INTRODUCTION

Modernity, considering role of science and logic, has posed acute challenges to many religions. For a large number of people in modern societies, religion is neither good nor bad but simply irrelevant, given many alternative ways to find meaning in various forms of cultural pursuits, ethical ideals, and lifestyles. Other factors that have contributed to a decline in religious participation in the modern world include the presentation of religion on superstitious thinking, as a source of political control and divisiveness, as a confirmation of established patriarchal values, or as an emotional crutch [13, 14]. Moreover, the advances in various sciences have contradicted a number of religious beliefs. The sciences describe the Universe and life on this Earth without reference to deities, the soul, or spiritual meaning as compared to that of religious belief in the Intelligent Design of Superpower.

In most of the religious preaching freedom of expression is snubbed and no reasoning is allowed. The three-century old quote of David Hume (1711 - 1776), "In all ages of the world, priests have been enemies of liberty.", is still right even during the 21st century of Science Age.

Actually the conflict between Religion and Science started during the Period of Renaissance (between 14th and 16th century) when Science was emerging as an important subject affecting the lives of human beings and the scientists started challenging certain concepts of religion in Europe. Meanwhile Guru Nanak (1469-1539) during the same Period of Renaissance was challenging the ignorant religious concepts by observing the nature of the Universe and the use of Logic in India. Unfortunately, soon after the Gurus’
period (1469-1708) the Bani of Guru Nanak started to be represented under the influence of Vedic and Vedic philosophies rather than the intended scientific and logical approach. This is evident from the first exegesis of the Aad Guru Granth Sahib (AGGS) during 1883 by Bhai Badan Singh, a Nirmanl [18]. This exegesis is famous by the name of Faridkot Vala Tika, which became a Prototype Exegesis for further translation of the AGGS into Punjabi, English and other languages. Consequently, Sikhism has become as a mystical, esoteric, enigmatic, and ritualistic religion.

**CAUSES OF MISINTERPRETATION**

Lack of scientific and rational deliberation and contemplation of Gurbani in its real perspective by the earlier writers and scholars could be the main cause of misinterpretation of Gurbani. In this respect following remarks of Guru Nanak are worth considering:

Jis mele Nānak so mukťā ho-. \[\{44\}||98\]\n
**Nanak Says:**

> Although the both ways⁴⁴ (right and wrong) are happening under the Laws of Nature⁵,⁶. Only those who are introduced⁷ to the right path are liberated⁸.

AGGS, M 5, p 185.

Due to this inherent weakness of human as explained above, the Sikhs at large take information given in the early writings of Sikh theologians and historians as true. Moreover, discontented and depressed people in general are more inclined to believe in mythical works coated with various allusions. And there was no dearth of such people then and even now. The following quotes from non-Sikh philosophers are almost the same what Guru Arjan said about 300 years before them:

> “The public will believe anything, so long as it is not founded on truth.” Edith Sitwell (1887-1964)

And

> “A lie can travel halfway around the world while the truth is putting on its shoes.” Mark Twain (1835 - 1910)

What Sitwell said is exactly happening with the Sikhs of even 21st century since they will believe anything said by Sants, Babas (so-called sages), Sikh preachers, and Kathakaars (interpreters) in Gurdwaras without looking into their authenticity.

The false information given in old writings about Gurbani and Sikhism has been imprinted as true permanently in the minds of many Sikhs. If any tradition, belief, or code, given in old writings, is challenged by some researchers then many devout Sikhs, Sants, Babas, Raagis, traditional Sikh preachers, theologians, and the Sikh authorities - the so-called custodians of Sikhism, declare such action as a blasphemy of Gurbani and Sikhism.

It is evident that the Bani of Guru Nanak, incorporated in the Aad Guru Granth Sahib (AGGS) by Guru Arjan in 1604, is scientific and logical since it was promulgated during the Period of Renaissance – the Period of Advent of Science. During this period wrong religious concepts were being challenged by scientists in Europe, Guru Nanak was correcting the wrong religious concepts and rituals in South Asia. Guru Nanak based his philosophy on the observation of Nature and the Universe and this type of philosophy was later called as ‘Natural Philosophy’, defined as follows:
The study of nature and the physical universe before the advent of modern science.

The word ‘science’ itself is simply the Latin word for knowledge: scientia. Until the 1840's what we now call Science was ‘Natural Philosophy’, so that even Isaac Newton's great book on motion and gravity, published in 1687, was The Mathematical Principles of Natural Philosophy (Principia Mathematica Philosophiae Naturalis). Newton was, to himself and his contemporaries, a "philosopher." [22]

Here I would say that Guru Nanak (1469-1539) laid the foundation of ‘Natural Philosophy’ by observing natural events about cosmology, which lead to evolution of Science’ [6, Chap.12: p 176]. Meanwhile something new was happening about ‘Natural Philosophy’ in Europe, and it was called the nova scientia, the ‘new’ knowledge, which began with Nicolaus Copernicus (1473-1543), a contemporary of Guru Nanak. Therefore, Bani of Guru Nanak should be studied and represented scientifically and logically since it is based on ‘Natural Philosophy’, which became ‘Science’ later on. Besides, it is also evident that though his philosophy was formulated during the 15th and 16th centuries, it has universal acceptability and applicability for the humanity of the Modern World.

There is another aspect of philosophy of Guru Nanak that Guru Nanak presented God and Religion according to ‘Natural Theology’ rather than the commonly understood ‘Theology’ at that time [7]. Let us discuss about Guru Nanak’s philosophy (Natural Philosophy of Guru Nanak) based upon his observations on the behavior of the Nature and the Universe.

GURU NANAK’S PHILOSOPHY AND SCIENCE
Some Sikh theologians even some Sikh scientists are trying their best to keep Science and Religion (Sikhism) as two separate fields. While discussing with the ardent theologians it was found that they are not ready to give any place to Science and logic in Sikhism and Gurbani.

We are now living in the Age of Science and it will be very difficult for us to escape from the effect of Science on our lives and thinking. For example, if any religion teaches something like that the Sun revolves around the Earth; people are not going to accept it when the scientific evidence is that the Earth revolves around the Sun. There were many metaphysical phenomena in various religions that have now been found through Science to be of physical, chemical, or biological orders. Similarly, any other metaphysical phenomena of any religion if cannot be explained by Science today, the time is not far off when all such phenomena will be explained scientifically and logically in future.

Still many Sikh theologians sternly believe that Gurbani cannot be explained or understood through Science and logic. They strongly believe that Gurbani can only be understood through अनुभव (Anubhav) attained through regular long hours of Naam Japna and Naam Simran. Anubhav is explained by theologians as an experience or wisdom attained not through any materialist instruments or physical process but through clairvoyance / extrasensory perception.

According to Allen [2] plenty of scientists are devout and are very similar to the population at large in their religious commitments. He says that only elite scientists are significantly less religious. But the trend in the West is that many scientists are trying to justify the miraculous work in the religion rather than to explain scientifically what is right and what is wrong. Many Sikh scientists are not qua scientists as defined by Drange [10] since they have not come out of the influence of Vedic and Vedantic philosophies. They are interpreting Gurbani based on Vedic and Vedantic philosophy rather than on Science and logic. On the other hand some Sikh theologians are trying to interpret Gurbani scientifically and logically without having studied any Science. Therefore, no perfect interpretation of Gurbani from Sikhs scientists or theologians has been produced so far.

However, my personal experience with the study of Gurbani is different than that of such theologians. I see that Gurbani can be easily understood and explained with the present day knowledge of Science and logic as has been emphasized by Guru Nanak that the use of wisdom is the only way to understand any subject: 

अल्लाह के वे चिल्ले जो प्रजे जिन्होंने घर्षण कर ते नाम
अक्लेस सिखूि अल्लाह के मनूिन हैं।
अल्लाह के मनुिन दे चिल्ले कर ते जिन्होंने घर्षण कर
अल्लाह के मनुिन दे जिन्होंने घर्षण कर।

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अल्लाह के मनुिन दे जिन्होंने घर्षण कर।

The wisdom which leads to arguments is not called wisdom.
One can understand God only through the use of intellect.
And through the use of intellect one attains honor.
Through the use of intellect one should read to discover the truth.
And also use intellect before donating for charity.
Nanak Says:12
“This is the real path.13
All others lead to devilish actions.”
AGGS, M 1, p 1245.

Guru Arjan has further explained the same basic principle of philosophy of Guru Nanak in his own words as follows:

Būjhī būjhīhānār bibek.

Only the one, who has discriminating/discriminating intellect, can discover[1] the truth.
AGGS, M 5, p 285.

Is it not strange that Galileo (1564 - 1642), who appeared after 95 years of Guru Nanak during the same Period of Renaissance, said the same principle in his own words as follows?

“Do not feel obliged to believe that the same God who has endowed us with sense, reason, and intellect has intended us to forgo their use.”

Galileo Galilei (1564 - 1642)

Guru Nanak emphasized that the God given faculties like common-sense, reason (Vichār) and intellect (Bīkē Būḍh) are to study the religious Scripture scientifically and logically for finding the truth. During preaching and teaching of Sikhism, most of the time emphasis is on imaginative faith rather than on use of conscious intellect to understand Gurbani. Since Faridkot Vala Tika, based upon Vedic and Vedantic philosophy fails to reflect with conscious intellect, logic, or science in the interpretation of Gurbani [18]; it becomes necessary that the Bani of Guru Nanak should be studied scientifically and logically to express the basic principles of his philosophy for the humanity.

SCIENCE AND LOGIC IN GURBANI

After studying the following examples it would become clear that Guru Nanak used Science and logic during composing his Bani:

Cleansing of Body and Mind

Guru Nanak has used simple Science and logic to explain that how a soiled body parts and clothes are cleansed and how the polluted mind can be purified:

Bājrāi mat pāpā kai sang.

Oh ājpai nāvai kai rang.

Concept of Guru Nanak about the Movement of Sun

Science is much of legitimate reason to learn about reality and Guru Nanak’s philosophy consistently reflects scientific observations; although proven later by other philosophers/scientists. For example; Guru Nanak had already written much earlier than Galileo that Sun is also not stationary but is in constant motion like other planets:

If hands, feet and body are soiled with dust these can be washed with water.
If the clothes become impure with urine (chemicals) they can be cleansed by washing with soap (other chemicals).

AGGS, Jap 20, p 4.

* लोगः: It has been interpreted as ‘Laws of Nature rather than any name of God or its repetition.

Note: Here चंद्र (Moon) is not a planet but a Natural satellite of Earth.

On the other hand Biblical references Psalm 93:1, 96:10, and 1 Chronicles 16:30 include text stating that "the world is firmly established, it cannot be moved." In the same manner, Psalm 104:5 says, "The Lord set the earth on its foundations; it can never be moved." Further, Ecclesiastes 1:5 states that "And the sun rises and sets and returns to its place" etc.

This concept was first challenged by Nicolaus Copernicus (1473 –1543) then Galileo (1564-1642)
carried it further.

Later on the Inquisition’s ban on reprinting Galileo’s works was lifted in 1718 (after 76 years) when permission was granted to publish an edition of his works (excluding the condemned Dialogue) in Florence. In 1741 Pope Benedict XIV authorized the publication of an edition of Galileo’s complete scientific works which included a mildly censored version of the Dialogue. In 1758 the general prohibition against works advocating heliocentrism was removed from the Index of Prohibited Books although the specific ban on uncensored versions of the Dialogue and Copernicus’s De Revolutionibus remained. All traces of official opposition to heliocentrism by the church disappeared in 1835 when these works were finally dropped from the Index.

Excommunication in Sikhism

A situation similar to that of Galileo is also found in Sikhism. The excommunication of a true Sikh, Prof Gurmukh Singh, is an epitome (prime example) of abuse of illicit power by a bunch of self-serving religious leaders. He was excommunicated by the Akal Takht Head Granthi Bedi Khem Singh supported by Rajah Bikram Singh of Friedkote, Mahants, Pujaris and others in 1887. At the time of his excommunication Prof Gurmukh Singh, one of pioneer founders of the reformist Sikh movement Singh Sabha, was actively pursuing his goal to found the first ever Khalsa College in Amritsar. The band of pretenders to the Sikh spiritual and temporal authority, not only excommunicated Prof Gurmukh Singh, but also incited the Sikh community not to render him financial help to carry out his missionary work and the noble cause of founding the Khalsa College. They also harassed and hounded Prof Gurmukh Singh’s companion Giani Ditt Singh to an early grave. He was excommunicated for his following activities:

1) He does not revere the Sikh Gurus’ progeny.
2) Twenty pictures of Avatars (Hindu Mythical god incarnates) were burned to refute their existence during a convention of Lahore Singh Sabha (Forum).
3) A Hindu convert to Islam was baptized as a Singh by the Lahore Singh Sabha.
4) In an article published in the Khalsa Newspaper he wrote, Worship of weapons in the Sikh Gurdwaras is copy of Hindu ritual that is against Guru’s edification.

Prof Manjit Singh revoked this dictatorial edict in 1995 (after 108 years) at the International Conference and acclaimed Prof Gurmukh Singh as a true Sikh [3]. During the last 20-30 years many Sikhs have been excommunicated. Some of them have stood against this system of excommunication while others have succumbed to it due to the societal pressure.

Other Wrong Concepts about the Earth

The general tendency of the Muslim world, apart from learned theories, is to consider the world as a flat disc. According to Qur’an Passage – XV, 19, LXXIX, 30, God spread out the Earth is found in the traditions and consciousness of the people. The mountain Kaf is separated from the terrestrial disc by a region which men cannot cross, a dark area which would stretch for four months walking, according to saying of Prophet (Tabari-Balami, 1867, 33). The Iranian Muslims describe the animal, a bull supporting the Earth, now as a hybrid of bull and fish (Firdawsl, 1877-84; Vullers, 947). Similarly, popular belief in Baghdad long talked of a bull and a fish as supports for the Earth (Peterman, 1861). The theme of the bull carrying the Earth is also found in the Vedic literature (Ref. Yajur Veda 4:30, 14:5; Narsingha purana, p. 169 Abithana Sinthamani – earth is flat) in India, and the rock from which the mountain Kaf springs can doubtless be identified with the stone Shetiyya in which Jewish legends see the umbilical stone of the Earth, which God cast down into the depths of chaos or of the Ocean as the support of the Earth (Feuchtwang, 1910) [17].

Wrong Concept about Earth Challenged by Guru Nanak

According to Guru Nanak’s philosophy there is no information whether the Earth is flat or the Earth is center of the Universe or the Sun rises and sets on the Earth. However, Guru Nanak has raised a question about the bull carrying the Earth by saying that how much weight a bull can carry (ਪਣਹੇ ਬ੍ਰਹਿਮ ਵੀਅਰ ਬਣੂਂਂ ||). Then he says if the Bull is carrying the Earth then it must be standing on another Earth and so on. However, scientifically there is no Earth below this Earth. Similarly, if the bull is standing on a fish or tortoise in a sea or on an umbilical mountain then there is a question where does the ocean or mountain stand. In fact the mountain and ocean are right on this Earth. Guru Nanak has briefly described his observations about this issue as follows:

ਪੰਕੜ ਹਵਾਲਾ ਬਲਕੁਲਾ ਵ ਪੁਰਾਣੁ ||
ਦਧੌਲ ਦਧਣ ਦਾਵਾ ਵਾਦਾ ਕੀ ਪ੍ਰਵਾਨੁ।
ਸੰਤੰਕ੍ਰ ਤਸਕਰ ਰਕਖਤਾ ਜਿਂ ਸੁਸਨੁ।
ਨੇ ਬੇ ਬੁਖਲੇ ਤੇਖਾ ਮਸ਼ਿਖਾਣੁ।
ਜੇ ਕੋ ਬੁਖਾਹੋ ਹੱਲਾ ਸਚੀਅਰਾ।
ਪੰਖੀ ਪੰਖੀ ਵੀਅਰ ਬਣੂ।
ਦੋਲਵਲੀ ਤੇ ਕੋ ਕੋ ਬਹੁਰਾ।
ਪੀਤ੍ਰੀ ਤੀਰਾ ਪਚਾ ਤੀਰਾ।
ਦੋਹਰੀ ਹੋਰ ਰਾਹੀ ਹੋਰ।
ਿਮੇ ਹੋ ਬਣੂ ਉਸਾ ਬਣੂ ਨੇਹੂ।...16
Tis te bhār taḷai kavan jor.

The mythical white-bull that supports the Earth in fact is the result of the Laws of Universe and gravitational attraction that holds the Earth in its place.

The one who discovers this order (Laws of Universe) becomes enlightened to understand that:

How could that mythical white-bull carry that much load of Earth?

If the white-bull is supporting the Earth, then what is that place on which this bull is standing?

It means the bull will need another Earth to stand on and then another bull is needed to carry that Earth and so on...) 16

Santokh (Santokh): Santokh is usually interpreted as contentment/satisfaction that means the one who is contented and satisfied settles down in tranquility. The contentment (Santokh) for the Earth means that mystic power with which the Earth is staying in its orbit around the Sun. This mystic power has been interpreted as the ‘Gravitational Attraction’, which keeps the Earth in its orbit around the Sun.

It may be difficult for many scholars and theologians to accept the above interpretation, however, the following interpretation by Principal Teja Singh [19] may help them to understand my above interpretation:

If the white-bull is supporting the Earth, then what is that place on which this bull is standing?

It means the bull will need another Earth to stand on and then another bull is needed to carry that Earth and so on...) 16

Ancient Concepts about the Universe Rejected

Guru Nanak rejected the ancient concepts about the

The Veda got tired after an immense search and said one thing. That there are hundreds of thousands (many lakhs) nether worlds under nether worlds and skies above skies.

The Semitic books say that there are eighteen thousand worlds that is their conclusion."

Nanak Says:

Let us say the God is Great, only God would know by Itself the infiniteness of the Universe." AGGS, Jap 22, p 5.

Scientifically there is no nether world, it is a myth. Similarly, sky is an atmosphere around the Earth and beyond. It cannot be counted in number since it is just a space. What we call sky is in fact the blue color due to the thickness of the air around the Earth through which the sunlight passes and looks blue. The first two sentences represent the concepts of Vedas (Yajur 4:26-28) in Hinduism. The third sentence represents the concept in Islam. The irony is that some Sikh theologians have not understood this fact and consider that these three phrases also belong to Guru Nanak. But Guru Nanak usually refers to the generally accepted concepts of other religious literature first then he gives his understanding avout the issue being discussed. Therefore, in the fourth and fifth phrases Guru Nanak describes that the Universe is infinite and it is not possible to account the number of the worlds (stars and their planets in the Universe). Nanakian Philosophy about the infiniteness of the Universe is so correct even today that the scientists have also declared the infiniteness of the Universe.
ORIGIN OF UNIVERSE

First of all I would like to make it clear here that many Sikh theologians interpret Gurbani about creation very similar to that of creation in Hinduism and Abrahamic Religions. It is summed up in Wikipedia as follows: “As per Sikhism, all that existed before creation took place was God and His/Her Will. The creation took place at the Will of God, through His/Her word (Shabad). It is through God’s word that the expansion of Universe came into existence with God’s word permeating and pervading everywhere. First came air and then came water from air. From water came life forms. As per Sikhism, creation and destruction are both Divine sport of God, all happening through the word (Shabad) of God. It is a continuous process of creating and destroying. Out of this creation, God fostered enticement and attachment of Maya, human perception of reality. Onkaar is the word through which all of the creation took place.” [17]

On the other hand the Sikh Missionary Society of UK has summed up Creation in Sikhism as follows:
“God existed all alone in His abstract form, Nirgun, before He created the Universe. This may be called the state of pre-creation. God was in the state of sunn samadhi=state of pre-creation, state of contemplation of the void.

According to Guru Nanek, there was darkness and chaos for millions of years. There were mist and clouds. None existed except God. Guru Nanak says:
"There was darkness for countless years. There was neither earth nor sky; there was only His Will.
There was neither day nor night, neither sun nor moon. He (God) was in deep meditation. There was nothing except Himself." (A.G., pg 1035)

Then God willed the creation of the universe. He became manifest: Sargun. He diffused Himself in nature. Guru Nanak says:
"Thou created all Thy Universe to please Thyself, to enjoy the spectacle, the reality, which is the light of Thy own Reality-self."

When was the world created? This is a mystery. Was this one of evolution and growth? Only God who created it knows. Like a spider, God spun Himself into a web. A dense point which is called ‘Singularity’ has summed up Creation in Sikhism as follows: Onkaar is the word through which all of the creation took place.” [17]

Origin of Universe in Nanakian Philosophy

Various verses in the Aad Guru Granth Sahib connected about origin of Universe have been interpreted as ‘Creation’ by famous Sikh scholars. However, the widely accepted theory of Big Bang about to the Origin/Evolution of Universe is found in the Bani of Guru Nanak. According to the standard theory of Big Bang, our Universe sprang into existence around 13.7 billion years ago from "singularity" - an infinitesimally small, infinitely hot, and infinitely dense point [12, 24]. This point is called ‘Singularity’ by some scientists and ‘Nothingness’ by others [8]. But Guru Nanak calls ‘Nothingness’ as ‘ਦੂਰ੍ਤੁ’ (Sunn) which is a ‘Singularity’ as ‘ਦੁਰ੍ਤੁ’ (One and Only). Both ਦੂਰ੍ਤੁ have been represented by Guru Nanak in a logo as ਸੁੰਨ, i.e. ‘ਦੁਰ੍ਤੁ’ (One and Only) is ‘ਦੁਰ੍ਤੁ’ (Oh) That is ‘ਦੁਰ੍ਤੁ’ Infinite’ [4-8].

Brief description of Evolution of Universe – A Scientific Concept [24]

The instant in which the Universe is thought to have begun rapidly expanding from an extremely high energy density is known as the Big Bang.

Although one does not find such detailed origin of the Universe in the Bani of Guru Nanak as explained above but origin of the Universe in his Bani is very much comparable to the basic principles of the Big Bang Theory of 20th century. One of the major basic principles is explained in the following single phrase and rest of the expansion of the Universe has been explained in Raga Maru at pages 1037-1038 and other Bani:

ਵੀਅੰ ਪਨਾਂਣੁ ਤੇਵੇ ਬਦਵੀਧੁ।

K proportio eko kavā-o.

ਦੇਵਾ ਦੇਵੇ ਮੰਤਰਾਰਵੀਧੁ।

Tis te ho-e lakhi dairī-o.

ਸੁੰਨ, ਸਮੂ, 16, ਪੰਜਰ 3.

However, our pioneer Sikh scholars have translated/interpreted this phrase as “Creation” rather than as “Evolution” or “Origin” according to their understanding:

Faridkot Vala Tika [23]:

ਵੀਅੰਨਾ ਪਨਾਣਾ ਈਚਾ ਬਦਵੀਧਾ ਈਚਾ ਬਦਾ ਆਲੇ ਮੰਤਰਾਤੀਵਾ ਸਾਇ ਬਿੰਦ ਵੇਖ ਤੇ ਬਾਨੂਂ ਵੇਪਾਂ।

ਦੇਵਾ ਦੇਵਾਕਾ ਮਵੇਦੇ ਨੇ ਦੁਰੂ ਕਰਹੀ ਦੀ (ਸੁੰਨ ਬਦਵੀਧੁ) ਬਦਾ ਪਨਾਣਾ ਤੂਦ ਸਾਵਾ ਵਦੇ ਕਰੇ।

Mannmohan Singh (SGPC) [23]:

ਈਚਾ ਮਵੇਦਾ ਦੁਰੂ ਕਰੋ ਦੋ ਬਨਾੜ ਦੋ ਵਿੱਲੋਕ ਆਲੇ ਈਚਾ ਨੇ ਈਚਾ ਮੰਤਰਾਤੀਵਾ ਸਾਇ ਕਬ੍ਰੀ ਬਵੇਖ ਕਰੋ ਵੇਪਾਂ।

Both the above views on Internet are indicating that the Universe was created by God. According Sikh Missionary Society God existed all alone in His abstract form, Nirgun, before He created the Universe. Then God willed the creation of the Universe. He became manifest: Sargun. He diffused Himself in nature.
Prof Sahib Singh [23]:
(अज्ञात पुरात: आपने गुरजन तथा सांस्कृतिक वर्ग
दिशा,
ही सुकुमर रूप (ची सिंहती रे) लेक्स दर्शिए गद खत मानें।
Mannmohan Singh (SGPC) in English [23]:
With One Word Thou didst affect the world's expansion.
And where by lacs of rivers began to flow.
Sant Singh Khalsa [23]:
You created the vast expanse of the Universe with One Word!
Hundreds of thousands of rivers began to flow.
DP Singh [15 - p 28-29]:
पूर्व से आपने दिखे गुरज (सं सिंह) रूप मानो सिंहती
वर्ण सिंहती आपने गद दे गुरजन तथा सिंहती दे सिंहत मानें।

A critical analysis of above translations/interpretations
indicates that the first exegesis of AGGS known as
Faridkot Vala Tika interpreted the above phrase under
the influence of Vedic and Vedantic philosophies as:
God created the Universe with one word from that
hundreds of thousands rivers (and living beings) were
created.
The same theme has been kept without making any
improvement by all the other famous Sikh scholars
except Mannmohan Singh's SGPC and Sant Singh
Khalsa who have even eliminated to mention living
beings. Thereafter, some Sikh scholars (including some
Sikh scientists) followed Prof Sahib while others
followed Mannmohan Singh's English translations.

Now the question is:
Why are modern Sikh scholars not trying to interpret
Gurbani with an application of Science and logic?
I am sure a new and more accurate interpretation
representing the real theme of Gurbani will appear
after the application of Science and logic. Einstein's
view about this approach is as follows:
"After religious teachers accomplish the refining
process indicated, they will surely recognize with joy
that true religion has been ennobled and made more
profound by scientific knowledge."
It was DP Singh, a Physicist, who deviated from the
traditional interpretation of 'Origin of Universe' by
using the word गुरजन – Hukm (सं धर्म - Laws of
Nature).

Now I have interpreted this phrase of Guru Nanak with
the application of Science and logic as follows [4]:
बौद्ध पायेंगे घर गद घरूँ ॥

Kīṭā paśaṅ-gāṇo ek̄ kavāṇ-gā. ॥

Tis te heo lakh dārī-gā. ॥

The Universe exploded with one sound² (bang) and
started to expand¹.
Thereafter many things³ appeared.
AGGS, Jap 16, p 3.

I have interpreted the word घरूँ as 'sound'; in fact, it
means 'Bang' (the swift release of a store of effective
force or energy although when the Bang occurred for
the first time there was no sound produced.). Moreover,
घरूँ does not mean a 'Word' or 'Sabd' as usually
interpreted by many authors but it means 'Hukm' (order)
according to Mahan Kosh [16]. However, Mahan Kosh
also says that घरूँ is from घर which means 'Energy'.
This meaning has been ignored by almost all the
scholars. Now I have modified the above interpretation
while keeping in view the meaning of घरूँ (घर) as
'Energy' as follows:
The Universe exploded from one source of energy²
(Singularity) and started to expand³. Thereafter many
things³ appeared.
Because:
1. घरूँ (Pasao - Pasara) means to expand.
2. घरूँ (Kavao) means 'sound' or 'word' or 'note' or
'Hukm' (Order). But here घरूँ is from घर which
means energy according to Mahan Kosh [16]. Therefore,
घरूँ means 'From one source of Energy'
(घरूँ stands for 'Singularity', which is also
called 'Nothingness').

Daryao (Daryao) has been literally interpreted as rivers
by many scholars. Keeping in view the methodology
used by Guru Nanak to express his philosophy 'घरूँ'
has been used as a metaphor for 'things'. What are
those things? Scientifically what appeared after the 'Big
Bang' was a large number of galaxies each composed of
a large number of stars (Suns) and their planets?
Therefore, the 'घरूँ (सिंहति) ।' (Lakh Daryao) has been
used to represent 'many things' because of limited
vocabulary available at that time. However, one must
understand that no water was formed immediately after
the Big Bang. It took billions of years to form Earth and
water in the Universe. Therefore, घरूँ (सिंहति) । (Lakh
Daryao) is a metaphor of 'many things' (that means
starting from elementary particles to particles to
nucleo-synthesis to nuclear to atoms which
gave rise to many galaxies as described earlier.

The concept of 'घरूँ (Daryao) ' in Nanakian
Philosophy as 'things' has been explained by Guru Arjan
further so that the metaphor, ‘घरूँ (Daryao), may
not be misunderstood as 'Rivers' as has been understood
by some scholars in the above phrase of Guru Nanak:

Ek kavāvai te sabh hoā. ||1||

AGGS, M 1, p 953.

Guru Nanak advises people not to waste your lives living on falsehood and try to discover the truth:

Kū/uni1E5B nik/uni1E96ute nānkā o/uni1E5Bak sac/uni1E96 rahī. ||2||

The above discussion clearly leads us to believe that Guru Nanak had explained Big Bang in one phrase:

Guru Nanak says that he himself speaks the Truth at the right time (when needed).

Finally, Guru Nanak says that he himself speaks the truth what may come. Please note that here ‘Nanak’ is with onkar, which mean Nanak himself not as a pen-name:

God as निरघ (Nirgun) and महत ि (Sargun)

It is generally believed by many Sikh theologians that God is Nirgun (without any attributes) but can become Sargun (with all attributes) and also can assume anthropomorphic forms when needed. This concept is supporting the existence of God in Trinity and incarnation into various gods and goddesses in anthropomorphic forms according to Vedic and Vedantic philosophical concept of God.

Now there is a question:

If God is Nirgun ‘without any attributes’ then how could God also exist in Sargun form with all attributes {including मया (Maya)}? But according to Nanakian Philosophy Nirgun does not mean that God is without attributes since Nirgun state is same as सूरा (Sunni) state, which is equivalent to ‘Nothingness’ and/or ‘Singularity’ in which energy/matter – time/ space are highly concentrated in a very minute single
Therefore, in the concept of Guru Nanak ‘Nirgun’ state does not mean ‘without attributes’ rather in this state God is still ‘Sarguni’ since energy/matter – time/space are present in highly concentrated form which gives all attributes of Universe as explained by Chahal [8].

In the following phrase Guru Nanak has used the word, Nirgun, for God to portray that It is in the Sunn State (‘Nothingness’ or ‘Singularity’) which actually contains the potential (energy-matter and space-time) for evolving into everything:

The God, Who is considered without any attributes\(^1\) (Nothingness), still has all the attributes\(^2\) under Its own control\(^3\).

The one\(^4\), who gets rid of egoistic attribute (bad attributes), can contemplate\(^4\) by oneself the state of Nirgun God as Nothingness or Singularity and state of Sargun God as Universe/the Nature.1.Pause.

The one\(^5\) who is considered without any attributes\(^1\) (Nothingness) can contemplate\(^4\) by oneself the state of Nirgun God as Nothingness or Singularity and state of Sargun God as Universe/the Nature.

Note: Here राम (Ram) is not the son of Deshrath or god or devta in Hinduism but that Entity (the God), which is in Nirgun-Sargun state.

In the following phrase Guru Nanak says that Nirgun state (Nothingness/Singularity) of God becomes Sargun state (the Universe):

Avigaṇo nirmaṇīl upje nirgūṇ te sargūṇ thīvā.

Although Guru Nanak has explained the origin of Universe in one phrase, बुद्ध धम्मुः देवे बहुः\(^2\) ||

Although it means ‘without attributes’ rather in this state of God become the Universe/the Nature.

Time of Origin

What is the time of origin of the Universe? According to scientific data, the origin of Universe is approximately 13.7 billion years ago. But, Guru Nanak says that it is difficult to estimate the exact time of origin of Universe in his following stanza:

वर्ष \(^2\) देव \(^3\) ज्ञानी \(^2\) तन्त्र \(^2\) निर \(^3\) सर \(^3\) ज्ञानी \(^3\) \\

Kavan so velā vakhaṭ kavan kavan thi kavan vär.

Kavan se raṭ māhu kavan jī hoṇā ākār.

Note: Here ‘तन्त्र’ (Ram) is not the son of Deshrath or god or devta in Hinduism but that Entity (the God), which is in Nirgun-Sargun state.

In the following phrase Guru Nanak says that Nirgun state (Nothingness/Singularity) of God becomes Sargun state (the Universe):

Avigaṇo nirmaṇīl upje nirgūṇ te sargūṇ thīvā.

Although, M. 1, पृष्ठ 222.

Note: Here ‘राम’ (Ram) is not the son of Deshrath or god or devta in Hinduism but that Entity (the God), which is in Nirgun-Sargun state.

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Although, M. 1, पृष्ठ 222.

Note: Here ‘राम’ (Ram) is not the son of Deshrath or god or devta in Hinduism but that Entity (the God), which is in Nirgun-Sargun state.
Origin of Our Solar System

It has been discussed earlier that the origin of Universe was not known to Pandits, Kazis, and Jogis. Guru Nanak says it is only known to God. However, in the following verse Guru Nanak explains the formation of our solar system, and the date of formation goes back as much as a billion years ago. Guru Nanak describes the primordial state of our solar system (not as the primordial state of the Universe) as a mass of gases in our galaxy:

\[\text{Arbaṅ}^2 \text{ naraṅ}^3 \text{ dhūṃḍhākārā}.\]
\[\text{Dhāraṇ na gagnā hakaṃ apārā.}\]
\[\text{Nā din rain na čāṅg na sūraj sunā dhih lagāivi dhārā.}\]

More than a billion years\(^1\) ago,

There was only a mass of gases\(^2\).

There was no Earth\(^3\) or sky\(^4\), but only the laws\(^6\) of the Infinite (God).

There were no day, no night, no moon, no sun, but Nothingness\(^7\) by itself\(^8\).

This mass of gases is compared to the state of Big Bang from which our solar system and our galaxy, Milky Way, appeared. Actually the Universe originated with Big Bang from Sun (Sunn / Nothingness / Singularity) about 13.7 billion years ago whereas our Solar System originated from a mass of gases about 4.6 billion years ago.

Impact on modern science

Galileo (1564-1642 CE) was born 25 years after Guru Nanak (1469-1539 CE). According to Stephen Hawking Galileo probably bears more of the responsibility for the birth of modern science than anybody else, and Albert Einstein called him the ‘Father of Modern Science’\(^1\).\(^1\)

On the other hand the followers of Guru Nanak failed to put any impact of his observations on Science or religions. They have spent more time in equating his scientific findings and legitimate observations that are found in Vedas and Vedanta. Moreover, Sikh theologians kept Science far away from interpretation of his Bani. Although Guru Nanak is considered as a reformist by some scholars, while for others, especially the foreign scholars, he is a syncretistic of Hinduism and Islam but it is never too late to recognize Guru Nanak as a great philosopher and a scientist of Period of Renaissance (14\(^{th}\)-16\(^{th}\) centuries), and to declare him as the ‘Founder of Modern and Universally Acceptable Philosophy’ for the humanity.
“I do not feel obliged to believe that the same God who has endowed us with sense, reason, and intellect has intended us to forgo their use.”
Galileo Galilei (1564 – 1642)

Final Words
Guru Nanak has promulgated his philosophy based on the Nature and the Universe keeping in view the prevailing philosophies or concepts. The Sikhs and non-Sikh seekers of the Reality are very fortunate that they can find the original philosophy of Guru Nanak embodied in his Bani, which was enshrined in the Aad Guru Granth Sahib (AGGS) by Guru Arjan. Thus, the AGGS is the most authenticated and primary source of Philosophy of Guru Nanak (Nanakian Philosophy). Therefore, it is the duty of Sikh scholars to understand the real philosophy of Guru Nanak by interpreting his Bani with application of Science and logic to make it more easily understandable by rest of the humanity. In this respect following quote of Einstein is worth mentioning:

"After religious teachers accomplish the refining process indicated, they will surely recognize with joy that true religion has been ennobled and made more profound by scientific knowledge."
Albert Einstein (1879-1955 CE)

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REFERENCES
1. AGGS (अग्गस) = Aad Guru Granth Sahib (आद गुरु ग्रनथ सहिभ). 1983 (reprint). Publishers: Shiromani Gurdwara Parbandhak Committee, Amritsar. (M = Mahla, i.e., succession number of the Sikh Gurus to the House of Nanak, M is replaced with the name of Bhagat/ Bhatt for their Bani, p = Page of the AGGS).
13. Religion," Microsoft® Encarta® 98 Encyclopedia. © 1993-1997 Microsoft Corporation. All rights reserved.
21. http://www.sikhmissionarysociety.org/sms/smspublications/introductiontosikhism2/chapter2.html#How was the world created, according to Sikhism?

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