VASTNESS OF THE UNIVERSE AND INFINITY OF SPACE

Guru Nanak often speaks of three worlds. Strictly speaking, it does not mean that there are only three worlds. By this expression Guru Nanak denotes three dimensions of the whole universe; that is, above, beneath and middle. In a very general sense we may call them as Heaven, nether-land and earth. The scientists also use this type of metaphor: Our globe is a flat in the third storey of a house which we call the solar system.\(^1\) In fact, Guru Nanak believes in the infinity of space.

Before the time of Guru Nanak, no doubt, some religions used to believe in seven heavens and seven nether-worlds. Even Hinduism and Islam\(^2\) had this conviction. But Guru Nanak perceives infinity. He says:

There are million of nether-lands of netherlands, million of heavens of heavens.

Millions are tired of by making researches;.... If the maintenance of account were possible, it would have been, those who made an attempt to do so are destroyed themselves. So great He is that He alone knows His greatness.\(^3\)

He further describes:

There are more and more earths beyond one another.\(^4\)


\(^2\) Quran, 23:16.

\(^3\) *A.S.*, p. 5.

Again,

The limit of Cosmos is unknown and impenetrable. Crores bewail to find the limit, but the space is limitless. None can comprehend this limit. The more we say, the more it extends.¹

After realising the vastness of the universe and the infinity of space Guru does nothing but exclaims wonder:

Wonderful is Thy wind and wonderful is Thy water.
Wonderful is Thy fire which plays amazingly.
Wonderful is Thy earth and wonderful are the divisions of Creation.²

This Wonder becomes more impressive when we study the vastness of the universe in the light of scientific discoveries of the present days.

Science has tried to explore the wonders of the universe with the help of very powerful telescopes. Astrophysics and other branches of science have made many discoveries of the Cosmic worlds and concluded that the space is infinite. Scientists now hold that the extent of the whole spiral of local galaxy is of the order 100,000 light years.³

¹Ibid., p. 5.
²Ibid., p. 464.
Similar account of the vastness of the universe is given in another book, *Outer Space and Man* translated by Talmy from the Russian:

Our globe... is located in an outlying part of a vast stellar community numbering some 150,000 million stars. It takes a beam of light 80,000 years to cross to the community from end to end.¹

In the presence of these scientific discoveries Guru Nanak's conception of vastness of the universe and infinity of space becomes more understandable. We can do nothing except to appreciate the penetrable insight of Guru Nanak. He has given the innumerable account of universe and infinity of space even at that time when science was not so developed. Guru Nanak is the first thinker who visualized the vastness of the universe and the infinity of space.

**THE SHAPE OF THE UNIVERSE**

After studying the vastness of the universe it seems very essential to know about the shape of the universe. In Latin *AB OVO* means 'from the egg' or 'from the beginning'. Most probably this term signifies the structure of the cell which is the basic unit of all living matter. Guru Nanak has used the word 'egg' for

both to enunciate the beginning of the universe and to determine the shape of the universe. This word has also been used in Rig-Veda;\textsuperscript{1} nearly in the same sense.

The universe, according to Guru Nanak, is like an egg hanging in the space with the force of gravitation and mutual attraction. Guru says:

\begin{quote}
True Creator created (the universe) by combining elements. Egg was torn (into various heavenly bodies) then (they) were established (and) kept apart (from each other). Earth and sky were made for habitation. Nights and days (and the law of) Love and Fear were made. He, Who created is the preserver (also). None other is the Creator.\textsuperscript{2}
\end{quote}

Thus we are led to assume that the shape of the universe is round like an egg.

Science also holds this view about the shape of the Universe:

Our galaxy is ... spindle-shaped.\textsuperscript{3}

In the words of Novikov:

The earth was found to be shaped more like a tangerine than a sphere. According to the latest information brought in recently by artificial satellites, the earth is even slightly pear-shaped. It has been found that the North Pole is 30 meters

\textsuperscript{1}X, 121.

\textsuperscript{2}As\textsuperscript{2}, p. 839.

higher than the South Pole.¹

As to the position of our earth in the space, according to Guru Nanak, is as under:

In the world of time and space, of nights and days, of lunar dates and seasons, of air, water and fire, of nether-land, the earth the land of piety or of action has been established, wherein limitless organisms of diverse types and colours live. Their names are endless and boundless.²

NATURE OF THE UNIVERSE

While describing the Nature of the Universe Guru Nanak conceives that the whole universe is in motion and everything in the space is revolving and vibrating. All the forces of Nature are rotating around their nucleus under Divine Law.

In the words of Guru Nanak:

The wind moves in His Fear, lacs of rivers flow in His Fear. The fire works in His Fear. The earth is carrying the overweight in His Fear.
The clouds move (Hither and thither) with load on their heads in His Fear.
The god of death moves in His Fear.
The sun and moon move in His Fear. (They) move million of miles, of which there is no end.
The men of miracles, Buddhas, gods and yogis are in His Fear.

²AS, p. 7.
The whole space is stretched in His Fear.
His Fear written over the head of all.
Nanak, Only The True, Eternal-being is without Fear.¹

Science also holds that all the forces in the whole Cosmos are in motion and ever-changing. Scientists do agree that the whole Cosmos is a boundless ocean of energy. All the substances which comprise this ocean in their essence are nothing else than the different kinds of vibration, acting and reacting upon one another. In this universal process, the entire creation undergoes a transformation from moment to moment. All substance consists of energy is never at rest.²

Before proceeding further it seems necessary to know about the concept of Fear as enunciated by Guru Nanak. Above, a little earlier, Guru Nanak has described that everything in the universe is in motion or in rotation due to God's Fear. And this rotation or motion is not something like 'wandering', rather this is the 'rhythmical movement' of the substance which is going on under a certain and specific law. In the province of science this law is called 'the law of attraction and repulsion', or 'the law of sensation and vibration'

¹Ibid., p. 464.

or 'the law of motion' or on the large scale 'the law of gravitation'. It should be borne in mind that all these laws are basically the same. In the words of Hoyle:

The procedure in all branches of physical science whether in Newton's theory of gravitation, Maxwell's theory of electromagnetism, Einstein's theory of relativity, is at root the same.1

The Greek philosopher Empedocles in the fifth century B.C. first laid down his 'theory of the love and hatred of the elements'.2 But this theory got partial recognition by the Society of his time. In regard to this element in all the substances Haeckel speaks:

It is the same powerful "unconscious" attractive force which impels the living spermatozoon to force an entrance into the OVUM in the fertilisation of egg of the animal or plant - the same impetuous movement which unites two atoms of hydrogen to one atom of oxygen for the formation of a molecule of water.3

He further speaks on the subject:

On these phenomena we base our conviction that even the atom is not without a rudimentary form of sensation and will, or, as it is better expressed, of feeling (eisthesis) and inclination (tropesis) — that is, a universal "soul" of the simplest character. The same must be said of the molecules which are

3 Ibid., p. 184.
composed of two or more atoms.¹

Haeckel throws more light on the topic:

The two fundamental forms of substance, ponderable matter and ether, are not dead, and only moved by extrinsic force, but they are endowed with sensation and will (though naturally, of the lowest grade); they experience an inclination for condensation, a dislike of strain; they strive after one and struggle against the other.²

Now from the foregoing discussion we are well equipped to interpret the concept of Fear as propounded by Guru Nanak. In order to describe the behaviour of particles in the whole universe Guru Nanak has also used one pair of words. That is, Bho-Bhao, Fear and Love; better translation of this pair is "Fear" and "Will". There are many examples of this pair. Guru Nanak conceives that the behaviour of the various elements towards each other is regulated by the 'law of Will and Fear' or the 'law of Love and Fear'.

This pair seems in harmony with that of 'Love and Hatred' of Empedocles, 'attraction and repulsion' of science, 'sensation and vibration' of atomic theory.

A few examples of this pair from the work of Guru Nanak will clear the matter more vividly:

¹Ibid., p. 184.
²Ibid., p. 180.
(The Creator) Created nights and days
and (the law of) Fear and Love.1

Again,

His Fear is written over the head of all.
Nanak, only the True Eternal-being
is without Fear.2

He adds further:

Those who have Love, have Fear.3

In regard to the element of 'Fear' Guru Nanak has
written one complete hymn in Raqa Gauri, says Guru:

Fear is very great and powerful;
Man's intellect and expression is very weak
and small.
(Everyone) moves having and bearing the
load (of Fear)
He who has the grace of the Guru meditates
on Him;
without Fear none can cross the world of ocean.
Fear and Love have been established with
great care.
Body contains Fear and the fire of hunger is
increased by Fear.
Love and Fear construct perfect Sabada (sound)
without Fear the construction is imperfect.
The mould and stroke thereon are aimless.4

Above, the interpretation of the word 'Fear' has
been given from the point of view of physical Law. From
the metaphysical view-point the word 'Fear' has, however,
some different meanings and those meanings should not be

1 A.G., p. 839.
2 Ibid., p. 464.
3 Ibid., p. 465.
4 Ibid., p. 151.
intermingled when the word is used as a physical law of the world.

We have, so far, noticed that Guru Nanak has selected the word 'Fear' in place of the word 'hatred' or repulsion as used by Empedocles or by scientists respectively. Philosophically, "Will" and "Fear" are two positive and negative aspects of the same instinct. When Guru Nanak says that in 'Fear' everything is in motion, he means that 'Fear' is the innate impetus to make things move according to Divine Will.

'Will' is to obey the Law and 'Fear' is not to disobey the Law. That is why Guru says: 'Fear' is written on the head of everyone, only, One Formless Eternal-being is without Fear. Guru Nanak even conceives that five elements are infused with the fear of True Lord.

From the foregoing discourse we are led to conclude that everything in the whole Universe is in motion under the 'Law of Love and Fear' or the 'Law of Will and Fear'.

Below, Guru depicts a beautiful picture of motion in the whole natural phenomena:

\[\text{\textsuperscript{1}Ibid., p. 464.}\]
\[\text{\textsuperscript{2}Ibid., p. 20.}\]
The Oil-press, spinning wheel, quern, potter's wheel, desert whirl-winds are in endless motion. Tops, churning-staves, threshers and birds move breathlessly... ... Nanak, there is no account and limit of motion.

Guru Nanak goes still deeper and gives a metaphysical interpretation of the conception of motion. Guru Nanak conceives that even the cycle of birth and death is ever in motion under the same 'law of Will and Fear'.

Says Guru:

Everybody dances (on the stage of the world) according to the actions performed in the previous life.2

There is another beautiful example of motion in Siri Raga:

The entire world is subject to come and go. Only the merciful Lord alone is motionless. Only He is without motion, who does not bear a writ (of Fear) on his head. The sky and earth are in motion. Only He is Eternal. The day, the sun, the night, the moon, all are in motion, the crores of stars are on move. Nanak speaks truth that He alone is Eternal and Motionless. 3

Science also confirms this idea:

It is the fact that the earth moves around its axis in an easterly direction.4

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1Ibid., p. 465.
2Ibid., p. 465.
3Ibid., p. 64.
Again,

It was found that both the North and South Pole are continuously 'wandering' as if along a helical spring, which keeps coiling and uncoiling. Their domains, to be sure, are very small: Only one quarter the size of a Football field. But even such wanderings have to be taken into account.¹

Again,

So our planet not only rotates like a wheel about its axis, but also sways slightly from side to side on the "invisible bumps" of the universe.²

After having studied the concept of motion in the whole natural phenomena, now we shall concentrate on gravitational force and mutual attraction among all the heavenly bodies.

At the time of Guru Nanak there was a very common conviction that our earth is supported by a mythological bull. But Guru Nanak outrightly rejected this wrong notion. Guru Nanak conceives if it is so, then where does the bull stand? On another earth! And another earth might be supported by another bull! Thus there will be no end of this phenomena. Guru says:

There are more and more earths beyond one another. What-power is that which supports their weight from beneath?³

¹Ibid., p. 42.
²Ibid., p. 43.
³A.G., p. 3.
By this argument Guru Nanak explains that there is no any bull upon which this earth rests. Then what is bull? Guru Nanak replies:

The bull is *Dharma*, Divine Law, the Son of mercy.¹

Mercy is an attribute of the Creator. 'He is merciful' (Rahim).² It means the residuary power of this law lies in mercy.

Thus it is the Divine Law or the gravitational force by means of which the whole universe is held in the space. Guru Nanak clearly describes:

He, the Creator, Himself, is the earth, He Himself is the Bull (symbol of Divine Law) and He Himself is the sky.³

Thus we are led to infer that the whole universe is governed by Divine Law (Dharma). This is the Cosmic Law or the Universal Law. It applies on everyone. None can be exempted from it except He, the Creator.

**THE UNIVERSE IS EVERCHANGING**

An other important point in regard to the Nature of the Universe is that it is ever-changing. Nothing in this universe is everlasting, everything is the subject

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to time and space. There is only One Power which is Ever-existent and Eternal-being, that is, the Creator. The wheel of birth and death, of creation and dissolution is ever-moving. Every phenomena of Nature is an imperceptible flow of change. The whole universe is a Caravan marching on the road of change. Guru Nanak says:

Whosoever is born, must die.¹

Again,

The Truest of the True alone is Eternal. The Creator, who has created, will dissolve all.²

Thus we have seen that the universe is dynamic, ever-changing and of Spatio-temporal Nature.

THE AGE OF THE UNIVERSE

Guru Nanak believes that this world of time and space has its beginning and end. He depicted the picture of that time when there was utter darkness and void. Guru says:

For million of years there was nothing but utter darkness and mist all-around. There was neither earth, nor sky except all-pervasive Divine Will. There was neither day, nor night, nor moon, nor sun, only Transcendent God (Aphur Brahman) was in abstract meditation. There was then, no air, no water, no sound,
no creation, no destruction, no transmigration, no continents, no seven nether-lands, no sea, no running brook, no firmament, no mortal world, no nether-world, no heaven, no hell, no birth, no death, no coming, no going... etc.¹

The description given above, now has entirely been approved by the investigations of science. Science believes that there was time when there was nothing except the mass of mist or whirling gas. There was no sun, no moon, no star, no planet, no satellite, no galaxy, no milky way. Before expansion, there were photons (wavy lines) and solitary particles of matter such as protons, neutrons and electrons. After 250 million years the primordial gas began to break up into huge protogalaxies. After a billion years the matter in the protogalaxies had condensed into stars and planets.²

Hoyle also gives such like arguments:

We saw that in the space between the stars of our galaxy there is a tenuous gas, the interstellar gas. At one time our galaxy was a whirling disc of gas with no stars in it. Out of the gas, clouds condensed, and then in each cloud further condensation were formed. This went on until finally stars were born. Stars were formed in other galaxies in exactly the same way.

¹ A.G., p. 1035.


It is clear that science also confirms this view that the universe has its beginning.

Science, however, has tried to find out the exact age of the world. The method of computing the age of the earth is based on the amount of lead discovered in the rocks of crust of the earth as compared with the amount of radio-active substances found in them.

It is established fact that radio-active substances spontaneously and constantly are giving off atoms of helium and other materials which gradually change into lead. For instance, when uranium atom throws off eight atoms of helium it becomes lead. Thus it is quite a simple matter to calculate and determine the amount of lead produced during a year. By computing the relative quantities of lead and radio-active substance in minerals it is possible to measure the age of the rocks.¹

But the fact remains that most of the scientists believe that the earth is considerably older than any of these estimates would indicate.²

Guru Nanak also does not believe in the exact age

²Ibid., p. 64.
of this world. Guru says:

What the time, what moment, what lunar date, what solar day, what the season, what month, when the world came into being? The Pandit could not know the time, if they had, it must have been written in the Puranas. The Qadis could not know the time, if they had, it must have been mentioned in Quran. The Yogis do not know the time - the lunar date the day, the month and the season. The Creator who created the universe knows Himself the time.¹

It is exceedingly interesting to note that science has drawn the same conclusion that has been made by Guru Nanak. Fasten Nathan says:

It has been interesting to inquire how long it took the earth to reach its present stage of evolution. There have been various estimates, ranging from as low as three million years to as high as one billion six hundred million years. In all cases these figures refer to the age of the earth since it cooled, and no one is prepared to say how long our planet existed before that time.²

In the preceding pages we have made a critical estimate of the views of Guru Nanak in regard to the Nature of the universe. We know now that the universe is very vast, the space is infinite, the shape of the universe is round like an egg, everything in the universe

¹A.G., p. 4.
is in constant motion under the law of Will and Fear, the whole universe is held in the space due to gravitational force which Guru Nanak calls Divine Law (Dharma), everything in the universe is constantly changing and everything in the universe is subject to time and space, and lastly no body knows about the age of the universe but this universe, undoubtedly, has its beginning and end.