1.14

Theory of Modern Synthesis

The most recent theory of evolution is known as the 'Modern Synthesis'. It contains the most acceptable parts of different theories, such as contribution of Darwin, Weismann, Vries and findings of the new science of the genetics in the twentieth century.

5.1.15

Supporters of evolutionary theory

F. Engels was of considered view that the evolutionary development of matter was the only path by which life would have arisen. According to him, life does not arise arbitrarily and is not eternal. It arises by a process of evolution of matter whenever conditions² are favourable.

E.A. Schafer also favoured the idea of³ evolution.

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| 1. | The Story of Life | : p. 84 |
| 2. | The Origin of Life on Earth | : p. 92 |
| 3. | ibid | : p. 92 |

K. Timiryazev believed that ' matter like all other material phenomena was brought into being by evolution. The evolutionary theory now embraces not only biology but chemistry, physics also. It convinces us that the transition from the in-organic to the organic world was also accomplished by a process of evolution.¹

No doubt the mechanism of evolution of the founders of evolutionary theories is different from each other but basically they favoured the idea of evolution of life through a process of general evolution.

5.1.16

Opponents of evolutionary theory

Like other scientific theories, the theory of organic evolution is also not free from criticism . Views of some of the scientists who oppose this theory are given below :-

A Dutchman named Van Houwensfelt published a book in 1931 called ' Darwinism Has Declined Humanity' in which he violently repudicated the scientific argument for evolution.²

In a more recent and much more temperate book called ' Is Evolution Proved ', Arnold Lunn wrote :

"Influenced as I am by the mental fashion of the

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1. The Origin of Life on Earth : p. 93
 2. Modern Science and the Nature of Life : p. 120

day, my bias is in favour of evolution and I should accept evolution as proved but for the following facts :-

- a) the difficulty of reconciling the suddenness with which new types appear in the geological record with any theory of slow mindless evolution ;
- b) the impossibility of tracing any family into another family by means of true lineage series of fossils;
- c) the impossibility of reconciling the alleged imperfection of the geological record with statics which suggest that most genera are represented in that record; and finally
- d) the fact that no evolutionist has produced a plausible guess, much less a theory supported by evidence to suggest how a purely natural process could have evolved from the mud, sand, mists and seas of the primeval planet, the brain that conceived the reactions to the beauty of much of art and of nature. ¹

Evolution ,therefore, like everything else is not a certainty. Ven Kolliker, Richard Owen and the Swiss American Louis Agassiz (who it is said embraced evolutionism on his death bed) objected variously to evolution and natural selection or both .²

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1. Modern Science and the Nature of Life : p. 121
 2. The Origin of Life on Earth : p. 111

5.1.17

Conclusion

In spite of all the opposition, the theory of evolution occupies a unique place in the field of biology. It is the most inclusive of the great unifying principles of Biology. It is so much a part of the foundation of biology that the science can hardly be understood without it. It has been referred to in this way : ' The Theory of Evolution is to Biology as the Atomic Theory is to Chemistry and Physics '.

It may be stated that the theory of evolution does not attempt to explain how the first living things were formed from the non-living matter. It only refers to the evolution state of the simplest living things to their present state. Therefore, this theory does not solve the problem as to how life originated in the universe.

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5.1.18

History of Living Organisms

The history of living organisms began with the appearance of ' protoplasm ' in the form of very simple living organisms on earth about two thousand million years ago in sea waters. As the time passed and the first simple living beings reproduced generation after generation, there appeared among their offspring organisms somewhat different from the original form. During the first three quarters of this time, then developed from single cells to small soft many celled plants and animals living in the sea.

Five hundred million years ago, living things were divided into two types such as plants and animals.

The plants were represented by many algae living in the sea.

The animals had developed many forms without backbones like sponges, worms, jelly fish and the trilobites.

The plants invaded the land about 360 million years ago in the form of mosses and ferns which dominated the landscape for over one hundred million years. About 255 million years ago the conebearing plants made their first appearance and 165 million years ago the flowering plants came to the scene.

Meanwhile the animals too produced many different forms. Animals with backbones began to appear 425 million years ago. One hundred million years later, after plants had already invaded the land, animals followed them ashore.

Insects, the highest type of animals without backbones, began to appear about 260 million years ago. The first animals with backbones that took to life on land were only part-time land animals. They were the amphibians that like frogs spent part of their lives in water and part ashore. Some of their descendants became fulltime land animals, first in the form of reptiles. Amphibians and reptiles ever ran the land upto about 75 million years ago. By that time they began to give way to mammals and birds. Then about one million years ago, the mammals produced man .¹

Apes and man represent the latest stage of the story that began with the first appearance of living matter on the earth. The history of living organisms is referred to as an ' organic evolution '.

1. How Life Began : p. 25-26

5.1.19

Evolution of Man

Man is undoubtedly the highest and the most complex form of life so far and has reached the highest rung of the evolutionary ladder. Man is the last link in the continuous chain of organic evolution. Long before man came into existence, life was present on this earth in the form of multifarious plants and animals which kept on becoming extinct and replaced by newer ones.

Studies of the human body reveal that man conforms to the basic body pattern shared by all mammals. In fact, man can be considered a member of the class of mammalia.

Man, monkey and apes all share a common ancestry. Whenever, evolution is discussed, there is nearly always somebody who says ' Ah yes, man has descended from the apes' . This is not true but it is a fact that man and apes had a common ancestor. They are our relatives but not our ancestors. Gorillas and chimpanzees are our closest relatives alive to-day. At some-time in the past an ape like ancestor gave rise to two different evolutionary lines, one leading to the

PART B
Metaphysical View

Vedic/ Upanishdic view

5.2.1

Life has a beginning

Whether life has a 'beginning ' or it is 'eternal ' is a matter of dispute among the vedic scholars. The esteemed scholars who argue that life is eternal generally base their ideas on the following and other similar vedic/ upanishdic hymns :-

- " He (God) is the germ of waters, germ of woods, germ of all things, that move not and that move. " (1)
- " Germ of the world, the deities, vital spirit. This God moves over as His will inclines Him. " (2)
- " This Purusha is all that yet hath been and all that is to be. " (3)
- " Aditi is the heaven, mid-air, mother, sire and son, Gods five classed men- Aditi all that hath been and shall be born. " (4)
- " The person (God) is truly this whole world, whatever has been and whatever will be. " (5)
- " The Self(God), indeed, is all this (world). (6)

1.	R.V.	: 1. 52. 2
2.	R.V.	:10. 98. 4
3.	R.V.	:10. 90. 2
4.	R.V.	: 1. 89.10
5.	Svet.U.	: III.15
6.	C.U.	: VII.25.2

From the above vedic/ upanishdic hymns, we find that :-

- i) the Absolute Lord is the germ (seed) of life; and
- ii) the life (world) is nothing but the manifested state of the Absolute Lord.

Keeping in view these statements, most of the vedic scholars have observed that 'Brahma itself is life'. That is why they have come to the conclusion that 'as the Absolute Lord is eternal, so also is the life'. However, this does not seem to be the correct interpretation of the vedic thought based on the above quoted hymns. In fact, here germ (seed) means 'source'. Thus, we can say that the Absolute Lord is the source of all the world. The Katha Upanishad says :-

" Brahma is the root cause of the universe. " (1)

The 'source' can be identified with the 'cause'. Brahma, therefore, is the source i.e. the cause and the universe is its effect. Only the source or cause of a thing could be eternal and not its effect. Thus, the vedic hymns which refer to God as 'the germ (seed) of the world(life)' means 'God as the source of the world'. Therefore, it is the God who is eternal and not the life (world).

1. Katha U. : II.3.12

In order to clarify the statement : ' the life (world) is the manifested state of the Absolute Lord ', we may take up the example of rays of the sun. The origin of rays of the sun can be described in two ways, such as :-

- i) rays are the manifested state of the sun; and
- ii) rays originate from the sun.

As regards the statement ' rays are the manifested state of the sun' is concerned, it may be stated that before manifestation i.e. in their unmanifested state, the rays were non-existent and there was only the sun that existed. This shows that unmanifested state of a thing means non-existence of that thing. Therefore, manifested state of rays refer to their origin. The sun is the source of the rays . Therefore, they have a beginning.

Similarly when we say that rays originated from the sun, that also means that they have a beginning as only the non-existent things could originate.

In view of the above facts, it is inferred that the creation (origin) as well as manifested state of rays denote the same meaning i.e. ' the rays have a beginning and they are not eternal ', no doubt, they owe their origin to the sun, which can be considered as 'eternal' and source of the rays. Similar is the position of the Absolute Lord and the entire creation.

From the statement ' universe is the manifested state of Brahma ' means ' the universe has a beginning and it owes its origin to Brahma '.

It may be submitted here that the vedas / upanishads clearly state that the Absolute Lord is the creator of the universe alongwith all its hosts i.e. inanimate and animate things . The creator only creates the things which do not have previous existence. Before creation of the universe, except the Absolute Lord nothing existed then :

" There was nothing whatsoever here in the universe . By death indeed was this , covered. " (1)

" In the beginning this (world) was non-existent. " (2)

" Whatever (we see in this world) did not verily exist at the beginning (of creation). " (3)

These hymns very clearly state that life as well as matter did not exist in the beginning of the universe.

In view of the above facts, we may conclude that the vedic/ upanishdic thought does not favour the idea of ' eternity of life ' rather it says that ' life has a beginning'and it owes its origin to the Absolute Lord.

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| 1. | B.U. | : | 1. 2. 1 |
| 2. | C. U. | : | III.19.1 |
| 3. | Sabala U. | : | VI.1 |

5.2.2

Life has a Creator

The vedic / upanishdic seers are of the view that it is the Absolute Lord who Himself created life (body and soul) i.e. living things in the universe. A few relevant hymns in support of this hypothesis are given below :-

" Lord of all life, from near and from far . " (1)

" Most gracious God who brings to life and lulls to rest. He who controls the world, what moves not and what moves. " (2)

" He who made all that lives. " (3)

The Absolute Lord created every thing in the universe with His might :

" O Indra-Varuna, ye created all these creatures of the world by your surpassing might. " (4)

The Absolute Lord not only creates but He also pervades all the living things in the universe. As fragrance dwells in the flowers, similarly the Absolute Lord resides in all the living things :

" The Self which pervades all things as butter is contained in milk . " (5)

1.	R. V.	: 1.27.3
2.	R. V.	: 4.53.6
3.	R. V.	: 3.16.4
4.	R. V.	: 7.82.5
5.	Svet.U.	: 1.16

" As oil in sesamum seeds, as butter in cream, as water in river beds, as fire in friction sticks, so is the self seized in one's own soul. " (1)

The Absolute Lord protects as well as rules over the entire creation :

" He, who being one, rules over every single source, over all forms and over all sources." (2)

" Truly Rudra (God) is one, there is no place for a second, who rules all these worlds with His ruling powers. He stands opposite creatures. He, the Protector, after creating all worlds, withdraws, then at the end of time. " (3)

" He indeed is the protector of the world in time, the lord of all, hidden in all things, in whom the seers of Brahma and the deities are united. " (4)

From the above vedic/ upanishdic hymns, we find that the Absolute Lord is the sole creator , protector and ruler of all the living things in the universe. Besides, He pervades the entire creation. Hence; life has a creator .

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| 1. | Svet. U. | : 1.15 |
| 2. | ibid | : V.2 |
| 3. | ibid | : III.2 |
| 4. | ibid | : IV. 15 |

5.2.3

Theory of Special Creation

According to the vedic / upanishdic view, creation of the organic world was a special act of God. As God willed so He created the living things. This concept, therefore, suggests that the Absolute Lord created the species of all living things independent of each other from the very beginning from different sources. The sources from which the living things originated are as follows :-

- i) those born from an egg;
- ii) those born from a living thing ;
- iii) those born from a sprout. (1)
- iv) those born from 'svedaja' i.e. from heat . (2)

The above sources of origin of living things are considered as wombs of the living things. This shows that the sources of the living things in the universe such as plants, birds, animals and micro-organisms, bacteria etc. are different from each other. We find the following account of origin of various living things in the Brhad-aranyaka Upanishad :-

" In the beginning this (world) was only the self. He desired a second. He became as large as a woman and a man in close embrace. He caused that self to fall into two parts. From that arose husband and wife. He became united with her. From that human beings were produced. "(3)

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| 1. | C. U. | : VI. 3.1 |
| 2. | Ath.Veda | : I.12.1 |
| 3. | B. U. | : 1.4.3 |

From the union of the two, the race of human beings is produced. A series of transformations of the original human pair into animal forms is mentioned in the following passage :-

" She (woman) thought, ' How can he unite with me after having produced me from Himself? '. Well, let me hide myself. She became a cow, the other became a bull and was united with her and from that cows were born. The one became a mare, the other a stallion. The one became a she-ass, the other a he-ass and was united with her; and from that one-hoofed animals were born. The one became a she-goat, the other a he-goat, the one became a ewe, the other became a ram and was united with her and from that goats and sheep were born. Thus, indeed he produced everything whatever exists in pairs, down to the ants. " (1)

" He made bodies with two feet and bodies with four feet. Having first become a bird (soul), he the person entered the bodies." (2)

The above account of origin of living things clearly supports the theory of ' special creation '. The living things which we find to-day were in existence from the very beginning of the universe.

1. B. U. : 1.4.4
2. B. U. : II.5.18

Biblical View

5.3.1

Life has a beginning

The following biblical statement gives us the impression that the ' life is eternal ' :-

" The life was made manifest and we saw it and testify to it and proclaim to you the eternal life which was with the Father and was made manifest . " (1)

If we examine the above quoted biblical statement keeping in view the over-all biblical thought, we will find that ' it is the Lord who is eternal i.e. without beginning and an end and every thing else is His creation (which includes life also) and has a beginning.'

St. Thomas Aquinas says :-

" While it could be proved by human reason that the world was created by God, the fact that it had not always existed was known to us by revelation alone ." He further says that ' God brought the world into existence at some moment in the past. God is self-existent and creatures which exist solely because God wills that'.² He also writes that ' God brought into being both the creatures and time together ',³

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1. The First letter of Peter- ; 1.2
New Testament.
 2. Christian Theology and
Natural Science. : p. 134
 3. ibid : p. 135

The phrase ' the life was made manifest ' itself means life originated at some moment in the past. Before its manifestation, it did not actually exist but the idea of it might be with the Lord. St. John seems to be referring to this very idea of life when he says that ' the eternal life was with the Father and was made manifest to us '.

The creation story which we find in the Book of Genesis in the Old Testament clearly states that the Lord created each and every living thing (a unit of body and soul) which had no previous existence.

From the above facts , we find that Bible does not propounds the doctrine of ' eternity of life' rather it teaches us that ' life has a beginning '.

5.3.2

Life has a Creator

The Bible is of the view that every living thing in the universe owes its origin to God. The God creates at His own will. As is His will so is the creation. He creates by His power. Christian God is not identified with any thing He has created. He stands above the world and is independent of it.

1. The Book of Acts of God : p. 44

The Book of Genesis in the Old Testament narrates the story of creation of living things very explicitly. The world of living things was created by the Lord on the third, fifth and sixth days of his six days creation work. The Bible states :-

Third day's creation

And God said : 'Let the earth put forth vegetation, plants yielding seed and fruit trees bearing fruit in which is their seed, each according to its kind upon the earth.'
And it was so. (1)

Fifth day's creation

And God said: ' Let the waters bring forth swarms of living creatures and let birds fly above the earth across the firmament of the heavens . (2)

So God created the great sea monsters and every living creature that moves, with which the waters swarm, according to their kinds. And God saw that it was good! (3)

Sixth day's creation

And God said : ' Let the earth bring forth living creatures according to their kinds. Cattle and creeping things and beasts of the earth according to their kinds'. And it was so. (4)

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| 1. | The Bible-
Book of Genesis | : 1.12 |
| 2. | ibid | : 1.20 |
| 3. | ibid | : 1.21 |
| 4. | ibid | : 1.24 |

And God made the beasts of the earth according to their kinds and the cattle according to their kinds and every thing that creeps upon the ground according to its kind. (1)

Then God said : ' Let us make man in our own image, after our likeness, and let them have dominion over the fish of the sea, and over the birds of the air, and over the cattle, and over all the earth, and over every creeping thing that creeps upon the earth '. (2)

So God created man in his own image, in the image of God He created him, male and female He created them. ' (3)

The Bible further says :-

" Lord formed man of dust from the ground and breathed into his nostrils the breath of life, and man became a living being." (4)

The ' breath of life ' means spirit or soul.

The Bible says : ' But it is the spirit in a man the breath of the Almighty, that makes him understand'. (5).

St. Thomas Aquins (13th century) says categorically that ' it is manifest that a man is not the soul alone, but is something composed of soul and body ." (6)

1.	The Bible- Book of Genesis	:	1.25
2.	ibid	:	1.26
3.	ibid	:	1.27
4.	ibid	:	2.7
5.	The Bible-The Book of Job	:	32.8
6.	Christian Theology and Natural Science	:	p.211

He further says, ' the Soul is a purely immanent principle, it has no concern with anything except the life of the body and presumably cannot exist in separation of it '¹.

St. Paul says, ' Man is flesh as well as mind or spirit . Among man, who knows, what man is but the man's own spirit within him '².

The Bible further says that ' God created woman out of man. In order to create woman, the Lord caused a deep sleep to fall upon the man, and while he slept, took one of his ribs and closed up its place with flesh.³ And the rib which the Lord God had taken from the man he made into a woman and brought her to the man, She was given the name of eve and woman '⁴.

From the above facts, we find that life (living thing) did not originate of its own ,but it has a creator, the Lord.

5.3.3

Theory of Special Creation

Saints and scholars interpret the Holy Bible in their own way and put forward different concepts

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| 1. | Christian Theology and Natural Science. | : p.211 |
| 2. | The Bible-Paul's 1st letter. | : 2.11 |
| 3. | The Bible- Book of Genesis | : 2.21 |
| 4. | ibid | : 2.22 and 3.20 |

of creation. Saint Basil in the middle of 4th century was of the view that the origin of beings by spontaneous generation occurred by divine command which He has continued to act with undiminished force from the creation of the world to the present day.¹

St. Augustine of Hippo a high authority of Western Church also accepted the spontaneous generation of living things a manifestation of divine will- the animation of inert matter by 'the life creating spirit. In this way, he affirmed the doctrine concerning the spontaneous generation.²

Albertus Magnus (1193-1280) and St. Thomas Aquinas (1225-1274) also held such views.³

Thus the Western Church has retained through all the centuries the principle of spontaneous generation of living things according to which living things originate from inanimate matter as a result of animation by a spiritual principle.

Spontaneous generation means 'self-existent of a living thing out of dead matter, that is to say that inanimate matter evolved itself to living matter'.

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1. The Origin of Life on Earth : p. 7
 2. ibid : p. 7
 3. ibid : p. 7

According to Bible, a living thing is not matter alone but is a unit of matter and soul. Every living thing in the universe has behind it the creator who with His wisdom and power created them. Only the Lord is self-existent and nothing else. Therefore, the Bible does not favour the idea of spontaneous generation at all.

It has also been stated by a few scholars that the idea of evolutionary theory is not inconsistent with the Christian faith. It is said : ' the teaching of the Church leaves the doctrine of evolution an open question as long as it confines its speculation to the development from other living matter already in existence of the human body ¹ '.

Scriptural studies have convinced scholars that the Bible is quite open to evolutionary ² interpretation.

From the creation story as given in the Book of Genesis, we find that the Lord created each specie of plants, birds and animals independent of each other. The living things which we see to-day were there from the very beginning. Therefore, the Bible does not support the concept of 'organic evolution'.

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| 1. | Christian Theology and Natural Science. | : p. 255 |
| 2. | ibid | : p. 255 |

The Bible suggests that the variety of living things were separately and simultaneously created by the Lord. As regards origin of man is concerned , the Bible says that ' initially man did not originate due to the union of man and woman. But it was a special creation of the Al'mighty ' :

" For man did not originally spring from woman but woman was made out of man ." (1)

" If woman was made out of man, it is through woman that man now comes to be and God is the source of all. " (2)

" Adam was created first and eve(first woman) afterwards. " (3)

Similarly all other living things in the universe were created by the Lord at His will.

In view of the facts stated above, we may infer that the Bible advances the concept of ' special creation '.

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| 1. | The First letter of Paul -
New Testament. | :11.8 |
| 2. | ibid | :11.12 |
| 3. | ibid | : 2.13-14 |

Quranic View

5.4.1

Life has a beginning

The Quran is of the view that the living things such as plants, birds and animals which we see to-day in the universe were not in existence prior to the origin of the universe. Neither matter nor soul, the two constituent elements of a living thing were there. In order to create the organic world, the Allah created both matter and soul at some time in the past. The Quran says that before its origin, man had no previous sign of existence :-

" Has not man passed through a space of time when he was not anything made mention of. " (1)

Similar was the position of other living things.

Like Vedas, Upanishads and the Bible, the Quran is also of the view that ' life has a beginning' .

5.4.2

Life has a creator

According to Quran Allah is the originator of all kinds of life (living things) in the universe. He has got no partners. He creates at His will independently. He need not a son to

1. The Quran : 76 . 2

assist Him in the creation work . Whatever He decrees is carried into effect . The Quran says :-

" Allah is the creator of all things.
When He determines the coming into
being of a thing, He says concerning
it : Be ! and it is. " (1)

" Truly it is we (Allah) who bring
to life and we who cause death and
it is we who are the sole inheritor
of all. " (2)

" He it is who gives life and causes
death. " (3)

All the living things in the universe, therefore,
owe their origin to Allah but He is independent of
them.⁴

The Quran does not give details about the
origin of sea, earth and sky creatures except that
of man. It very explicitly narrates the story of
creation of man and woman .

Man is the creation of Allah and He created
him from a single soul in the first instance. There-
after, He created woman i.e. his mate of his own
kind to produce their progeny further.

1.	The Quran	: 2.117-118, 13.17, 36.82 62.69
2.	ibid	: 15.24
3.	ibid	: 40.69
4.	ibid	: 3.98

After creation of woman from already created man, then a stage came when the human species began to be produced through the union of the male and the female :

" Lord created man from a single soul and from it created its mate and from the two created and spread many men and women. " (1)

Similarly, Allah created pairs of species of animals and birds through the union of which they further spread on earth :

" Lord has created all things in pairs of that which the earth grows. " (2)

Quran also describes various stages of man's birth before it assumes its real form :

" We created man from an extract of clay, then, we placed him as a drop of sperm in a safe depository, then we fashioned the sperm into a clot, then we fashioned the clot into a shapeless lump then out of this shapeless lump we fashioned bones, then we clothed the bones with flesh, then we deposited it into a new creation. " (3)

1.	The Quran	: 4.2 , 7.190, 30.22, 39.6, 42.12
2.	ibid	: 36.37, 50.51
3.	ibid	: 7.13, 18.36, 32.38, 40.68

After creation of man out of clay,
Allah breathed His spirit into him as :

" We began the creation of man from clay.
Then Allah perfected his faculties and
breathed into him His spirit . " (1)

" I am about to create man from clay and
have breathed into him my spirit. " (2)

The above verses of Quran show that man as
a living being is a unit of body of clay and soul.
The body is an essential part, as the means of
expression for the soul. Both body and soul,
therefore, have their origin in Allah.

Allah has created man in the best mould.³
He is superior to all other living things.⁴ All
the living things have been made subordinate to⁵
him.

From the above facts of the Quran ,we
find that Allah is the sole creator of life (living
things) in the universe.

1.	The Quran	: 32.10
2.	ibid	: 38.73
3.	ibid	: 95.5
4.	ibid	: 17.77
5.	ibid	: 2.30, 22.66, 31.21, 45.14

5.4.3

Theory of Special Creation

According to Quran, Allah created all the living things at His will and according to the Divine Plan. The human beings and other living things such as plants, birds and animals were created independently of each other. This shows that there was neither spontaneous generation nor organic evolution. The man, woman and all other living things were in existence from the very beginning of the universe. Thus Quran also advocates the concept of 'Special Creation'.

Nanak Bani View

5.5.1

Life has a beginning

Guru Nanak has stated in his bani that the earth , sky, air, water, sun, moon, living things etc. were not in existence at some time in the past. Only the Absolute Lord existed then :-

" There was no earth and no sky,
 but the Infinite Lord's will
 alone was pervasive;
 There was neither day, nor night,
 nor moon, nor sun, but the Lord
 alone sat in profound trance;
 Neither there were mines of creation,
 nor speech, nor air, nor water;
 Neither creation, nor destruction
 nor coming, not going;
 Neither there was female, nor male,
 nor caste, nor birth, nor did any
 one suffer pain or pleasure;
 There was no slander, no seed, no
 soul and no life. " (1)

From the above verses of Nanak Bani we find that like every thing in the universe, life too has a beginning.

 1. G. G. S. : p. 1035

5.5.2

Life has a Creator

Living things did not originate of their own. They have a creator. Guru Nanak says that it is the Absolute Lord who created them :

" He made all the men and other beings. His draughtmen and Himself began to throw the dice. " (1)

" Having created the beings, He has put them all to work. They on whom is His grace, take His Name. " (2)

" Hail, hail unto thee, O Lord, who having created the world, hast made us. That hast Thou made the ocean currents, the ocean, water, pools, vegetation, clouds and the mountains ." (3)

" Creating the creatures, the Lord has placed Himself within them. " (4)

From the above verses of Nanak Bani we find that the Absolute Lord created all kinds of life in the universe.

According to Guru Nanak, all the living things such as plants, birds and animals etc. are made of three elements, such as material body, soul and prana. These elements owe their origin to the

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| 1. | G.G.S. | : p. | 434 |
| 2. | ibid | : p. | 434 |
| 3. | ibid | : p. | 767 |
| 4. | ibid | : p. | 937 |

Absolute Lord :

" Prana has its origin in God ." (1)

" With His fiat souls come into being. " (2)

" By the Lord's order, bodies are produced. " (3)

" By the order are fashioned the human vessels and Thou Thyself embellishest and breakest them." (4)

After creating these three basic elements, the Absolute Lord fashioned the living things. He united body and soul and then infused ' prana ' in them. And with the power of prana, the stream of life began to flow :

" Having created the body, the Creator united soul with it, and made arrangements to protect it. " (5)

" The soul and body all belong to Him. It is He, who has infused breath (prana) in us. " (6)

From the above facts of Nanak Bani, we find that it is the Absolute Lord who had created all kinds

1.	G.G.S.	: p. 19
2.	ibid	: p. 1
3.	ibid	: p. 1
4.	ibid	: p. 73
5.	ibid	: p. 138
6.	ibid	: p.1011

of living things. The Absolute Lord is the cause and all the creatures are its effect. Guru Nanak says :

" My infinite Lord, Thou art All powerful and the cause of causes. " (1)

" The Primal Purusha, the Creator Lord is the only doer and the cause. " (2)

5.5.3

God pervades the entire universe

The Absolute Lord not only creates the living things but He also pervades them. Nanak Bani says:

" Thou O Lord ! art contained amongst all. " (3)

" The Lord is pervading all the three worlds. " (4)

" Creating the creatures, the Lord has placed Himself within them. " (5)

5.5.4

Kinds of living things

Guru Nanak is of the view that the Absolute Lord created in all eighty-four lakh species of

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| 1. | G.G.S. | : p. | 1035 and 1111 |
| 2. | ibid | : p. | 1385 |
| 3. | ibid | : p. | 72 |
| 4. | ibid | : p. | 930 |
| 5. | ibid | : p. | 937 |

plants, birds and animals etc. in the universe :

" God has created eighty-four lakh species of beings. " (1)

" They shall pass through eighty-four lakh existences. The number decreases not nor soars it high. " (2)

" The eighty-four lakh species have issued forth from these O Lord. " (3)

5.5.5

Classification of living things

Guru Nanak has classified majority of the living things into four different groups on the basis of the sources of their origin. They are grouped as under :-

- i) Those born from egg;
- ii) Those born from womb;
- iii) Those born from earth and
- iv) Those born from heat

A few verses of Nanai Bani in this respect are given below :-

" Ch. He who made the four vedas, four mines of creation and the four ages." (4)

" Egg born, womb born, earth born and heat born; are Thine creatures. " (5)

1.	G.G.S.	: p.	1190
2.	ibid	: p.	936
3.	ibid	: p.	1283
4.	ibid	: p.	432
5.	ibid	: p.	467

" The Lord's light is contained in the egg-born , the foetus born, the heat born and the earth born and all the hearts. " (1)

The above mentioned four sources of origin of living things are not the only sources. Guru Nanak is of the view that there are countless sources of origin of the living things :

" Numberless are the mines of creation, numberless are the languages and numberless are the dynasties of kinds or masters of men. " (2)

However, majority of the living things in the universe fall in the four groups as mentioned above. '

It is pertinent to add here that ' setaj ' one of the four sources of origin of living things mentioned in Nanak Bani has been interpreted as ' sweat born ' by the Gurbani scholars , such as Bhai Kahn Singh Nabha,³ Manmohan Singh,⁴ Dr. Gopal Singh⁵ and others.

According to Bhai Kahn Singh Nabha 'louse' falls in the category of living things which are born of sweat. Further, to this source (sweat born) of living things , he has given the name of ' spontaneous generation '.

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1. G.G.S.:P. 1109
 2. ibid :P. 7
 3. Mahan Kosh(Punjabi) : p.227
 4. Hymns of Guru Nanak (English translation) : p.777
 5. Sri Guru Granth Sahib (English translation) : p.1062,Vol.IV

As regards birth of ' louse ' is concerned, it is born of an egg and not ' sweat '.

So far as ' spontaneous generation ' is concerned, science has categorically rejected this hypothesis of origin of living things. Spontaneous generation means origin of living things from dead matter of their own, that is to say/^{that} they are self-existent. According to Nanak Bani thought, the Absolute Lord alone is self-existent and He is the creator of all other living things in the universe.

Further science is of the view that nothing could originate from sweat.

In view of the above facts, the interpretation of the word ' setaj ' as ' sweat ' made by the Gurbani scholars is not only unscientific but is also against the true spirit of Nanak Bani thought.

In fact, ' setaj ' means ' heat of the sun '. It is due to the heat or light/of the sun that various kinds of living organisms such as bacteria, fungi, unicellur organisms, microorganisms etc. originate in water, earth and sky.

5.5.6

Birth of human beings

Birth of human beings, one specie of 'womb born ' category of living things, described in Nanak Bani is as under :-

" The mortal comes into being from the union of mother and father. The females ovum and the male's sperm meet to form the body. " (1)

" From the mingling of the mother's ovary and father's sperm, the Lord has created the form of infinite beauty. " (2)

" From the union of sperm and ovum ,God has created the body. " . (3)

The above verses of Nanak Bani also indicate that all the species of living things falling in the category of ' womb born ' originate from the mingling of mother's ovary and father's sperm.

5.5.7

Body identified with vessel of flesh

According to Guru Nanak, all the creatures in the universe have sprung from flesh and the soul has taken its abode in flesh. The body of a living thing, has, therefore, been called as 'vessel of flesh':

" Man is first conceived in flesh and then abides in flesh ." (5)

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| 1. | G.G.S. | : p. 1013 |
| 2. | ibid | : p. 1022 |
| 3. | ibid | : p. 1026 |
| 4. | ibid | : p. 1290 |
| 5. | ibid | : p. 1289 |

" From flesh we are conceived, from flesh
we are born, and we are the vessels of
flesh. " (1)

Guru Nanak has also said that even the corn
and sugar-cane plants have sprung of the same matter
(flesh) like other living things. This view point
has been clarified in the following verse :

" O Brahman thou knowest not, whence flesh
has sprung;
From water (matter) are produced corn,
sugar-cane and cotton and from water
(matter) the three worlds are accounted
to have sprung. " (2)

Thus body of all the living things such as plants,
birds and animals etc. is made of the same matter .

5.5.8

God as Controller

Guru Nanak has stated in his bani that the
Absolute Lord after creating the living things, also
beholds them :-

" Having created the creation, He as it
pleases His Honour, beholds His handiwork;
Whatever pleases Him, He does that;
To Him no one can, an order issue." (3)

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|----|--------|---|---------|
| 1. | G.G.S. | : | p. 1290 |
| 2. | ibid | : | p. 1290 |
| 3. | ibid | : | p. 6 |

" Having created the creation, the creator is beholding it. " (1)

" Nanak, the creator Lord is the doer of all the deeds. Creating and destroying, He is beholding all. " (2)

Every living thing in the universe acts under His command. No one is able to do anything of its own. Nanak Bani says :-

" Nanak, whatever pleases Him , that comes to pass. Nothing is in the power of these creatures. " (3)

" Our soul and body are all His capital. He Himself kills and re-animates. " (4)

All the sense organs such as ears, eyes, speech, nose etc. are under His full control. They hear, speak, breath etc. under His will. Guru Nanak says :

" In account, the man speaks the words;
In account he partakes of the food;
In account he walks along the way ;
In account he hears and sees;
In account he draws the breath;
Why should I go to ask the literate." (5)

1.	G.G.S.	: p.	7
2.	ibid	: p.	1412
3.	ibid	: p.	55
4.	ibid	: p.	155
5.	ibid	: p.	15

" In account man utters and in account
he walks. " (1)

" Thou hast created eighty-four lakhs
of beings and in Thy will, do they
breathe." (2)

From the above facts of Nanak Bani, it is
inferred that all the living things in the universe
act at the will of the Absolute Lord. Thus ,
according to Nanak Bani, living things are like
'machines ' and the Absolute Lord is their controller.
That is why, Guru Nanak has said that it is the
Absolute Lord who is ' life of the world ':

" The Lord is the life of the world,
Without Him there is not another." (3)

" He, the life of the world, Himself
shows the way to union with Himself."(4)

" God, the life of the world, is the
giver of all beings. The fear free Lord
has no filth." (5)

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|----|--------|-----------|
| 1. | G.G.S. | : p. 1233 |
| 2. | ibid | : p. 1034 |
| 3. | ibid | : p. 931 |
| 4. | ibid | : p. 931 |
| 5. | ibid | : p. 1024 |

5.5.9

Theory of Special Creation

It has already been made clear that Nanak Bani does not favour the ideas of 'spontaneous generation and 'eternity of life'. According to it, the life has a beginning and it has a creator- the Lord.

Most of Nanak Bani scholars are of the view that it supports the idea of 'organic evolution'. But this is also not true. Nanak Bani totally denounce the concept of organic evolution. According to it, the living things of to-day did not evolve from the lower ones to that of higher ones but they existed as they are to-day from the very beginning. Their sources of birth were different and independent from each other. They were created by the Absolute Lord simultaneously. Nanak Bani says :

" With one word thou didst effect the world's expanse and whereby lacs of rivers (of life) began to flow. " (1)

This verse shows that the Absolute Lord created lacs species of living things at the same time. This is totally against the concept of organic evolution.

1. G. G.S. : p. 6

According to the evolutionists man is the last step of the ladder of organic evolution. This implies that he can never take birth in the family of lower creatures. But Nanak Bani takes the things otherwise. It also considers the human existence as the best one among the eighty-four lakh existences as :

" There are eighty-four lakhs of species
but the man is blessed with glory above
them all. " (1)

However, Nanak Bani says that human existence is not due to the result of organic evolution but it is obtained through the good actions of the jiva(soul):

" By good deeds, physical robe is
obtained. " (2)

If a human being does bad deeds, he is bound to wander through eighty-four lakh existences i.e. journey of man from higher to lowerer and lowerer existences. At times, he is born in the family of trees, plants, beasts, serpents, birds etc.:

" We assumed the forms of (saw) numerous
trees and plants and many a time we reborn
as beasts. Many times we entered the family
of serpents and many times were flown as
birds. " (3)

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1. G.G.S. : p. 1075
2. ibid : p. 2
3. ibid : p. 156

" J- Thine beggarly man, who bent abegging
in the eighty-four lakhs of existences
begs for thine gnosis, O Lord." (1)

" They (men) go round in the circuit of
eighty-four lakhs of existences. " (2)

The above facts of Nanak Bani make it clear that the jiva (soul) obtains the physical robe of one specie out of eighty-four lakh species of living things according to his good or bad actions. A serpent can reborn as a man and a man can reborn as a serpent. Thus, Nanak Bani does not favour the idea of organic evolution.

According to Nanak Bani, the Absolute Lord created eighty-four lakh species of living things at His own will and according to divine Plan. None of the species of living things resemble each other. It looks that these are specially designed to suit the soul of a creature according to its deeds. Therefore, according to Nanak Bani creation of living things in the universe by God are the result of ' special creation '.

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1. G.G.S. : p. 432
 2. ibid : p. 439

5.6

Scientific and metaphysical view:
A synthesis.

The scriptures are generally of the same view that 'life has a beginning, it has a creator-the Lord and the Absolute Lord created the creatures at His Will and according to His plan.

The scientists after centuries research work have come to the conclusion that :-

- i) life cannot possibly come from non-life; and
- ii) life comes from life only.

It may be submitted here that the scientists also believe that ' life is not eternal but it has a beginning '. It means life did not exist at sometime in the past. In view of this, the conclusion drawn by the scientists that ' life comes from life only ' ,therefore, becomes infructuous. As a matter of fact, this statement concerns only the present stage of life in the universe. The hypothesis that ' life cannot originate from non-life' has also been categorically rejected by the scientists. Then how life originated in the first instance ? In order to solve this problem, the scientists have put forward a number of hypotheses from time to time but none of them has been able to solve this problem. However, most of the scientists are generally of the view that life originated in the universe due to accidental mixing and

combination of material substances in the first instance . This hypothesis also suggests that ' life originated from non-life'as the matter is inanimate in nature. This is against the conclusion drawn by the scientists after a prolonged scientific research .

In view of the brief facts stated above, we find that the scientists have totally failed to put forward a believable hypothesis about the origin of life. The problem of origin of life is still a mystery for them . That is why most of the scientists have come to the conclusion that the science will never be able to solve the problem of origin of life.

In contrast to the scientific view, Guru Nanak agrees with the scientists that ' life cannot originate from non-life; whereas he does not agree with their hypothesis that ' life comes from life ' as Guru Nanak also believes that ' life is not eternal but it has a beginning '.

Guru Nanak has put forward a peculiar type of hypothesis about the origin of life in the universe. According to him, the Absolute Lord created all the living things in the universe by uniting the three essential elements such as body (a combination of inanimate matter), soul and prana, which owe their origin to Him, in the beginning . None of these elements can be identified with life (a living thing) .

Guru Nanak has compared the body of a living thing with dust (inanimate matter) :-

" The body is the dust and the
wind speaks therein. " (1)

At the time of death of a living thing, the body i.e. dust mingles with the dust. Guru Nanak says :-

"When soul-swan flies away, under
the Lord's command, her dust
mingles with the dust. " (2)

The above verses of Nanak Bani suggest that-

- a) matter is inanimate in nature; and
- b) it can change its form but not its nature. That is to say that it cannot become ' animate '.

Thus the inanimate matter cannot itself become animate as majority of the scientists consider while explaining the problem of origin of life in the universe .

As regards concept of ' organic evolution ' is concerned , most of the scientists have rejected it. However , a group of scientists still believe that the present state of living things is due to an evolutionary process . Guru Nanak does not accept this hypothesis because according to him every soul gets the body of a living specie out of the countless species according to its deeds .This shows that all the living things in the

- 1. G.G.S. : p. 152
- 2. ibid : p. 1111

universe were there from the very beginning. The Absolute Lord specially produced various kinds of plant seeds and pairs (male and female) of birds and animals from the very beginning with His Might and design due to which the stream of life began to flow. Presently, the living things are producing their offspring.

In nutshell, the problem of origin of life is beyond the scope of science. Guru Nanak has been able to solve this problem. The hypothesis put forward by him in this respect is summed up as under :-

" The Absolute Lord created all the living things at His Will and designed them according to His Plan in the beginning. Presently, the living things are producing their offspring which means 'life produces life '. "

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CHAPTER VI

DISSOLUTION OF THE UNIVERSE

PART A

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PART BMetaphysical view

6.2 Vedic / Upanishdic view

6.3 Biblical view

6.4 Quranic view

Nanak Bani View

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6.5.4 Conclusion

6.5.5 Power behind dissolution

6.5.6 Last abode of the universe

6.5.7 Cyclic nature of the Universe

6.5.8 Time of recreation

6.6 Scientific and metaphysical view:
A synthesis.

PART A

6.1

Scientific View

The future of the universe has hotly been debated in the field of scientific knowledge. The supporters of Steady State Theory believe that the universe had never been a beginning and it will look always the same. This theory, therefore, suggests that the universe will never die and would continue for an infinite time. However, there are a few supporters of this theory.

On the other hand, supporters of widely acclaimed evolutionary theories are of the view that the universe had a beginning. They also state that the universe is still in a state of expansion . The issue whether the universe will go on expanding indefinitely or will it collapse in the converse of the Big Bang is still to be finally resolved by the scientists.

The scientists are of the view that the velocity of expansion has been progressively slowed down by gravitational pull right from the start. There is some doubt as to whether the mass of the universe is sufficient to generate gravitational pull that would stop the expansion and bring about

a collapse. At the gravitational collapse ,
 space and time cease to exist just as they did
 before the Big Bang.¹

It has also been argued by the scientists
 that the future history of the universe depends
 upon its present density. If it exceeds the
 cosmological critical value, the universe will
 collapse. On the other hand, if the density is
 less than the cosmological, critical value, the
 universe will expand for ever and the galaxies
 will ultimately dis-appear from view.²

It has been a feeling in the scientific
 circles that the increase in mass and space
 cannot continue indefinitely. Like an oak tree ,
 the universe may some day attain the peak of its
 growth and the limit of its life span which Dirac
 calls the universal age. As long as the universe
 is young, more mass is formed than is lost and it
 is growing. But there may come a time when the
 process will be reversed. The galaxies now flying
 apart will move closer together and will condense
 into a nuclear cloud. When the cloud becomes

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1. The Human Mystery : p.24
 2. Cosmic Evolution : p.262

charged to the point of explosion, the drama will be re-enacted i.e. new universe will emerge. This refers to the cyclic nature of universe.¹

According to Sandage certain spectral shifts of distant galaxies may indicate that the expansion of the universe is slowing down. If this is true, it will suggest that the universe would eventually expand to a certain limit, then contract again into a titanic mass of neutrons and energy and thus start a new explosion. As a result, the universe as a whole would have a cyclic nature.²

On the other hand, Wheeler states that " with gravitational collapse we come to the end of time. Never out of the equations of general relativity has one been able to find the slightest argument for a ' re-expansion ' or a 'cyclic universe ' or anything other than an end."³

According to modern thermodynamics the underlying cause of all the varied animation in the world is energy . The first law of thermodynamics teaches that energy is indestructible ,

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1. Design of the Universe : p. 172
 2. A Synthesis of Evolutionary Theory. p. 12
 3. The Human Mystery : p. 28

it may change about from one form to another, but its total amount remains unaltered through all these changes, so that the total energy of the universe remains always the same .

As the energy which is the cause of all the life of the universe is indestructible, it might be thought that this life could go on for ever undiminished in amount.

The second law of thermodynamics rules out any such possibility. Energy is indestructible as regards its amount, but it continually changes in form . Energy flows always in the same direction as water flows downhill. The transformation of energy from a more available to less available form is the running downhill of energy. Energy cannot run downhill for ever and it must touch bottom at last. And so the universe cannot go on for ever, sooner or later the time must come when its last erg of energy has reached the lowest rung on the ladder of descending availability and at this moment the active life of the universe must cease. The energy is there, but it has lost all capacity for change and we will be left with a dead, although possibly a warm universe- a ' heat-death '.

In view of above facts, there hardly¹ remains any possibility of a cyclic universe.

From the facts stated above , we find that scientists are generally of the view that the universe is destined to perish after some astronomical time. Life on a cosmic scale cannot go on for ever. However, there are differences of opinion among the scientists about the cyclic nature of the universe.

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1. The Universe Around Us : p. 320

PART B

6.2

Metaphysical ViewVedic / Upanishdic view

The vedic / upanishdic seers are unanimous on the point that the universe had a beginning and it cannot go for ever. Sooner or later it will dissolve. A few examples from the vedic / upanishdic texts in this connection are given below :-

" At the end He , the world spirit completely burns all existing things (dissolves the world), earth dissolves in water, water in fire, fire in air, air in ether, ether in senses, senses in the subtle elements, subtle elements in their subtle sources, the subtle sources in their principle of mahat , the principle of mahat in the principle of the unmanifested and the principle of the unmanifested in the imperishable, the imperishable in the darkness. The darkness becomes one with the transcendent (Brahma). Beyond the transcendent there is no other existence, nor non-existence nor both existence or non-existence. " (1)

" That from which these beings are born, that by which , when born they live, that into which (at the time of dissolution) they enter , they merge . seek to know is Brahma . " (2)

1.	Subala Up.	: 2.1
	C.U.	: VI.9-10
2.	T.U.	: III.1
	C.U.	: III.14.1

" Nothing really exists except the great spirit of self and the universe is nothing more than its manifestation, its body, which it draws from its own substance and again absorbs into it as the spider spin forth and draws back the thread of its web. " (1)

" In the Lord of all things, the whole universe comes together at the beginning and dissolves at the end. At the dissolution the whole universe is rolled up like a piece of cloth. " (2)

" The universe created by Brahma persists through an entire world (period) kalpa after which it enters into Brahma only to arise again from it. " (3)

The above verses show that the universe is cycle in nature i.e. ever -rising and falling. The universe originates from God and at the end it merges into Him.

The origin and dissolution of the universe entirely depends upon the Divine Will of the God. Neither the time of origin nor of dissolution of the universe is known to anybody.

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1.	B. U.	: II.2.2
2.	Svet.U.	: 6.4.11
	Subala Up.	: 2
	Pangala Up.	: 1.4
3.	Svet.Up.	: III.2

6.3

Biblical View

Christianity is of the view that the universe around us will not last long. It is destined to perish. How and when it will perish is known only to the Lord. A few examples from the Bible in this connection are given below :-

" Thou Lord in the beginning has't laid the foundation of the earth and the heavens are the work of thy hands. They shall perish but thou remained and they all shall wax old as doth a garment, and as a vesture, shall thou fold them up, and they shall be changed, but thou art the same and thy years shall have no end. " (1)

Here the phrase ' shall be changed ' refers to re-creation of the universe.

" As soon as the distress of these days has passed, the sun will be darkened, the moon will not give her light, the stars will fall from the sky, the celestial powers will be shaken. Then will appear in heaven the sign the heralds the son of Man. " (2)

" The Heaven and Earth will pass away, my words will never pass away. " (3)

" The Heavens shall pass away , but thou endurest, like clothes they shall all glow old. " (4)

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1. Psalms Book IV : 102.25-27
(Old Testament)
 2. The Gospel of Methew: 24.29
(The Bible)
 3. ibid : 24.35
 4. The Letter of Paul to
Hebrews(The Bible) : 1.11

" Thou shall fold them up like a cloak ,
yes they shall be changed like any
garment. But thou art the same and
thy years shall have no end. " (1)

" But the day of Lord will come , it will
come unexpected as a thief. On that day,
the heavens will disappear with a great
rushing sound, the elements will dis-
integrate in flames, and the earth with
all that is in it will be laid bare(or)
will be burnt up. " (2)

" But about that day and hour none knows,
not even the angels in heaven not even
the son, only the father. " (3)

" But according to His promise we wait for
new heavens and a new earth in which
righteous dwells. " (4)

From the above verses of the Bible, it is
found that whereas it refers to the dissolution of
the universe, it also suggests that God will again
create the universe. Therefore, the Biblical
universe is also cyclic in nature.

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| 1. | The Letter of Paul to
Hebrews--The Bible | : 1.12 |
| 2. | 2nd Letter of Peter-
The Bible. | : 3.10 |
| 3. | The Gospel of Methew-
The Bible | : 24.36 |
| 4. | 2nd Letter of Peter-
the Bible. | : 3.13 |

The Quran also teaches us that Allah creates and dissolves the universe at His command . Neither the time of origin nor of dissolution of the universe is known to anyone else except Allah. The Quran says :-

"The life of this world is like water that we send down from the clouds, then the vegetation of the earth, of which men and cattle eat, mingles with it and the earth is embellished and looks beautiful, and its owners believe they are complete masters, then by day or by night our command comes to it and we convert it into a mown-down field as if nothing had existed there the day before. " (1)

"He gives life and cause death. He is your Lord and the Lord of your fore-fathers. Yet they play about in doubt. Then watch for the day when a pall of smoke will appear in the sky and envelop the people." (2)

"Be mindful of the day when we shall roll up the heavens like the rolling up of the scrolls by a scribe. As we began the first creation, so shall be repeat it." (3)

"Know they not how Allah originates creation, then repeats it ? That indeed is easy for Allah. Tell them. Travel in the earth, and observe how Allah originated the creation , then will He provide the second creation. Surely Allah has power to do all that He wills. " (3)

1.	The Quran	:	10. 25
2.	ibid	:	44.3-17
3.	ibid	:	21.105
4.	ibid	:	29.20-21

" He revives the earth after its death."(1)

" The time will come when we shall turn
all that is on it (earth) into a
barren waste. " (2)

" Behind them is a barrier until the day
when they shall be raised up again
(during the next creation). " (3)

The above verses of Quran clearly refers to
the dissolution of the universe . The Quran also
suggests that the universe is cyclic in nature.

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1.	The Quran	: 30.51 , 45.6
2.	ibid	: 18.9
3.	ibid	: 23.100

Nanak Bani View

6.5.1

Dissolution of the Universe

According to Nanak Bani, it is the law of nature that who-so-ever is born shall ultimately die :

" Who-so-ever is created, him death destroy. " (1)

" He that is born, dies, if not to-day, then tomorrow he goes. " (2)

The universe had been created by the Absolute Lord. As per 'Divine Law ' postulated by Guru Nanak, it will face destruction sooner or later. He clarifies this view point in the following verses of his bani :-

" The entire world is subject to coming and going. The merciful Lord is alone permanent. " (3)

" The sky and earth shall pass away- Ever stable is He alone." (4)

" The day and the sun shall depart, the night and the moon shall vanish and hundreds of thousands of stars shall dis-appear. He alone is permanent. Nanak tells the truth." (5)

" The creator is alone to be eternal. All others continue coming and going. " (6)

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|----|--------|---|---------------|
| 1. | G.G.S. | : | p.227 |
| 2. | ibid | : | p.1429..M.9) |
| 3. | ibid | : | p.64 |
| 4. | ibid | : | p.64 |
| 5. | ibid | : | p.64 |
| 6. | ibid | : | p.54 |

" The entire world is bound by death. " (1)

" Neither the solar and lunar regions
nor seven continents, nor the oceans,
corn and the wind, no one is stable."
Thou alone art O Lord Thou alone
art. " (2)

From the above verses of Nanak Bani, we find that except the Absolute Lord nothing is stable in the universe. The entire creation is destined to dissolution. Nobody knows the time of dissolution of the universe.

6.5.2

World as a false show

As the world is bound by death, Nanak Bani has compared it with a ' dream ', ' wall of sand ', ' fortress of paper ', ' mansion of smoke ', ' mimmickry of a buffon ', ' dust ', etc. A few verses of Nanak Bani in this respect are given below :-

" And know thou that this world is
but a dream. " (3)

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| 1. | G. G. S. | : p. 55 |
| 2. | ibid | : p. 144-45 |
| 3. | ibid | : p. 258 |

- " The world stays not as it is like
the wall of a sand. " (1)
- " This poor world together with its
colour, form and cleverness is a
fortress of paper. A little drop
of water or a puff of wind mars
its glory and in an instant, ends
its existence. " (2)
- " The world is a mansion of smoke." (3)
- " This world play is fashioned like
the mimmickry of a buffon. For a
moment and trice one sees the show,
It takes no time in dis-appearing." (4)
- " This entire extension of dust,
mingles with the dust in the end." (5)

Keeping in view the negative status of the
universe, Nanak Bani has declared that the world
is merely a false show :

- " The world is false, know this
O friend. " (6)
- " False is the king , false the
subjects and false is the entire
world. " (7)

65.3

World as true

It may be submitted here that there
are some verses in Nanak Bani which suggests that

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| 1. | G.G.S. | : p. 1429.. M.9 |
| 2. | ibid | : p. 1274 |
| 3. | ibid | : p. 138 |
| 4. | ibid | : p. 422 |
| 5. | ibid | : p. 832 |
| 6. | ibid | : p. 1429.. M.9 |
| 7. | ibid | : p. 468 |

the universe is true which are as under :-

" True are thou continents and true
Thine solar systems. True are thine
worlds and true thy creation. " (1)

" Yea, He the True Person pervades all.
True are His works- True is His
creation. He, the Lord is true-
True is His creation . " (2)

6.5.4

Conclusion

From the above facts of Nanak Bani , we find that it presents the status of the universe both ' false ' as well as ' true '. How the world could be ' true ' when time and again Nanak Bani, propounds the idea of its ' falseness '? One can, therefore, be easily misled that it presents contradictory thought about the status of the universe. But that is not the true interpretation of Nanak Bani. Actually, the world is ' false ' as well as ' true '.

When Nanak Bani sees the universe in its present state, it looks ' true ' to it , not because of the fact that it originated from the true Lord but it looks 'true ' because it has existence and the true Lord pervades it. A thing which has existence and the true Lord pervades it , can

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1. G.G.S. : p. 463
2. ibid : p. 284..M.5

never be termed as ' false ' . As soon as the true Lord withdraws His might from a thing, that thing loses its existence and then one will surely think that it was merely a false show. The existence (trueness) or non-existence (falseness) of a thing, therefore, depends upon the will of God. It is in this context , Nanak Bani says that the universe is ' true ' as well as ' false '. Hence, there is no contradiction in the thought of Nanak Bani. In fact, it is the realistic approach of Nanak Bani which sees the things in their true perspective . However, the above mentioned thought of Nanak Bani does not effect its over-all concept that "it is the God who is alone eternal or true and every thing else in the universe is bound to death and is, therefore, false. " That is why it has emphatically declared that :

" They who are born (the universe)and die, are the falsest of the false. " (1)

6.5.5

Power behind dissolution

Nanak Bani states that the Absolute Lord not only creates the universe but He Himself also destroys it at His will. He takes the counsel of none. As to how He dissolves the universe, nobody knows :

" The Lord Himself sends and recalls the mortals. There is none else to counsel Him. He Himself demolishes, constructs and creates. " (1)

" God Himself creates and having established dis-establishes He. " (2)

" Who has fashioned and created, He shall destroy all. " (3)

" When He wills He creates the universe; And when He wills it merges again in Himself. " (4)

6.5.6

Last abode of the Universe

Nanak Bani states that the universe originated from the Absolute Lord. At the time of its destruction, it will lose its form and spirit and will then merge in the Absolute Lord :

" What-so-ever is seen shall merge thee in the end. " (5)

" All that springs from the profound Lord merges in Him. " (6)

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|----|--------|------|------------------|
| 1. | G.G.S. | : p. | 729 |
| 2. | ibid | : p. | 413 |
| 3. | ibid | : p. | 227 |
| 4. | ibid | : p. | 292, 509 and 141 |
| 5. | ibid | : p. | 1021 |
| 6. | ibid | : p. | 1037 |

6.5.7

Cyclic nature of the universe

Nanak Bani advances the concept of cyclic nature of the universe. The play of creation--dissolution--creation is going on since eternity. It is all Lord's mysterious play. The present universe is not the first one. Many a times the universes were created and destroyed by the Absolute Lord. Nanak Bani says :-

" Time after time was the expanse
(universe) created. " (1)

" All the world continues coming
and going. " (2)

" Illusion is this world. It perishes,
is reborn, comes and goes. " (3)

" In an instant he destroys and then
builds again. " (4)

6.5.8

Time of Re-creation

We find from Nanak Bani that the Absolute Lord does not re-create the universe immediately after its dissolution. According to it, the present universe was created by the Absolute Lord after thirty-six ages from the day the previous universe was dissolved as :-

" For good many ages there was all-
darkness and the Infinite and Illi-
mitable Lord was seated in trance." (5)

" In His will, the Lord spent thirty-
six ages in seedless trance. " (6)

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|----|--------|------|------|
| 1. | G.G.S. | : p. | 276 |
| 2. | ibid | : p. | 26 |
| 3. | ibid | : p. | 138 |
| 4. | ibid | : p. | 1034 |
| 5. | ibid | : p. | 1026 |
| 6. | ibid | : p. | 1037 |

6.6

Scientific and Metaphysical View:
A synthesis .

The vedic / upanishdic texts, the Bible , the Quran and Nanak Bani are basically in general agreement that the universe will ultimately dissolve at the Will of the Absolute Lord . None of them knows the time of dissolution. They also believe that after dissolution, the Absolute Lord will re-create the universe. Thus according to the scriptures, the universe is cyclic in nature.

Nanak Bani and other scriptures are totally against the Steady State Theory. They support the idea of the evolutionists that the universe had a beginning and will ultimately dissolve.

Nanak Bani says that the universe will dissolve at the Will of the Absolute Lord; the scientists have based the idea of dissolution of the universe on the following points :-

- a) that the universe will expand to a certain limit and then it will contract to the state from which it expanded ;
- b) that the universe will continue to expand and the time will come when the galaxies will disappear from sight; and
- b) that the last erg of energy will lose its capacity to further change.

According to Nanak Bani as birth is followed by death, similarly expansion is followed by contraction . In this way Nanak Bani supports the idea of the scientists that the 'expanding universe will certainly contract sooner or later' . The relevant verse of Nanak Bani in support of this view point is given below :-

" If there is birth, there is also death;
 if joy then also sadness;
 if indulgence then also pain;
 if greatness then also smallness;
 if expansion then also contraction. " (1)

As regards ' cyclic nature ' of the universe is concerned, one group of scientists believes in the concept stating that after dissolution, the universe will again appear. On the other hand, scientists like Wheeler do not favour the idea of 'cyclic nature ' of the universe. However, Nanak Bani agrees with the former group of scientists.

The scientists have estimated total age of the universe as 59 billion years out of which 10 billion years have already passed. But Nanak Bani does not agree with this view point stating that it is the Absolute Lord/^{who} alone knows as to when the existence of the universe will come to an end.

- 1. G.G.S. : p. 1354-1355...M.5)
 2. The Human
 Mystery. : p. 31

C O N C L U S I O N

the religious sphere. The religion may examine such ideas seriously but biology and cosmology is not its basic object, its one and only one aim is to preach reign of God (God's Court)."

Such like assertions of the esteemed Gurbani scholars about Guru Nanak Bani are far from truth . In fact, Nanak Bani is a magnificent mixture of scientific and religious concepts about the universe and life therein. Guru Granth Sahib containing Guru Nanak Bani is the only Granth in the history of the world's literature which not only gives a study of the nature of the universe in a scientific way but also teaches religion i.e. guides the soul for its onward journey to perfection.

1. English translation of Punjabi text :

- " ਸਿਖ ਧਰਮ ਨੂੰ ਸੰਸਾਰ ਦੇ ਮੁਤਾਨੇ ਵਿਚ ਕੋਈ ਖਾਸ ਰੁਚੀ ਨਹੀਂ । ਸਿਖ ਧਰਮ ਦਾ ਠਿਕਠਕ ਨਾ ਤਾਂ ਇਸ ਵਿਚਾਰ ਪੁਰ ਹੈ ਕਿ ਜੀਅ ਜਤ ਕਿਵੇਂ ਉਤਪੰਨ ਹੋਏ ਤੇ ਨਾ ਕਿਸੇ ਇਸ ਵਿਚਾਰ ਤੇ ਹੈ ਕਿ ਖਰੋਲ ਵਿਦਿਆ ਅਨੁਸਾਰ ਦੁਨੀਆਂ ਕਿਵੇਂ ਤੇ ਕਿਹੋ ਜੇਹੀ ਬਣੀ। ਸਿਖ ਧਰਮ ਨੂੰ ਵਿਗਿਆਨਿਕ ਜਾਂ ਫਲਸਫੀ ਵਿਚਾਰਾਂ ਦੀ ਓਟ ਨੈਣ ਦੀ ਉਕੀ ਨੌਕ ਨਹੀਂ। ਇਸ ਕਿਸਮ ਦੇ ਵਿਚਾਰਾਂ ਦੀ ਧਰਮ ਮੰਡਲ ਵਿਚ ਥਾਂ ਨਹੀਂ। ਧਰਮ ਨੂੰ ਰਹੁ ਨਾਨ ਇਨ੍ਹਾਂ ਵਿਚਾਰਾਂ ਨੂੰ ਵਿਚਾਰਨਾ ਤਾਂ ਨੌਕੀਏ ਪਰ ਜੀਵਨ ਵਿਗਿਆਨ ਵਿਸ਼ਵ ਸਿਧਾਂਤ ਇਸ ਦਾ ਮੂਲ ਪ੍ਰਯੋਜਨ ਨਹੀਂ। ਇਸ ਦਾ ਇਕੋ ਇਕ ਪ੍ਰਯੋਜਨ ' ਰਾਮ ਰਾਜ '(ਹਰੀ ਦਰਬਾਰ) ਦਾ ਪ੍ਰਚਾਰਨਾ ਹੈ ।"

Sikh Dharam Darshan(Punjabi) : p.181

A brief account of the cosmological and cosmogonical ideas of Nanak Bani comparing with the scientific view, is given in the following paragraphs :-

The scientists have not so far been able to decide finally even after centuries research work whether the universe is finite or infinite. They are of the view that ' if the expansion continues perpetually, the universe is open and infinite, if it will some day stop and reverse direction , the universe is closed and of finite extent '. It was Guru Nanak who more than five hundred years earlier had disclosed that the universe (macrocosm) is ' infinite .'. He perceived countless universes (microcosms like our own), continents, solar systems, skies, earths, stars, suns, moons etc. In view of this, he has come to the conclusion that the universe is so vast that never a human being will be able to find out its boundaries.

The ground on which Guru Nanak determines the infiniteness of the universe is quite different from that of the scientists. According to him, the universe is ' infinite ' because it is beyond human conception; whereas the scientists base their conception on the expansion state of the universe.

Guru Nanak has also been able to know that the celestial bodies are ever in motion. They all move within the Divine Order (Law of Nature) which was created by the Absolute Lord alongwith the universe. Every-thing in the universe is bound by this law .

Scientists proposed two types of cosmogonic theories such as the Steady State Theory and the Big Bang Theory.

The Steady State Theory does not postulate beginning and an end of the universe. To it, the universe was/ will be the same all the times.

On the other hand, A.G. Lemaitre's hypothesis of ' primal atom ', the basis of the Big Bang Theory, is dominating the field of scientific research so far as origin of the universe is concerned. Presently, the scientists believe that the ' primal atom ' was like a ' fire-ball ' of the size of our solar system. On its explosion, the fire-ball assumed the form of nebula . (cloud of dust and gas) from which the stars, sun and planets were formed. The scientists believe that expansion of the universe began at a finite time in the past , in a state of enormous density and pressure. This seems to be merely an

intelligent speculation. They have also not been able to put forward an acceptable hypothesis about the origin of the solar system. The ' primal atom ' refers to the initial state of the universe. The issues, such as its earlier state, from where and how it originated are still a mystery for them. Thus the Big-Bang Theory does not solve the problem of origin of the universe. It may be pertinent to add here that the theories of the evolution of the universe are facing a challenge from the observations made by the Infrared Astronomical Satellite put into orbit by NASA in 1983.

A student of science is disgusted to-day but he still hopes to see a new plausible hypothesis about the origin of the universe .

The cosmogonic hypothesis put forward by Guru Nanak in his bani resembles to some extent with the Big-Bang Theory. He has very clearly depicted the pre-creation state, initial state and present state of the universe. According to him, the pre-creation state of the universe was a state of total void. Nothing whatsoever existed then except the 'omnipotent force'. It has been described variously by people such as Lord, Allah, God, Absolute Lord, Akal Purakh, Wahe-Guru etc. This omnipotent force is the cause and the universe is its effect. He is self-existent. He is not only indescribable but

unapproachable too. He willed to create the universe and created it of His own. Before beginning His creation work, Nanak Bani suggests that He must have formulated a plan of the universe like a superb architect . To start with, first of all He created the Divine Order (Law of Nature) under whose command everything in the universe performs its allotted functions. Then He created matter and the soul, the two basic units of the cosmos. Later on, He infused His light (divine power) into them and the wheel of the universe began to move. Thus, the play of matter, soul and divine power is going on since time immemorial within the Divine Order.

Being an Omnipotent and Absolute Authority, He created the matter and the soul out of His ownself.

In the beginning, the triad of matter, soul and divine power assumed the shape of an ' egg' or ' two mill-stones ' under the command of the Divine Order as Guru Nanak says. This was the initial state of the universe. The ' egg' or ' two mill-stones ' postulated by Guru Nanak can be identified with the ' fire-ball' of scientists.

Under the Divine Plan and Order, the initial ' egg ' or the ' mill-stones ' expanded to the present

state of the universe. The continents, spheres, solar systems etc. did not evolve of their own as the scientists feel, but were created by the Absolute Lord.

The universe of Nanak Bani is 'infinite'. The infinite nature of the universe suggests that the initial universe (the egg or the mill-stones) expanded uniformly and isotropically. The upanishads have referred to gradual expansion of the universe.

Nanak Bani states that the Absolute Lord created the universe through the Divine Word which is also beyond the scope of time and space like Him. As , at the time of creation of the Divine Order, matter and soul by the Absolute Lord, none of us was present there, therefore, we are unable to describe as to how He created the physical universe through the Word. That is why Guru Nanak has said that ' it is the Absolute Lord alone who knows as to how He had created the universe '. The chronological order of creation according to Nanak Bani , is therefore as under :- .

Absolute Lord
 !
 !
 Word
 !
 !
 Universe

From the above facts of Nanak Bani, we find that Guru Nanak has studied the story of the cosmic evolution from its early state to its perfection in a critical and scientific way. His cosmogonic hypothesis not only looks much appealing but believable too than the scientific hypotheses. A conscious seeker will, therefore, turn his wits from the 'glowing but seedless' cosmogonic hypotheses of the scientists in order to quench his thirst of knowledge to the holy verses of Guru Nanak which were created by him under the command of the Lord more than five centuries earlier and are presently preserved in Guru Granth Sahib.

As regards concept of life, the scientists believe that non-living matter itself evolved into living matter which is called 'protoplasm'. It is the protoplasm which assumes different forms of living organisms. However, the scientists have not been able to find any difference between the living and non-living matter. They have also failed to synthesize the non-living matter into living matter in the laboratory. They have identified 'life' with 'living organisms'. All organs of a living thing are made of cells. According to the latest biological achievement, it is the 'genes' inside the nucleus of the cell which controls the functioning of the cells of living organisms.

According to Nanak Bani, a living thing is a unit of three elements such as body of non-living matter, soul and prana. Prana is the vital force which makes the living organism to perform its natural functions. As soon as it is withdrawn, the living thing becomes dead. Thus according to Nanak Bani, Prana is the life of a living thing. ' Prana ' too is under the control of the Absolute Lord. The Lord infuses it into the unit of body and soul and withdraws it from that unit at His will :

" The Lord installs power in the mortal and then resumes it." (1)

If we examine the statement of the scientists that ' genes ' control the functioning of the cells of living organisms , we will have to identify genes with the Omnipotent Power. The ' genes ' as well as the ' Absolute Lord ' have, therefore, the same status so far as functioning of the cells as well as living things are concerned respectively. But so far as their own existence is concerned, genes have no comparison with the Absolute Lord. According to Nanak Bani the Absolute Lord is self- existent; whereas the scientists do not believe in the self-existent of things. However, in the

case of genes, it can be inferred that either the genes have a creator immediately behind it or there could be many more stages in between the genes and the creator to which the scientists do not know . It may also be stated here that according to Nanak Bani, the matter of the universe is inanimate in nature. It can change its form but not its nature. Therefore, it cannot become ' living ' as the scientists believe .

In view of the facts stated above, the concept of life put forward by Guru Nanak looks scientific ; whereas that of scientists totally ' unscientific ' .

So far as existence of life in the universe is concerned, the scientists have not been able to find out any sign of life in the universe other than our own earth even with the modern observational instruments; whereas Guru Nanak has been able to know and he has recorded in his bani that besides our own earth, life exists in so many other spheres of the universe :

Nanak Bani teaches us that by hearing, believing and contemplating on the true Name of God, one can cross over to the ' intuitive state' and attain the knowledge of all the spheres of the world. The ' intuitive state' means to become one with the nature of the universe . However, it is indescribable. This suggests that where

the scientific knowledge based on sense organs ends , there begins the state of intuitive knowledge . Thus , the knowledge based on sense organs (which includes scientific knowledge) is inferior to that of intuitive knowledge . Therefore, the hypothesis put forward by Guru Nanak that ' life exists throughout the universe ' is believable.

The scientists have also not been able to solve the problem of origin of life. There are a number of scientific hypotheses but none of them has yet been considered as 'final'. The problem, therefore, still remains unsolved at the scientific level. Even the known hypothesis of ' organic evolution ' is not free from criticism. The only achievement of the scientists about the nature of life is that ' like produces like '. It may be stated here that Guru Nanak had much earlier made a mention of this hypothesis in his bani :

" As the man sows, so reaps he and whatever he earns, that he eats. " (1)

" Whatever man sows that alone grows. The soul realises it, when it eats the fruits of his deeds. " (2)

" Sowing truthfulness, truthfulness wells up in man and he finds a seat in the Lord's Court. " (3)

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1. G.G.S. : p. 730
 2. ibid : p. 1243
 3. ibid : p. 1243

This shows that there is no ' originality ' in the hypothesis of the scientists that ' like produces like '.

Guru Nanak has succeeded in solving the problem of origin of life through his theory of ' Special Creation ' according to which each kind of living organism was created separately and independently by the Absolute Lord in the beginning.

According to him, the Absolute Lord specially planned, designed and created all the creatures in the universe separately and independently of each other at His own will. He not only creates but also controls and sustains them ¹. In order to create the living things, He created matter, soul and prana from His ownself with His ' omnipotent power ' :

" Exercising His power, He is supporting the earth and the sky. " (2)

" There is but one Creator, who has created the world; Without any pillar, He has supported the earth and the sky. " (3)

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1. For example, we may take up the creation of aeroplane by Orville & Wilbur Wright of U.S. in 1903 out of a large number of different kinds of things created by different persons. The aeroplane had no previous existence. The aeroplane was made by the Writ brothers after proper planning and design with the existing material.

... next page

2. G.G.S. : p.414
3. ibid : p.1188

In order to confirm the creation of a thing by its creator, we must know the creator. Guru Nanak has confirmed his meeting with the Lord in his bani :

" The master summoned the minstrel to
His True Court;
He clothed me with the robe of His True
honour and eulogy. " (1)

He also says that like him, everybody can meet the Lord by following the ' Divine Path of Truth and contemplating on His name ' :

" Nanak, it is through the Name that union with God is effected and separation occurs no more. " (2)

" He, whom the creator unites with His ownself, is not born again. " (3)

" Nanak through the Guru's word, one easily meets with Lord, the Life of the world and honour . " (4)

No doubt , Guru Nanak had met Him but the mechanism of the universe was not disclosed to him by the Absolute Lord. That is why he has said

.....After creation of the aeroplane, they not only controlled its working but also maintained it properly. The act of the creator to create, control and maintain a thing can be called a ' natural phenomenon'. The aeroplane can be termed as a 'special creation of its creators '.

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|----|---------|------|------|
| 1. | G. G.S. | : p. | 150 |
| 2. | ibid | : p. | 56 |
| 3. | ibid | : p. | 433 |
| 4. | ibid | : p. | 1037 |

that ' except the Absolute Lord no one knows as to how He created the universe '¹.

Thus , origin of every-thing in the universe is covered by the hypothesis of ' Special Creation '. However, limitation of the human intellect should not be the basis of non-acceptance of Guru Nanak 's hypothesis.

As regards future of the universe, scientists are generally of the view that ' it is destined to perish after some astronomical time '. Their conclusion is based on different hypotheses, such as, expanding state of the universe, loss of density, loss of capacity of energy for change etc. It may be stated here that as 'nobody can describe the circumstances of the death of a person except those who were present at the time of death of that person, similarly neither a scientist nor anyone else can describe as to how the universe will dissolve. Thus, the approach of the scientists is ' unscientific ' and their hypotheses unbelievable.

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1. For example, the mechanism of the aeroplane was known only to the Wright brothers, the creators. Besides them, it was known only to whom they taught. Everbody do not have its knowledge .

While interpreting nature of the universe in his bani, Guru Nanak has all along refrained himself from submitting such vague ideas. He has declared that ' expansion must follow contraction ', but he does not go to pronounce as to how the universe will contract. According to him, it is the creator of the universe who alone knows as to how and when He will dissolve the universe. Thus, the approach of Guru Nanak in viewing the things in their true perspective is totally ' scientific '. He has vehemently proclaimed the universal truth that ' whatever is born must die sooner or later ' ;

" Who-so-ever is created, him death destroys. " (1)

" Who-so-ever is seen, he is subject to birth and death. " (2)

" He that is born, dies , if not to-day then tomorrow he goes. " (3)

The above proclamation of Guru Nanak applies to the universe, as well.

In Guru Nanak's view, the universe is ' cyclic in nature '. According to him, time after time, the universe was created.

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1. G.G.S. : p. 227
 2. ibid : p. 351
 3. ibid : p. 1428-M.9

On the other hand, scientists are not unanimous in their approach about the 'cyclic nature of the universe'. Some of them favour this idea but others oppose it, on one ground or the other. For example, supporters of the Second Law of Thermodynamics oppose the idea of 'cycle universe'. According to them, energy is the cause of all the life of the universe. It continually changes in form and is running downhill. When the last erg of energy will reach the bottom, it will lose all capacity for change and the universe will become dead. Hence, there will be no possibility of a 'cyclic universe'. As and when, there was opposition to this idea in the field of science, they reacted as under :-

" Many giving rein to their fancy, have speculated that this low-level heat-energy may in due course, reform itself into new electrons and protons. As the existing universe, dissolves away into radiation, their imagination sees new heavens and a new earth coming into being out of the ashes of the old. But science can give no support to such fancies. " ¹

1. The Universe Around Us. : p. 322

This Law however, suggests that the universe will diminish and not the energy. The energy will lose its capacity i.e. activity. That will, therefore, be a state of ' stillness' of energy . The last erg of energy will ,therefore, be in the subtle form.

The downhill journey of energy can be described as ' journey from gross to subtle state '. Likewise, energy must journey from ' subtle to gross state' . The scientists do not seem to believe in such a hypothesis, otherwise the supporters of the Second Law of Thermodynamics would have changed their concept about the ' cyclic universe ' .

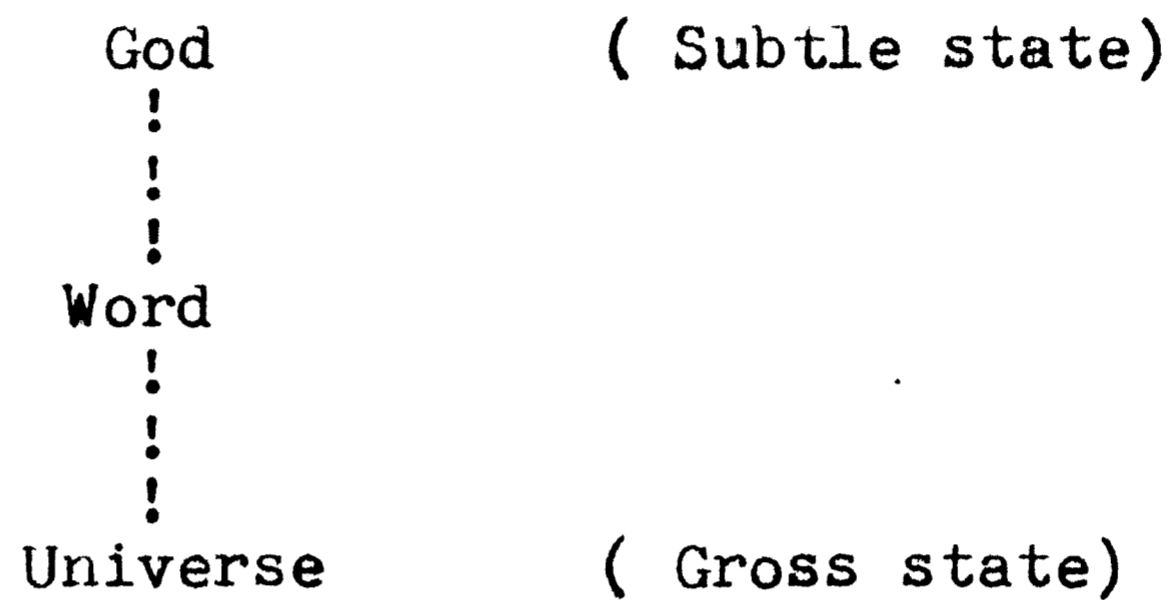
Guru Nanak's hypothesis of ' cycle nature of the universe ' suggests that ' journey of the energy is always from subtle to gross state and vice-versa' . This view point becomes clear from the following verse of Nanak Bani.

" Through the word is the creation
and the dissolution of the
universe. " (1)

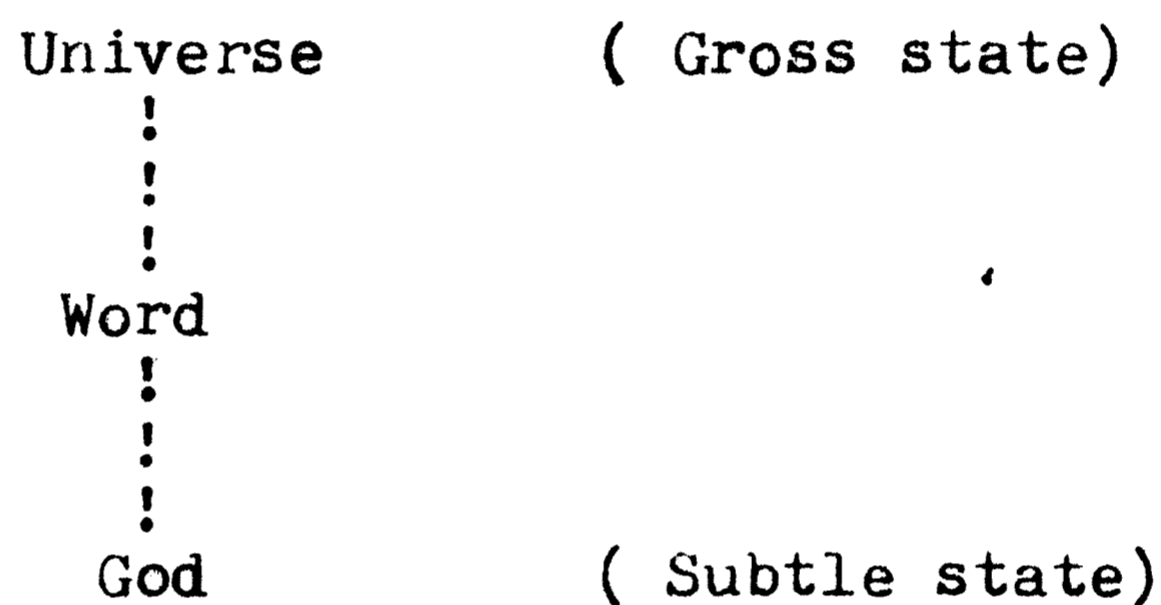
1. G.G.S. P. 117- M.3

The idea of the above verse can be expressed in the following form :

Origin of the universe



Dissolution of the universe



The God, the creator of the universe actually is the ' Omnipotent Power or Energy ', the nature of which is creative and directive. After dissolution of the universe, the ' Omnipotent Power' restarts His journey at His will and again the universe manifests .

The state of the last erg of energy can be identified with the state of stillness(non-creative) of the ' Omnipotent Power' before origin of the universe. On the analogy of the above hypothesis of Guru Nanak, the last erg of energy must restart its journey upward i.e. 'from subtle to gross state' in due course of time.

In view of the above facts, the hypothesis put forward by Guru Nanak in his bani that ' energy runs from subtle to gross state and vice-versa ' seems to be a scientific one; whereas the conclusion of the supporters of the Second Law of Thermodynamics looks merely speculative.

The hypothesis of Nanak Bani that 'through the word is the creation and the dissolution of the universe ' also applies to individual beings. All the living beings originated from the Absolute Lord and will then merge in Him :

" From thee they issue forth and in
Thee they merge ." (1)

Guru Nanak has time and again stated in his bani that coming and going of egocentrics will not end and only the True ones will merge in the True Lord. By contemplating on the name (word) of God one becomes pure. This means only ' like merges in like '. Guru Nanak says :

" As a metal ultimately merges in metal,
so does a praise-chanter get absorbed
in the praise-worthy Lord. " (2)

" Through truth, the truthful ones merge
in the True Lord. " (3)

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|----|---------|--------|---------|---------|-----------|
| 1. | - - - - | G.G.S. | - - - : | p. 1035 | - - - - - |
| 2. | | G.G.S. | : | p. 18 | |
| 3. | | ibid | : | p. 839 | |

" The creatures emerge from truth and merge in truth as well.
 The pure one becomes ^{one} and the same with the True Lord.
 The false ones comes and find no place of rest. Through duality , they continue coming and going. " (1)

Thus, Guru Nanak has also proclaimed the universal truth that ' like merges in like ' .²

In nutshell, the position of science so far as its knowledge of the universe and life therein , is concerned , is not upto date . The scientists have put forward ' seedless hypotheses ' about the nature of the universe and life therein. They look like ' wise gossips ' .

Sir E.Ray Lankester has rightly stated that-

" We cannot know or even can hope to know or conceive of the possibility of knowing whence the mechanism of nature has come, why it is there, wither it is going and what there may or may not be beyond and beside it which our senses are incapable of appreciating. These things are not explained by science and never can be. These are all ' speculations' of the scientists. ³

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1. G.G.S. : p. 940
 2. For example, water is a mixture of hydrogen and oxygen gases. However, both the gases retain their individual identity and can be de-synthesized. Only oxygen can merge in oxygen and not hydrogen.
 3. The Miracle of Life : p. 11

There is, therefore, scientific reason for believing in the existence of a creator and its directive power.

Guru Nanak has narrated the story of the cosmos from its pre-creation to dissolution state in a unique manner. The universal truths enshrined in his bani are truly scientific. A few of them are given below :-

- i) matter is inanimate in nature; it changes its form and not nature ;
- ii) like produces like ;
- iii) like merges in like;
- iv) journey of energy from subtle to gross state and vice versa ;
- v) expansion is followed by contraction;
- vi) concept of cause and effect; and
- vii) which is born is destined to perish.¹

He also states that like everything else , the universe too has its creator- the Lord, who Himself is self-existent. He is the creative and the directive power. He is the cause of causes. He is the life of all life in the universe. He not only creates the universe but sustains and dissolves also. The universe

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1. It is the body of matter which perishes and not the soul (individual as well as universal) . The individual soul at last merges in the universal soul- the Lord ; whereas He is eternal .

emerges from Him and in the end merges in Him. Time and again, He repeats this process. Everything in the universe is under His command.

The cosmos is nothing but His manifestation. He Himself is the air, water, fire, moon, sun, male , female etc.

He pervades the entire creation. There is the same inner consciousness amongst all the beings.

All the living beings from the micro-organisms to that of elephants wander from one existence to another according to their deeds till they merge in the Lord.

From the above ideas of Guru Nanak, we may conclude that his approach to life (the living things) is not speculative at all but he has studied the nature of the universe and life therein, in a critical and scientific manner. Nanak Bani could, therefore, be one of the most important guiding factors for the seekers of the knowledge of the universe and life in the cosmos.

To conclude, the COSMIC VIEW OF LIFE which Guru Nanak presents in his bani is summed up as under :-

"All the living things in the universe are related to each other. They are like beads of a rosary. Substantially, One is All and All are One. "

* * * * *

ABBREVIATIONS

A B B R E V I A T I O N S

Aitareya Upanishad	A. U.
Atharva Veda	Atha. V.
Brihadaranyaka Upanishad	B. U.
Chandogya Upanishad	C. U.
Guru Granth Sahib	G. G. S.
Isa Upanishad	Isa
Isavasya Upanishad	Is.U.
Jabala Upanishad	Jabala
Katho Panishad	Katha U.
Kausitaki Upanishad	K.U.
Kenopanishad	Kena U.
Mahabharata	M. B.
Maitri Upanishad	Maitri U.
Mandukya Upanishad	Ma. U. .
Mundaka Upanishad	M.U.
Paingala Upanishad	Paingala
Prasnopanishad	Prasna
Rig Veda	R. V.
Sathpatha Brahmana	Sat. Br.
Subala Upanishad	Subala
Svetasvatara Upanishad	Svet. U.
Taittiriya Brahmana	Tr. Br.
Taittiriya Upanishad	T.U.
Yajur Veda	Yaj. V.

GURBANI VERSES
(in Punjabi)

GURBANI VERSES

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Introduction

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ਅੰਤ ਨ ਜਾਏ ਪਾਰਾਵਾਰ ॥	2	"
ਆਪੇ ਸਚੁ ਕੀਆ ਕਰ ਜੋੜਿ ॥		
ਅੰਡ ਫੋੜਿ ਜੋੜਿ ਵਿਛੋੜਿ ॥		
ਧਰਤੀ ਆਕਾਸ ਕੀਏ ਬੈਸਣ ਕਉ ਥਾਉ ॥	3	"

Chapter I

ਦੁਇ ਪੁੜ ਜੋੜਿ ਵਿਛੋੜਿਅਨ ਗੁਰ ਬਿਨ ਘੋਰ ਅੰਧਾਰ ॥	1	40
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ਅੰਡ ਫੋੜਿ ਜੋੜਿ ਵਿਛੋੜਿ ॥ ਧਰਤ ਅਕਾਸ ਕੀਏ ਬੈਸਣ ਕਉ ਥਾਉ ॥	4	"
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ਕਵਣ ਸਿ ਰੁਤੀ ਮਾਹ ਕਵਣ ਜਿਤੁ ਹੋਆ ਅਕਾਰ ॥ ਵੇਲ ਨ ਪਾਇਆ ਪੰਡਤੀ ਜਿ ਹੋਵੈ ਲੇਖੁ ਪੁਰਾਣ ॥ ਵਖਤ ਨ ਪਾਇਉ ਕਾਦੀਆ ਜੇ ਲਿਖਿਨ ਲੇਖ ਕੁਰਾਣ ॥ ਥਿਤਿ ਵਾਰ ਨ ਜੋਗੀ ਜਾਣੈ, ਰੁਤ ਮਾਹ ਨ ਕੋਈ ॥ ਜਾ ਕਰਤਾ ਸਿਰਠਿ ਕਉ ਸਾਜੈ ਆਪੈ ਜਾਣੈ ਸੋਈ ॥ ਪਿਤਾ ਕਾ ਜਨਮ ਕਿ ਜਾਨੈ ਪੂਤਿ ॥	1	131

CHAPTER III

ਜੀ ਉਪਾਇ ਤਨੁ ਸਾਜਿਆ ਰਖਿਆ ਬਣਤ ਬਣਾਇ ॥ 1		150
ਕਾਇਆ ਹੰਸ ਸੈਜੋਗ ਮੇਲ ਮਿਲਾਇਆ ॥	2	"
ਪੰਚ ਤਤੁ ਮਿਲਿ ਇਹ ਤਨੁ ਕੀਆ ॥	3	"
ਅਪੁ, ਤੇਜ, ਵਾਇ, ਪ੍ਰਿਥਮੀ ਅਕਾਸ ॥ ਤਿਨ ਮਹਿ ਪੰਚ ਤਤੁ ਘਰਿ ਵਾਸਾ ॥	4	"
ਪਿੰਡ ਪਵੈ ਜੀਉ ਚਲਸੀ ਜੇ ਜਾਣੈ ਕੋਈ ॥	1	151
ਸੁੰਦੀ ਦੇਹ ਡਰਾਵਣੀ ਜਾ ਜੀਉ ਵਿਚਹੁ ਜਾਇ ॥	2	"
ਸੋ ਕਿਉ ਮਨਹੁ ਵਿਸਾਰੀਐ ਜਾ ਕੇ ਜੀਆ ਪਰਾਨ ॥	1	152
ਤਿਨ ਚਿਨ ਮੇਰਾ ਕੇ ਨਹੀਂ ਜਿਸ ਕਾ ਜੀਉ ਪਰਾਨ ॥	2	"
ਅੰਤਰਿ ਜੋਤਿ ਭਲ ਜਗਜੀਵਨ	3	"

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ਪਸਰੀ ਕਿਰਣਿ ਜੋਤਿ ਉਜਿਆਲਾ ॥	4	152
ਰਵਿ ਸੀਸ ਦੀਪਕ ਜੋਤਿ ਸਬਾਈ ॥	5	"
ਜਲਿ ਥਲਿ ਮਹੀਅਲ ਭਰਿਪੂਰ ਲੀਣਾ ਘਟਿ ਘਟਿ ਜੋਤਿ ਤੁਮਾਰੀ ॥	6	"
ਜੀਉ ਪਿੰਡ ਸਭ ਤਿਸਦਾ ਸਾਹੁ ਤਿਨੈ ਵਿਚਿ ਪਾਇਆ ॥	1	153
ਪਵਣੈ ਖੇਲ ਕੀਆ ਸਭ ਬਾਈ ਕਲਾ ਖਿਚਿ ਢਹਾਇਦਾ ॥	2	"
ਪਵਣੈ ਕੈ ਵਸਿ ਦੇਹੁਰੀ ਮਸਤਕਿ ਸਚੁ ਨੀਸਾਣੁ ॥	3	"

CHAPTER IV

ਪਵਣ ਪਾਣੀ ਅਗਨੀ ਪਾਤਾਲ ॥ ਤਿਸਿ ਵਿਚ ਧਰਤੀ ਥਾਪ ਰਖੀ ਧਰਮਸਾਲ ॥	1	166
ਮਰਣ ਜੀਵਣ ਕਉ ਧਰਤੀ ਦੀਨੀ ਏਤੇ ਗੁਣ ਵੀਸਰੇ ॥	2	"
ਗੁਰਮੁਖਿ ਧਰਤੀ ਸਾਚੈ ਸਾਜੀ ॥ ਤਿਨ ਮਹਿ ਓਪਤਿ ਖਪਤਿ ਸੁਬਾਜੀ ॥	3	"
ਧਰਤਿ ਅਕਾਸ ਦੀਏ ਬੈਸਣ ਕਉ ਬਾਉ ॥	1	167
ਜੇਤੇ ਜੀਅ ਜੰਤ ਜਲਿ ਥਲਿ ਮਹੀਅਲ, ਜਤੁ ਕਤੁ ਤੂੰ ਸਰਬ ਜੀਆ ॥	2	"
ਸਭੇ ਪੁਰੀਆ ਖੰਡ ਸਭਿ ਸਭੇ ਜੀਅ ਜਹਾਨ ॥ ਹੁਕਮਿ ਚਲਾਏ ਆਪਣੇ ਕਰਮੀ ਵਹੈ ਕਲਾਮ ॥	3	"
ਸਾਰਾ ਸਾਹਿਬ ਏਕ ਤੂੰ ਹੋਰਿ ਜੀਆ ਕੇਤੇ ਲੋਅ ॥	4	"
ਜਲਿ ਥਲਿ ਜੀਆ ਪੁਰੀਆ ਲੋਅ ਆਕਾਰਾ ਆਕਾਰ ॥	5	"
ਮੰਨੈ ਸਗਲ ਭਵਣ ਕੀ ਸੁਧਿ ॥	1	169
ਨਾਮਿ ਰਤੇ ਤ੍ਰਿਭਵਣ ਸੋਝੀ ਹੋਇ ॥	2	"

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ਚਿਹਨੁ ਵਰਨੁ ਨਹੀ ਛਾਇਆ ਮਾਇਆ ਨਾਨਕ ਸਬਦੁ ਪਛਾਣੈ ॥	3	169
ਸਤਿਗੁਰ ਮਿਲਿਐ ਨਿਰੰਜਨੁ ਪਾਇਆ, ਬਹੁਰਿ ਨ ਭਵਜਲਿ ਫੇਰਾ ॥	4	"
<u>CHAPTER V</u>		
ਧਰਣਿ ਨ ਗਗਨਾ ਹੁਕਮੁ ਅਪਾਰਾ ॥ ਨਾ ਦਿਨ ਰੈਨਿ ਨ ਚੰਦੁ ਨ ਸੂਰਜੁ ਸੁੰਨ ਸਮਾਧਿ ਲਗਾਇਦਾ ॥ ਖਾਣੀ ਨ ਬਾਣੀ ਪਉਣ ਨ ਪਾਣੀ ॥ ਉਪਤਿ ਖਪਤਿ ਨ ਆਵਣ ਜਾਣੀ ॥ ਨਾਰਿ ਪੁਰਖੁ ਨਹੀ ਜਾਤਿ ਨ ਜਨਮਾ ਨਾ ਕੇ ਦੁਖ ਸੁਖੁ ਪਾਇਦਾ ॥ ਲਿੰਦੁ ਬਿੰਦੁ ਨਹੀ ਜੀਉਨ ਜਿੰਦੇ ॥	1	220
ਜੀਅ ਜੰਤ ਸਭ ਸਾਰੀ ਕੀਤੇ ਪਾਸਾ ਢਾਲਣਿ ਆਪਿ ਲਗਾ ॥	1	221
ਜੰਤ ਉਪਾਇ ਧੰਧੇ ਸਭ ਲਾਏ ਕਰਮੁ ਹੋਆ ਤਿਨੁ ਨਾਮ ਲਇਆ ॥	2	"
ਵਾਹ ਖਸਮ ਤੂੰ ਵਾਹੁ ਜਿਨਿ ਰਚਿ ਰਚਨਾ ਹਮ ਕੀਏ ॥ 3		"
ਜੰਤ ਉਪਾਇ ਵਿਚਿ ਪਾਇਅਨੁ ਕਰਤਾ ਅਲਗੁ ਅਪਾਰ ॥ 4		"
ਸਾਰੈ ਤੇ ਪਵਨਾ ਭਇਆ ॥	1	222
ਹੁਕਮਿ ਹੋਵਨਿ ਜੀਅ	2	"
ਹੁਕਮਿ ਹੋਵਨਿ ਆਕਾਰ ॥	3	"
ਹੁਕਮੀ ਭਾਂਡੇ ਸਾਜਿਆ ਤੂੰ ਆਪ ਭੰਨ ਸਵਾਰ ਜੀਉ ॥ 4		"
ਜੀਉ ਪਾਇ ਤਨੁ ਸਾਜਿਆ ਰਖਿਆ ਬਣਤ ਬਣਾਇ ॥ 5		"
ਜੀਉ ਪਿੰਡ ਸਭੁ ਤਿਸਦਾ ਸਾਹ ਤਿਨੈ ਵਿਚਿ ਪਾਇਆ ॥	6	"

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ਕਰਣ ਕਾਰਣ ਸਮਰਥ ਅਪਾਰਾ ॥	1	223
ਆ ਦਿ ਪੁਰਖ ਕਰਤਾਰ ਕਰਣ ਕਾਰਣ ਸਭ ਆਧੈ ॥	2	"
ਤੂੰ ਸਭਨਾ ਮਾ ਹਿ ਸਮਾਇਆ ॥	3	"
ਤੀਨ ਭਵਣ ਮਹਿ ਗੁਰ ਗੋਪਾਲਾ ॥	4	"
ਜੰਤ ਉਪਾਇ ਵਿਚਿ ਪਾਇਅਨੁ ਕਰਤਾ ਅਲਗੁ ਅਪਾਰਾ ॥5		"
ਲਖ ਚਉ ਰਾਸੀਹ ਜੰਤ ਉਪਾਏ ॥	1	224
ਲਖ ਚਉਰਾਸੀ ਮੇਦਨੀ ਘਟੈ ਨ ਵਧੈ ਉਤਾਹਿ ॥	2	"
ਲਖ ਚਉਰਾਸੀ ਮੇਦਨੀ ਤੁਝ ਹੀ ਤੇ ਹੋਈ ॥	3	"
ਚਰੈ ਚਾਰਿ ਵੇਦ ਜਿਨਿ ਸਾਜੇ ਚਾਰੇ ਖਾਣੀ ਚਾਰਿ ਜੁਗਾ ॥	4	"
ਅੰਡਜ ਜੇਰਜ ਉਤਭੁਜਾਂ ਖਾਣੀ ਸੇਤਜਾਂਹ ॥	5	"
ਅੰਡਜ ਜੇਰਜ ਸੇਤਜ ਉਤਭੁਜ ਘਟਿ ਘਟਿ ਜੇਤਿ ਸਮਾਈ ॥1		225
ਕੇਤੀਆ ਖਾਣੀ ਕੇਤੀਆ ਬਾਣੀ ਕੇਤੇ ਪਾਕ ਨਰਿੰਦ ॥2		"
ਮਾਤ ਪਿਤਾ ਸੰਜੋਗਿ ਉਪਾਏ ਰਕਤ ਬਿੰਦੁ ਮਿਲਿ ਪਿੰਡ ਕੇ ॥	1	227
ਮਾ ਕੀ ਰਕਤੁ ਪਿਤਾ ਬਿੰਦੁ ਸਾਰੀ ਮੂਰਤਿ ਸੂਰਤਿ ਕਰਿ ਅਪਾਰਾ ॥	2	"
ਬਿੰਦੁ ਰਕਤੁ ਮਿਲਿ ਪਿੰਡੁ ਸਰੀਆ ॥	3	"
ਮਾਸਹੁ ਨਿੰਮੇ ਮਾਸਹੁ ਜੰਮੇ ਹਮ ਮਾਸੈ ਕੇ ਭਾਂਡੇ ॥	4	"
ਪਹਿਲਾਂ ਮਾਸਹੁ ਨਿੰਮਿਆ ਮਾਸੈ ਅੰਦਰਿ ਵਾਸ ॥	5	"
ਜੀਆ ਜੰਤ ਸਭ ਮਾਸਹੁ ਹੋਏ ਜੀਵ ਲਇਆ ਵਾਸੇਰਾ ॥1		228
ਪਾਠੇ ਤੂੰ ਜਾਣੈ ਹੀ ਨਾਹੀ ਕਿਥਹੁ ਮਾਸੁ ਉਪੰਨਾ ॥ 2 ਤੋਇਅਹੁ ਅੰਨੁ ਕਮਾਦੁ ਕਪਾਹਾ ਤੋਇਅਹੁ ਤ੍ਰਿਭਵਣ ਰੰਨਾ ॥		"
ਕਰਿ ਕਰਿ ਵੇਧੈ ਕੀਤਾ ਆਪਣਾ ਜਿਵ ਤਿਸ ਦੀ ਵਡਿਆਈ ॥ ਜੇ ਤਿਸ ਭਾਵੈ ਸੋਈ ਕਰਸੀ ਹੁਕਮੁ ਨ ਕਰਣਾ ਜਾਈ ॥	3	"

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ਕਰਿ ਕਰਿ ਵੇਖੈ ਸਿਰਜਣਹਾਰ ॥	1	229
ਨਾਨਕ ਕਰਤਾ ਕਰਣਹਾਰੁ ਕਰਿ ਵੇਖੈ ਬਾਪਿ ਉਬਾਪਿ ॥	2	"
ਨਾਨਕ ਜੋ ਤਿਸ ਭਾਵੈ ਸੋ ਥੀਐ ਇਨਾ ਜੀਤਾ ਵਸਿ ਕਿਛੁ ਨਾਹਿ ॥	3	"
ਜੀਉ ਪਿੰਡੁ ਸਭ ਰਾਸਿ ਤਿਸੈ ਕੀ ਮਾਰਿ ਆਪੇ ਜੀਵਾਲੇ ॥	4	"
ਲੇਖੇ ਬੋਲਣ ਬੋਲਣਾ ਲੇਖੇ ਖਾਣਾ ਖਾਉ ॥	5	"
ਲੇਖੇ ਵਾਟ ਚਲਾਈਆ ਲੇਖੇ ਸੁਣਿ ਵੇਖਾਉ ॥		
ਲੇਖੇ ਸਾਹ ਲਵਾਈਅਹਿ ਪੜੇ ਕਿ ਪੁਛਣ ਜਾਉ ॥		
ਲੇਖੇ ਬੋਲਣ ਲੇਖੇ ਚਲਣੁ ਕਾ ਇਤੁ ਕੀ ਚਹਿ ਦਾਵੈ ॥	1	230
ਲਖ ਚਉਰਾਸੀਹ ਜੀਅ ਉਪਾਏ ਭਾਣੈ ਸਾਹ ਲਵਾਇਦਾ	2	"
ਪ੍ਰਭ ਜਗਜੀਵਨ ਅਵਰੁ ਨ ਕੋਇ ॥	3	"
ਜੋਗ ਜੁਗਤਿ ਜਗਜੀਵਨ ਸੋਈ ॥	4	"
ਸਰਬ ਜੀਆ ਜਗਜੀਵਨ ਦਾਤਾ ਨਿਰਭਉ ਮੈਲ ਨਾ ਕਾਈ ਹੈ ॥	5	"
ਕੀਤਾ ਪਸਾਉ ਏਕੋ ਕਵਾਉ ਤਿਸਤੇ ਹੋਇ ਲਖ ਦਰੀਆਉ ॥	1	231
ਲਖ ਚਉਰਾਸੀਹ ਜੋਨਿ ਸਬਾਈ ॥		
ਮਾਣਸ ਕਉ ਪ੍ਰਭਿ ਦੀਈ ਵਡਿਆਈ ॥	1	232
ਕਰਮੀ ਆਵੈ ਕਪੜਾ ॥	2	"
ਕੋਤੇ ਰੁਖ ਬਿਰਖ ਹਮ ਚੀਨੇ ਕੋਤੇ ਪਸੂ ਉਪਾਏ ॥	3	"
ਕੋਤੇ ਨਾਗ ਕੁਲੀ ਮਹਿ ਆਏ ਕੋਤੇ ਪੰਖ ਉਡਾਏ ॥		
ਜਜੈ ਜਾਨ ਮਾਗਤ ਜਨੁ ਜਾਚੈ ਲਖ ਚਉਰਾਸੀਹ ਭੀਖ ਭਵਿਆ ॥	1	233

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ਮਨਮੁਖ ਫ਼ਿਰਹਿ ਨ ਚੇਤਹਿ ਮੂੜੇ ਲਖ ਚਉਰਾਸੀਹ ਫੇਰੁ ਪਇਆ ॥	2	233
ਦੇਹੀ ਮਾਟੀ ਬੋਲੈ ਪਉਣ ॥	1	236
ਉਡਰਿ ਹੰਸੁ ਚਲਿਆ ਫੁਰਮਾਇਆ ਭਸਮੈ ਭਸਮ ਸਮਾਣੀ ॥	2	"

CHAPTER VI

ਜੇ ਉਪਜੈ ਸੇ ਕਾ ਲਿ ਸੰਘਾ ਰਿਆ ॥	1	250
ਜੇ ਉਪਜਿਉ ਸੇ ਬਿਨਸਿ ਹੈ ਪਰੇ ਆਜ ਕੈ ਕਾ ਲਿ ॥	2	"
ਸਭ ਦੁਨੀ ਆਵਣ ਜਾਵਣੀ ਮੁਕਾਮ ਏਕ ਰਹੀਮ ॥	3	"
ਅਸਮਾਨੁ ਧਰਤੀ ਮੁਕਾਮ ਉਹੀ ਏਕ ॥	4	"
ਦਿਨ ਰਵਿ ਚਲੇ ਨਿਸਿ ਸਸਿ ਚਲੇ ਤਾ ਰਿਕਾ ਲਖ ਪਲੇਇ ॥ ਮੁਕਾਮ ਉਹੀ ਏਕ ਹੈ ਨਾਨਕਾ ਸਬ ਬਠੋਇ ॥	5	"
ਅਸਥਿਰ ਕਰਤਾ ਦੇਖੀਐ ਹੋਰ ਕੋਤੀ ਆਵੈ ਜਾਇ ॥	6	"
ਸਭ ਜਗ ਬਾਧੇ ਕਾਲ ਕੇ ਬਿਨੁ ਗੁਰ ਕਾਲੁ ਅਫਾਰੁ ॥	1	251
ਨ ਸੁਰ ਸਸਿ ਮੰਡਲੇ ॥ ਨ ਸਪਤ ਦੀਪ ਨਹ ਜਲੇ ॥		
ਅੰਨ ਪਉਣ ਥਿਰ ਨ ਕੋਈ ॥ ਏਕ ਤੁਈ ਬੇਕ ਤੁਈ ॥	2	"
ਇਆ ਸੀਮਾਰ ਸਗਲ ਹੈ ਸੁਪਨਾ ॥	3	"
ਕਹੁ ਨਾਨਕ ਥਿਰ ਕਿਛੁ ਨਾ ਰਹੈ ਜਿਉ ਬਾਲੂ ਕੀ ਭੀਤਿ ॥	1	252
ਕਾਗਦ ਕੋਟੁ ਇਹ ਜਗਤ ਬਪੁਰੇ ਰੰਗਨਿ ਚਿਹਨ ਚਤੁਰਾਈ ॥ ਨਾਨੀ ਸੀ ਬੂੰਦ ਪਵਨ ਪਤਿ ਖੇਵੈ ਜਨਮਿ ਮਰੇ ਖਿਨ ਤਾਂਈ ॥	2	"
ਢਢੋਲਿਮਿ ਢੁਢਮਿ ਡਿਠੁ ਸੇ ਨਾਨਕ ਜਗ ਧੂਏ ਕਾ ਧਵਲ ਹਾਰੁ ॥	3	"

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ਨਟੁਐ ਸਾਂਗ ਬਣਾਇਆ ਬਾਜੀ ਸੰਸਾਰਾ ॥		
ਖਿਨ ਪਲੁ ਬਾਜੀ ਦੇਖੀਐ ਉਝਰਤ ਨਹੀ ਬਾਰਾ ॥	4	252
ਖਾਕੁ ਖਾਕੁ ਰਨੈ ਸਭੁ ਫੈਲੁ ॥	5	"
ਜਗ ਰਚਨਾ ਸਭ ਝੂਠ ਹੈ ਜਾ ਨਿ ਲੋਹੁ ਰੇ ਮੀਤ ॥	6	"
ਕੂੜ ਰਾਜਾ ਕੂੜ ਪਾਜਾ ਕੂੜੁ ਸਭ ਸੰਸਾਰ ॥	7	"
ਸਚੇ ਤੇਰੇ ਖੰਡ ਸਚੇ ਬ੍ਰਹਮੰਡ ॥ ਸਚੇ ਤੇਰੇ ਲੋਅ ਸਚੇ ਅਕਾਰ ॥	1	253
ਸਤਿ ਪੁਰਖ ਸਭ ਮਾਹਿ ਸਮਾਣੀ ॥ ਸਤਿ ਕਰਮੁ ਜਾ ਕੀ ਰਚਨਾ ਸਤਿ ॥ ਆਪਿ ਸਤਿ ਕੀਆ ਸਭ ਸਤਿ ॥	2	"
ਜੇ ਮਰਿ ਜੰਮਿ ਸੋ ਕਰੁ ਨਿਕਰੁ ॥	1	254
ਘਲੇ ਆਣੇ ਆਪਿ ਜਿਸ ਨਾਹੀ ਦੂਜਾ ਮਤੇ ਕੋਇ ॥	1	255
ਆਪਿ ਉਪਾਏ ਥਾਪਿ ਉਥਾਪਿ ॥	2	"
ਜਿਨ ਕਰਿ ਸਾਜੀ ਤਿਨਹਿ ਸਭ ਗੋਈ ॥	3	"
ਜਾ ਤਿਸ ਭਾਵੈ ਤਾਂ ਸ੍ਰਿਸਟਿ ਉਪਾਏ ॥		
ਆਪਣੇ ਭਾਣੇ ਲਏ ਸਮਾਇ ॥	4	"
ਹੁਕਮੀ ਸ੍ਰਿਸਟਿ ਸਾਜੀਅਨੁ ਜੋਤੀ ਜੋਤਿ ਮਿਲਾਇਆ ॥ 4		"
ਰਾਜੇ ਰਥਤਿ ਸਿਕਦਾਰ ਕੋਇ ਨ ਰਹਸੀਉ ॥		
ਹਟ ਪਟਣ ਬਾਜਾਰ ਹੁਕਮੀ ਢਹਿਸੀਉ ॥	4	"
ਜੇ ਦੀਸੈ ਤੁਝਿ ਮਾਹਿ ਸਮਾਨਾ ॥	5	"
ਸੁੰਨਹੁ ਉਪਜੀ ਸੁੰਨਿ ਸਮਾਣੀ ॥	6	"
ਕਈ ਬਾਰ ਪਸਰਿਓ ਪਾਸਾਰ ॥	1	256
ਸਭ ਦੁਨੀਆ ਆਵਣ ਜਾਣੀਆ ॥	2	"
ਸਹਸਾਇਹ ਸੰਸਾਰ ਹੈ ਮਰਿ ਜੰਮਿ ਆਇਆ ਜਾਇਆ ३		"
ਖਿਨ ਮਹਿ ਢਾਹੇ ਫੇਰਿ ਉਸਾਰੇ ॥	4	"

1	2	3
ਕੋਤੇ ਜੁਗ ਵਰਤੇ ਗੁਬਾਰੇ ॥ ਤਾੜੀ ਨਾਈ ਅਪਰ ਅਪਾਰੇ ॥	5	256
ਹੁਕਮੇ ਜੁਗ ਛਤੀਹ ਗੁਦਾਰੇ ॥	6	"
ਜਨਮ ਤ ਮਰੰਣ ਹਰਖ ਤ ਸੋਗ ਭੋਗ ਤੇ ਰੋਗ ॥ ਉਚ ਤੇ ਨੀਚ, ਨਾਨਾ ਸੁ ਮੂੰਚ ॥	1	258

CONCLUSION

ਕਲਾ ਧਰੇ ਹਿਰੈ ਸੁਈ ॥	1	267
ਜੈਸਾ ਬੀਜੇ ਸੋ ਲੁਣੇ, ਜੋ ਖਟੇ ਸੁ ਖਾਇ ॥	1	269
ਜੋ ਬੀਜੇ ਸੋ ਉਗਵੇ ਖਾਂਦਾ ਜਾਣੈ ਜੀਉ ॥	2	"
ਸਚੁ ਬੀਜੇ ਸਚੁ ਉਗਵੇ ਦਰਗਹ ਪਾਈਐ ਥਾਉ ॥	3	"
ਧਰਣਿ ਗਗਨੁ ਕਲ ਧਾਰਿ ਰਹਾਵੈ ॥	2	270
ਏਕੋ ਕਰਤਾ ਜਿਨਿ ਜਗੁ ਕੀਆ ॥		
ਬਾਝ ਕਲਾ ਧਰਿ ਗਗਨ ਧਰੀਆਂ ॥	3	"
ਢਾਢੀ ਸਚੈ ਮਹਿਲ ਖਸਮਿ ਬੁਲਾਇਆ ॥	1	"
ਸਚੀ ਸਿਫਤ ਸਨਾਹ ਕਪੜਾ ਪਾਇਆ ॥		
ਨਾਨਕ ਸਬਦਿ ਮਿਲਾਵੜਾ ਨਾ ਵੇਛੋੜਾ ਹੋਇ ॥	2	"
ਆਪੇ ਆਪਿ ਮਿਲਾਏ ਕਰਤਾ ਪੁਨ ਰਪਿ ਜਨਮੁ ਨ ਹੋਈ ॥	3	"
ਨਾਨਕ ਸਹਿਜ ਮਿਲੈ ਜਗਜੀਵਨੁ ਗੁਰਬੁਖਦੀ ਪਤਿ ਪਾਇਦਾ ॥	4	"

1	2	3
ਜੇ ਉਪਜੈ ਸੇ ਕਾ ਲਿ ਸੰਘਾ ਰਿਆ ॥	1	273
ਜੇ ਦੀਸੈ ਸੇ ਉਪਜੇ ਬਿਨਸੈ ॥	2	"
ਜੇ ਉਪਜਿਓ ਸੇ ਬਿਨਸਿ ਹੈ ਪਰੇ ਆਜੁ ਕੈ ਕਾਲ ॥	3	"
ਉਤਪਤੀ ਪਰਲਉ ਸਬਦੇ ਹੋਵੈ। ਸਬਦੇ ਹੀ ਫਿਰਿ ਉਪਤਿ ਹੋਵੈ ॥	1	275
ਤੁਝ ਤੇ ਉਪਜਿ ਤੁਝ ਮਾਹਿ ਸਮਾਵਹਿ ॥	1	277
ਧਾਤੁ ਮਿਲੈ ਫੁਨਿ ਧਾਤੁ ਕਉ ਸਿਫਤੀ ਸਿਫਤਿ ਸਮਾਇ ॥	2	"
ਸਾਰੈ ਸਾਰੇ ਸਾਚਿ ਸਮਾਵਹਿ ॥	3	"
ਸਾਰੈ ਉਪਜੈ ਸਾਚਿ ਸਮਾਵੈ ਸਾਰੇ ਸੂਚੇ ਏਕ ਮਇਆ ॥ ਝੂਠੇ ਆਵਹਿ ਠਵਰ ਨ ਪਾਵਹਿ ਦੂਜੇ ਆਵਗਉਣ ਭਇਆ ॥	1	278

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