

# COSMOLOGICAL IDEAS IN SCIENCE AND AAD GURU GRANTH SAHIB

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## ABSTRACT

***Cosmology is the branch of science dealing with the origin and structure of the universe. It has been dealt with from time immemorial in all religious texts. Scientific evidence supports the Big Bang model of cosmology. Cosmological ideas enunciated in the Aad Guru Granth Sahib are most scientific and describe vividly the creation hypothesis.***

## COSMOLOGICAL IDEAS IN SCIENCE

**C**osmology is the branch of science dealing with the origin and structure of the universe. It has played a decisive role in the conflict between science and religion. Various cosmological theories and models have been proposed in both science and religion. Newton's approach towards cosmology was metaphysical and he considered the creation of the Universe as an act of God. In his system, space and time appear as absolutes and the earth occupies a unique position in the Universe. More than a century later, Kant and Laplace put forward their views, together known as Gas-Cloud hypothesis. It considers the creation of the Universe out of gases and vapours such as hydrogen, methane, carbon dioxide, cyanogens and water. The planets and the sun were created out of the same nebular gas medium. A similar view has been expressed in AGGS [1]:

*God created the air, from air came water and from water the world was created. God spirit permeates all the beings [3].*

Evidence collected by astronomers during the last 50 years confirms the hypothesis of expanding Universe and is the basis of Big Bang cosmology. Its ambitious and detailed theory is that of George Gamow and collaborators. They suppose that universe started from a very dense, hot mass of neutrons, which decayed into protons and electrons. These combined to form complex nuclei. The temperature during the Big Bang phase was 10 billion degrees Centigrade and most of the elements were built up during the first 30 minutes of the expansion. Driving the Universe backwards, we can arrive at a state of infinite density, with all the matter compressed into a mathematical point, a singularity. We will have to bring in God as creator of the Universe to explain the singular state where all the mathematical equations fail.

Alan Guth of MIT (Massachusetts Institute of Technology) proposed Inflation theory to explain the rapid expansion of Universe [2]. According to this theory, the size of the Universe doubles every 10-35 of a second and age of the Universe is about 15 billion years. Quantum physics allows the Universe to appear out of nothing at all, as a vacuum fluctuation. Chaotic inflation led to the sudden expansion of the Universe out of a quantum fluctuation. The seed of the Universe is considered to be a 'magnetic monopole' according to a new version of Inflation theory. Hubble Telescope may provide useful data to clinch the issues in Big Bang Cosmology.

## COSMOLOGICAL IDEAS IN AAD GURU GRANTH SAHIB (AGGS)

Cosmological ideas as enunciated in AGGS have been found to be most scientific and compatible with the modern cosmological theories of science. Guru Nanak challenges the Hindu world-view as archaic and based on dogma and mythology. In Jap Guru Nanak sums up his ideas about creation of the Universe. He elaborates further in the most precise and scientific manner in the Raga *Maru Solhe* in AGGS. The creation hypothesis is summed up as follows by Guru Nanak [4]:

*God created the Universe by uttering a word.*

Thus the problem of 'singularity' faced by the Big Bang model of the Universe is solved by the Guru by bringing in God as the creator of the Universe. Once this riddle is solved, the sequence of creation, its epoch and extent is described in AGGS in a most rational manner. Guru Nanak poses the next question in Jap as follows [5]:

*What were the time and the moment the day and the month, when the world was created?*

(Continued on page 10)

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In the next stanza, Guru Nanak provides the answer [6]:

*Neither the Pundit can find this date by looking through the Purana texts, nor can the Qazi tell from the Koran, neither the Yogi nor any one else knows the day, week, season and month of creation, the creator, who creates the World, alone knows the time.*

Guru Nanak does not want to formulate any hypothesis based on false assumptions and leaves this question open. The creation process is started under the command of God, the Creator of the universe. The Guru envisages the creation of the Universe out of 'Sunya', which is devoid of matter but not of energy. Hence a beautiful analogy with quantum concept of creation out of nothing as a vacuum fluctuation is established in

Raga Maru Solhe [7]:

*The creator was all alone, God created the air, water, earth and sky; even the sun and moon from this sunya.*

Guru Nanak elucidates this wonderful drama of creation further in his mystic reverie. Surprisingly, there is a perfect correspondence between the epoch of 'Big Bang' and the creation out of Sunya phase as enunciated in Maru Solhe, the most beautiful hymn on Sikh cosmology [8]:

*For billions of years, there was nothing but utter darkness. There was neither day nor night, nor moon, nor sun, but the Lord alone sat in profound trance. Neither there was creation, nor air, nor water. There were no continents, nor underworlds, nor seven oceans nor rivers, or the flowing water. There was neither death, nor time. There was no Brahma, nor Vishnu or Shiva. When He so willed, He created the world and supported the firmament without support. He created Brahma, Vishnu and Shiva and extended the love of mammon. He founded the continents, solar systems and underworlds, and from the Absolute self, He became manifest.*

Guru Arjan describes in Sukhmani the myriad forms of creation [9]:

*There are millions and millions of galaxies and solar systems in the universe. The phenomenon of creation has occurred so many times. But the one Lord remains forever and ever.*

## CONCLUSION

It is well established that in comparison with hymns of creation in Vedas, Koran and the holy Bible, the Sikh cosmology in AGGS is far more scientific and corresponds to Big Bang model of the Universe.

## REFERENCES

1. AGGS = Aad Guru Granth Sahib. 1983. (Reprint) Publishers: Shiromani Gurdwara Parbandhak Committee, Amritsar. [M = (Mahla) succession number of Sikh Gurus to the House of Guru Nanak, M is replaced with the name of Bhagat or Bhatt, p = Page number of the AGGS.
2. John Gribbin, 1998. Watching the Universe, p.205-221. Universities Press (India), Hyderabad.
3. AGGS, M 1, p 19.  
ਸਾਚੇ ਤੇ ਪਵਨਾ ਭਇਆ ਪਵਨੇ ਤੇ ਜਲੁ ਹੋਇ ॥  
ਜਲ ਤੇ ਤ੍ਰਿਭਵਣੁ ਸਾਜਿਆ ਘਟਿ ਘਟਿ ਜੋਤਿ ਸਮੋਇ ॥
4. AGGS, Jap 16, p 3.  
ਕੀਤਾ ਪਸਾਉ ਏਕੋ ਕਵਾਉ ॥  
ਤਿਸ ਤੇ ਹੋਏ ਲਖ ਦਰੀਅਉ ॥
5. AGGS, Jap 21, p 5.  
ਕਵਣੁ ਸੁ ਵੇਲਾ ਵਖਤੁ ਕਵਣੁ ਕਵਣੁ ਬਿਤਿ ਕਵਣੁ ਵਾਰੁ ॥  
ਕਵਣਿ ਸਿ ਰੁਤੀ ਮਾਹੁ ਕਵਣੁ ਜਿਤੁ ਹੋਆ ਆਕਾਰੁ ॥
6. AGGS, Jap 21, p 5.  
ਵੇਲ ਨ ਪਾਈਆ ਪੰਡਤੀ ਜਿ ਹੋਵੇ ਲੇਖੁ ਪੁਰਾਣੁ ॥  
ਵਖਤੁ ਨ ਪਾਇਓ ਕਾਦੀਆਂ ਜਿ ਲਿਖਨਿ ਲੇਖੁ ਕੁਰਾਣੁ ॥  
ਬਿਤਿ ਵਾਰੁ ਨਾ ਜੋਗੀ ਜਾਣੈ ਰੁਤਿ ਮਾਹੁ ਨਾ ਕੋਈ ॥  
ਜਾ ਕਰਤਾ ਸਿਰਠੀ ਕਉ ਸਾਜੇ ਆਪੇ ਜਾਣੇ ਸੋਈ ॥
7. AGGS, M1, p 1037.  
ਪਉਣੁ ਪਾਣੀ ਸੁੰਨੇ ਤੇ ਸਾਜੇ ॥  
ਸ੍ਰਿਸਟਿ ਉਪਾਇ ਕਾਇਆ ਗੜ ਰਾਜੇ ॥  
ਸੁੰਨਹੁ ਚੰਦਾ ਸੂਰਜੁ ਗੈਣਾਰੇ ॥
8. AGGS, M1, p 1035.  
ਅਰਬਦ ਨਰਬਦ ਧੁੰਧੁਕਾਰਾ ॥  
ਧਰਣਿ ਨ ਗਗਨਾ ਹੁਕਮੁ ਅਪਾਰਾ ॥  
ਨਾ ਦਿਨੁ ਰੈਨਿ ਨ ਚੰਦੁ ਨ ਸੂਰਜੁ ਸੁੰਨ ਸਮਾਪਿ ਲਗਾਇਦਾ ॥੧॥
9. AGGS, M5, p 276.  
ਕਈ ਕੋਟਿ ਖਾਣੀ ਅਰੁ ਖੰਡ ॥  
ਕਈ ਕੋਟਿ ਅਕਾਸ ਬ੍ਰਹਮੰਡ ॥  
ਕਈ ਬਾਰ ਪਸਰਿਓ ਪਾਸਾਰ ॥  
ਸਦਾ ਸਦਾ ਇਕੁ ਏਕੰਕਾਰ ॥