

# MODERN AND ANCIENT CONCEPTS OF THE UNIVERSE

By Dr Buddhadasa P Kirthisinghe

*What is the universe? How big is it? How old is it? These questions must have plagued the human mind since man first looked into the heavens and stared at the starry sky.*

*The ancients believed that there were as many worlds as there were grains of sand along the river Ganges. Buddha said that time was without beginning and without end. The universe is as old as time.*

*Today we speak of the whole universe – entire space – in terms of billions and billions of galaxies, some galaxies much, much larger than our own galaxy – the Milky Way. In the Milky Way alone, there are millions of solar systems of which our Solar System is one. An eminent astronomer once said, “If you cut a slice of the earth the size of a bun 500 miles long, a few hundred miles broad and 200 miles thick and call this the universe, then our sun is but the size of a matchstick head.” This definitely staggers the imagination, does it not? Nay, it even defies the most fertile imagination, does it not? Yes, the universe is infinite and limitless. That is why some astronomers say “The universe is the same however far we go in any direction in space.”*

*As to the question – ‘Is there life in other planets in the universe?’ – the answer is obvious. It would be foolish to consider that the earth is the only planet with life and preposterous to assume that man is the most intelligent creature in the cosmos. Dr John Taylor, a famous Professor of Mathematics in London University maintains that ‘millions of planets in our galaxy (the Milky Way) also have intelligent life on them, and that a proportion of those beings possessing it will be far more intelligent than we ourselves.’ How insignificant is man!*

*This is a very interesting article by Dr B Kirthisinghe, a well-known writer and a regular contributor to the ‘Voice of Buddhism’. I am sure many readers who love astronomy will like it.*

*Ed*

Dr K N Jayatilleke of the University of Ceylon states: “The early Buddhists’ conception of the cosmos is in essence similar to the modern conception of the universe. In the Pali texts that have come down to us we are literally told that hundreds of thousands of suns, moons, earths and higher worlds constitute the

minor world system, that a hundred thousand times this is the middling world system and a hundred thousand times the middling world system is the major world system. In modern terminology it would seem, if a minor world system (**culanika loke dhatu**) is a galaxy of which we observe about a hundred million through our best telescopes, the Buddhist conception of time is equally immense.”

Modern astronomy recognizes the giant stellar families in the vast expanses of the universe called galaxies through big strong telescopes. The Russian astronomer Vorontozoff and the British astronomer Fred Hoyle of Cambridge University hold the view of a steady state of the universe. They explain the steady state by the introduction of a hypothesis of continuous creation of matter in the intergalactic space.

Three British mathematical astronomers, H Bondi, T Gold, and Fred Hoyle, state: “The universe looks the same however far we go in any direction in space”. This principle demands that the universe must look the same no matter how far we go forward or backward in time. They further postulate continuous thinning of matter in the space of the universe, caused by continuous expansion and this is compensated by continuous creation of new matter, taking place uniformly throughout the intergalactic spaces.

This postulation does not contradict the universal law of conservation of matter. This point of view provides for the origin and evolution of the individual galaxies. It considers the universe itself as being eternal though with a constantly changing galactic pattern.

It is claimed by astronomers that existing evidence seems to be strongly in favour of a limitless infinite universe. This view is held by the Buddhists. Professor Hoyle states: “I find my mind forced to assume that the nature of the universe requires continuous creation – the perpetual bringing into being of a new background material”. This view is in accord with Buddha’s teaching – “nothing is permanent, all things animate or inanimate, organic or inorganic, come into being and pass away”.

The chemical constitution of the universe is surprisingly uniform. It is found that about 55% of cosmic material is hydrogen, 44% helium and the remaining 1% is constituted by heavier elements.

A galaxy is as much a system as a solar system. It has form, motion and definite constitution. It exists alone in space, far isolated from others of its kind. Stars and elements continue to be born within it and all the stars within it have sprung up within it.

Our solar system lies within the Milky Way galaxy, with millions and millions of stars and planetary systems. The nearest galaxy to the Milky Way is the Andromeda Galaxy. The Milky Way is one of a group of about 20 galaxies relatively close together. Our sun dominates our planetary system and is a thousand times heavier than Jupiter. All planets lie exactly in the same plane and spacing of the planets outward from the sun follows a mathematical law, which is applicable to all universal stars and their planetary systems. The sun itself rotates, completing a turn in about 26 days. The planets all move about the sun in an almost perfect cycle. This system is orderly, harmonious and significant. In the universal galactic system some of its planets bear life and some intelligent life, like our world in our solar system. They must possess the right temperature and atmosphere for such life to exist.

A chronicle of ancient India tells of a small group of beings who came to earth many thousands of years ago in metal crafts, which went around the earth several times before landing. According to the book these beings lived by themselves and were revered by the people. Even today unidentified flying objects (U.F.O.) are observed in our skies throughout the world. Some believe that some of them carry intelligent beings from other worlds, while others dispute them.

Harvard University's Dr Harlow Shapley and Dr Edward Purcell believe that one hundred million planets in our Milky Way alone have intelligent life. Prof Gamow of the University of Colorado is of the same opinion. Prof Hoyle of Cambridge and also Dr Stephen H Doyle of Rand Corporation, U.S.A., states in his book, **Habitable Planets for Man**, that in our galaxy alone there are likely to be some 640,000,000 earth like life-bearing planets and that, besides, there are many billions and billions of other galaxies.

It was Dr John Taylor, Professor of Mathematics at King's College, London, who maintained that there are very likely "millions of planets in our galaxy (the Milky Way) alone which have intelligent life on them, and that a proportion of those beings possessing it will be far more intelligent than we are ourselves". Buddhists would agree to that.

Prof Carl Sagan of Harvard University's Observatory, and Dr I S Shklovskii of the Russian Academy of Science, think that it is a reasonable guess that there may be as many as 1,000,000 planets in our galaxy, which not only bear life but bear intelligent life and advanced civilizations. They even wonder whether, perhaps, intelligent life forms from other worlds have visited the earth in the distant past and cite the ancient Babylonian myth that civilization was founded by non-human creature of great learning.

Hence we have references of **Brahma Devas** from other worlds coming down to earth to help those in need. Such are the Bodhisattvas. Stories of **Devas** visiting the earth to hear the **Buddha Dharma** and paying homage to the Buddha before and after His **parinibbana** are accepted as true by Buddhists. The story of the Buddha's visit to Tusita Heaven to preach the Dharma to his mother Mahamaya is equally believable and true.

## References

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