

SIKHI AND SCIENCE

The Eternal Entity (God)

Conceptualized by Guru Nanak

in a Logo, ੴ*

ARTICLE

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INTRODUCTION

Under the main heading, SIKHI and SCIENCE, several articles will be written in a series about basics of Sikhi founded by Guru Nanak (1469-1539) during the 15th century and comparing it with science of today. The first article discusses *The Eternal Entity (God) Conceptualized by Guru Nanak in a Logo, ੴ*. Before the beginning of science and during the Period of Renaissance some scholars were prophesying their philosophy based upon their keen observations of Nature and the Universal phenomena occurring in orderly form. Now their philosophy is called 'Natural Philosophy'.

Natural Philosophy is defined as follows:

The philosophical study of Nature and the physical Universe that was dominant before the development of modern science. It is the precursor of natural science. [1]

Guru Nanak is one of those philosophers who promulgated his philosophy based on his keen observation of Nature: how the phenomena of Universe are occurring in orderly form, and the behaviour of humans without involving the God or any deity. Nanak is at the top of the list of Natural Philosophers of the world. [2].

Science

ABSTRACT

This article after brief description of the main heading, Sikhi and Science, discusses at length the Eternal Entity (God) conceptualized as a logo, ੴ, by Guru Nanak. The discussion indicates that One in ੴ is 'That' (ੴ with extended (ੴ) is Infinite' (amount of energy). Therefore, ੴ means 'One and Only That is Infinite' (amount of energy) in English and ਇਕ ਓ ਬੇਅੰਤ (Ek Oh Beant) in Punjabi. The One in ੴ is not a numeral but Singularity or Nothingness in science but called Ek (One), ਸੁੰਨ (Sunn) or ਨਿਰਗੁਨ (Nirgun) state of ੴ (the Eternal Entity - God) by Guru Nanak. When this One in ੴ exploded it gave rise to the ਸਰਗੁਨ (Sargun) state, the Nature/Universe.

The Natural Philosophy became Science during the 19th century based on the Natural Philosophy of Copernicus (contemporary of Guru Nanak), Galileo, Newton, and of others.

Science is defined as: *a branch of knowledge or study dealing with a body of facts or truths systematically arranged and showing the operation of general laws.* (Dictionary.com)

Sikhi

My study of the bani (words) of Guru Nanak, incorporated in the *Aad Guru Granth Sahib* (AGGS) [3], clearly indicates that the philosophy embodied in his bani includes the characteristics of originality and uniqueness. [4] The irony is

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that very little work has been done by Sikh and non-Sikh scholars, Sikh scientists, and Sikh philosophers to portray the philosophy embodied in the bani of Guru Nanak in its real perspective. Instead, they remained busy interpreting *Sikhi* founded by Guru Nanak into an institutionalized religion, **Sikhism**. Nevertheless, Guru Nanak has defined 'Sikhi' in one phrase, which has been interpreted by Chahal and Chahal, et al [4–6] as follows:

ਸਿਖੀ¹ ਸਿਖਿਆ² ਗੁਰ³ ਵੀਚਾਰਿ⁴ ॥

Sikhī¹ sikhīā² gur vīchār.
Sikhi¹ is the teachings² which are based on the enlightening³ philosophy⁴.

AGGS, M 1, p 465.

Notes:

ਸਿਖੀ (Sikhi): This word is understood as a verb to “learn” by many theologians thus they go far away from the real theme of defining “Sikhi” as a noun.

ਸਿਖਿਆ (Sikhia/Teachings): something that is taught: philosophy.

ਵੀਚਾਰਿ (Vichar/Philosophy): the branch of knowledge or academic study devoted to the systematic examination of basic concepts such as truth, existence, reality, causality, and freedom; a particular system of thought or doctrine.

This type of **Sikhi** has not been disseminated by the followers of Guru Nanak.

It is evident from the above definition that in **SIKHI** the emphasis is on “enlightenment”.

The word “bani” (ਬਾਨੀ/ਬਾਣੀ) has been used as singular as well as plural in this article.

Enlightenment Defined

The Age of Enlightenment (also known as the **Age of Reason** or simply the

Enlightenment) was an intellectual and philosophical movement that dominated the world of ideas in Europe during the 18th century, the “**Century of Philosophy**”. The Enlightenment emerged out of a European intellectual and scholarly movement known as **Renaissance humanism**. Some consider the publication of Isaac Newton's *Principia Mathematica* (1687) as the first major enlightenment work. Philosophers and scientists of this period widely circulated their ideas through meetings at scientific academies, Masonic lodges, literary salons, coffeehouses and in printed books, journals, and pamphlets. The ideas of the Enlightenment undermined the authority of the monarchy and the Church, and paved the way for the political revolutions of the 18th and 19th centuries. [7]

GURU NANAK,

A PIONEER OF THE AGE OF ENLIGHTENMENT

During the time of discourse with the Siddhas, the most learned persons of that time, questioned to Nanak: [8]

Who is your Guru?

ਕਵਣ ਮੂਲ¹ ਕਵਣ ਮਤਿ² ਵੇਲਾ³ ॥

ਤੇਰਾ ਕਵਣ ਗੁਰੂ ਜਿਸ ਕਾ ਤੂ ਚੇਲਾ ॥

Kavaṇ mūl kavaṇ maṭ velā.

Ferā kavaṇ gurū jis kā tū chelā.

ਅਗਗਸ, ਮ: 1, ਪੰਨਾ 943.

What is the source of beginning¹ and which type of philosophy² is of this Age³?

Who is the ‘guru’ of whom you are his disciple?

AGGS, M 1, p 943. 8

Nanak replied that his ‘guru’ is ‘Sabd:

ਪਵਨ¹ ਅਰੰਭੁ² ਸਤਿ³ ਗੁਰ⁴ ਮਤਿ⁵ ਵੇਲਾ⁶ ॥

ਸਬਦੁ⁷ ਗੁਰੂ⁸ ਸੁਰਤਿ⁹ ਧੁਨਿ¹⁰ ਚੇਲਾ¹¹ ॥

Pavan arambh satgur maṭ velā.

Sabaḍ gurū suraṭ dhun chelā.

The air¹ is the beginning² of every life and this is the Age⁶ of Enlightenment⁵ known through the True⁴ Guru³.

Who is the True Guru?

It is explained in the second sentence:

The sabd⁷ is the guru⁸ (enlightener) and my keen¹⁰ conscience⁹ is its disciple¹¹.

Note: who is a Guru?

According to Bhai Kahn Singh: [9]

ਗੁਰੂ or ਗੁਰੁ or ਗੁਰ (Guru): ਸੰ. ਗੁਰੂ ਗੁਰੂ.

(ਸੰਗਯਾ). ਇਹ ਸ਼ਬਦ ਗ੍ਰੀ (ਗੁ) ਯਾਤੁ ਤੋਂ

ਬਣਿਆ ਹੈ, ਇਸ ਦੇ ਅਰਥ ਹਨ ਨਿਗਲਣਾ ਅਤੇ

ਸਮਝਾਉਣਾ, ਜੋ ਅਗਯਾਨ ਨੂੰ ਖਾ ਜਾਂਦਾ ਹੈ ਅਤੇ

ਸਿੱਖ ਨੂੰ ਤਤ੍ਵਗਯਾਨ ਸਮਝਾਉਂਦਾ ਹੈ, ਉਹ ਗੁਰੂ

ਹੈ. ਗੁਰਬਾਣੀ ਵਿੱਚ ਗੁਰ, ਗੁਰੁ ਅਤੇ ਗੁਰੂ ਸ਼ਬਦ

ਇੱਕ ਹੀ ਅਰਥ ਵਿੱਚ ਆਏ ਹਨ. (Guru

comes from Sanskrit word, *Gri*, which means to engulf (to eliminate) darkness/ignorance, and which impart wisdom (enlightens) the humans.

The *pauri* (stanza) # 38 of *JAP Bani* clearly indicates that the word ‘sabd’ means the ‘idea’ or ‘philosophy’ which enlightens a person to discover the right path of life. Therefore, ‘sabd’ is interpreted as ‘enlightening idea/philosophy’. The ‘sabd’ is constructed using self-control, patience, knowledge, and wisdom without involving any deity. [10] (Chapter 3)

THE ETERNAL ENTITY (GOD) CONCEPTUALIZED BY GURU NANAK AS A LOGO, “ੴ”

A logo or symbol is used by various companies, organizations, and religions to convey their main objectives or the products. For example, symbols of various religions are shown in Fig. 1.



Figure 1. religious-sign-symbols-world-collection-isolated-white-background-vector-illustration-53229119 (Dreamtime.com)

In Christianity, the **Cross** is a symbol to represent crucifixion of Jesus, the Messiah and son of God, who dies at a cross to deliver the sins of all the people.

In Hinduism, the **AUM** or **OM** represents the Universe and the Ultimate Reality. The AUM represents the three aspects of God: The Brahma (A), the Vishnu (U) and the Shiva (M). It also represents the sound of the Universe.

In Islam, **Crescent and Star** is religious symbol. The Crescent, the early phase of the moon, represents progress. The star represents the light of knowledge. The definition of Islam means submission to Allah and peace. If we investigate symbols of various religions reported in different

Websites, we do not find any symbol of Sikhism. However, the symbols shown in Fig. 1 from *Dreamtime.com* has included a *Khanda* (ੴ) as a symbol of Sikhism. This symbol has not been designed by any Guru including Guru Gobind Singh. Since every religion has their own logo or symbol, therefore, Guru Nanak has conceptualized the Eternal Entity (commonly called God) in a logo, ੴ, for Sikhi’ founded by Guru Nanak for the welfare of humanity. The ‘Sikhi’ revolves around the Eternal Entity, ੴ.

How a logo is Designed

A ‘logo’ is a symbol made up of text, images and lines that identifies a business, institution, organization, religion, etc.

The logo of the Northwest Airlines was created by Landor Associates. The triangle within the circle serves both to point to compass direction northwest and to imply a W when combined with the shape of the N. [11]



ZIP designer, Mike Erickson: The “I” has been replaced with a zipper to connect the Z & P to look like **ZIPPER**. [12]



APPEARANCE OF LOGO, ੴ, IN THE AAD GURU GRANTH SAHIB

The logo, ੴ, appears at the top of the **ਅਰੰਭਿਕ ਵਾਕ (Arambic Vaak - Commencing Verse)** commonly called *Mool Mantra* clearly separated from its 9 attributes in the *Kartarpuri Bir* (Kartarpur Volume) scribed by Bhai Gurdas under the guidance of Guru Arjun in 1604 as in Fig 2:

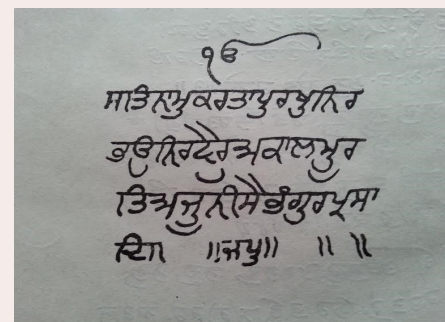


Figure 2. Commencing Verse in Kartarpuri Bir [13]

Now the *Kartarpuri Bir* (Kartarpur Volume) is with the Sodhi family at Kartarpur near Jalandhar. It appears that another copy of *Kartarpuri Bir* was prepared by Guru Arjun, and it was called ‘*Pothi*’ (Book). In 1708 Guru Gobind Singh added the bani of Guru Teg Bahadur, the 9th Guru who succeeded to the ‘House of Nanak’, bestowed ‘Guru-ship’ upon this ‘*Pothi*’ now called “Guru Granth”. However, when the ‘*Pothi*’ was printed in a press the logo, ੴ, was joined with its 9 attributes as shown on its first page. Fig.3. Therefore, the independent identity of the logo, ੴ, is lost. Now the Granth is addressed with various titles. The printed volume of the ‘*Pothi*’ by the Shiromani Gurdwara Parbandhak Committee (SGPC), Amritsar carries a title: ‘*Aad Sri Guru Granth Sahib Ji*’. However, the Institute for Understand Sikhism (IUS) has dropped the ‘*Sri*

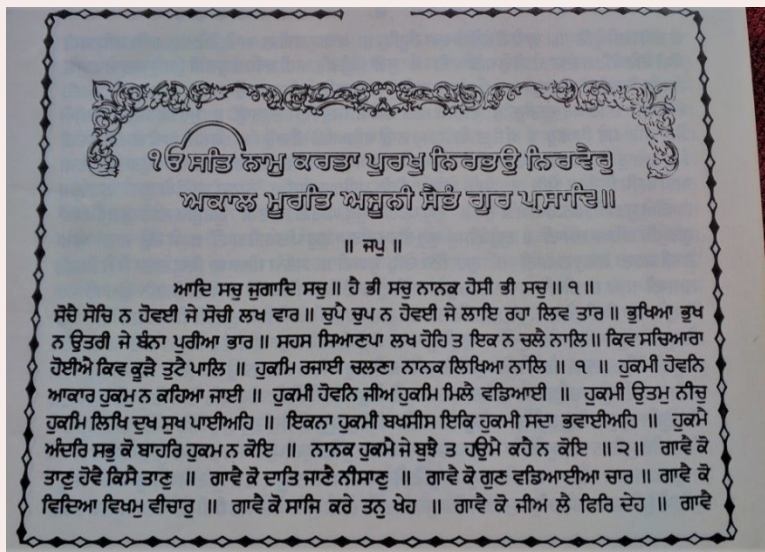


Fig. 3. The First page of Aad Guru Granth Sahib. [3]

being redundant after 'Aad' and 'J' after the 'Sahib' being redundant. Therefore, the appropriate title being used by the IUS is 'Aad Guru Granth Sahib' (AGGS) [14].

The logo, ੴ, appears 567 times in the AGGS (33 times before the beginning of the major section of the AGGS and 534 times in variously abridged forms before the beginning of sub-sections) so that the readers of the bani in the AGGS should keep in mind what ੴ means.

To understand logo, ੴ, the Eternal Entity, conceptualized by Guru Nanak, has been disassembled it as follows:

$$ੴ = ੧ + ਓ + \curvearrowright$$

੧ = (One). It is from Numerals but in science it is a Physical ONE like SINGULARITY of Albert Einstein. But for Guru Nanak Singularity or Nothingness is (ਸੁੰਨ - SUNN) and ਨਿਰਗੁਨ (NIRGUM) state of the Eternal

Entity, ੴ. Therefore, this ੧ = (One) is not numeral but 'PHYSICAL ONE' according to science of today.

ੴ = (open Oora). It is from Gurmukhi Alphabet but here it is an abbreviation of ਓਹ (Oh – That).

↷ = The extended end of ਓ) open Oora) is from geometry representing INFINITE (amount of Energy).

ੴ = (open Oora) and its extended end (↷) are qualifiers words for ੧

(One) in ੴ indicating That One is Infinite (amount of energy as in Singularity)

Therefore, ੴ can be pronounced as ਇਕੁ ਓ ਬੇਅੰਤ (Ek Oh Beant) in Punjabi and as 'That the One and Only is Infinite' in English.

Note: Geometry is the branch of mathematics that deals measurement, and relationships of points, lines, angles, and figures. During Guru Nanak's time there was no sign of 'infinity'. The infinity sign

(∞) was developed by John Wallis in 1655 about more than 100 years after Guru Nanak (1469-1539). Therefore, Guru Nanak has only choice to use extended end of open Oora (ੴ) to represent 'Infinity'.

Further explanation of all parts of ੴ in Aad Guru Granth Sahib:

੧ (One)

The 'One' in this logo means 'One and Only' according to Guru Nanak:

ਸਾਹਿਬੁ ਮੇਰਾ ਏਕੈ ਹੈ ॥

Sāhib merā eko hai.

ਏਕੈ ਹੈ ਭਾਈ ਏਕੈ ਹੈ ॥੧॥ ਰਹਾਉ ॥

Ēko hai bhāī eko hai. ||1|| rahāo.

ਅਗਗਸ, ਮ: , ਪੰਨਾ 350.

My Eternal Entity (God)¹ is One and Only^{2,3,4}, Hey Brother!

AGGS, M 1, p 350.

ਏਕਾ ਮਹਿ ਸਰਬ ਸਰਬ ਮਹਿ ਏਕਾ ਏਹ ਸ

ਤਿ ਗੁਰਿ ਦੇਖਿ ਦਿਖਾਈ ॥੫॥

Ēk meh sarab sarab meh ekā eh satgur dekḥ dikhāī. ||5||

ਅਗਗਸ, ਮ: 1, ਪੰਨਾ 907.

Guru Nanak says:

The True⁵ enlightenment⁶ has shown⁷ (me) the vision⁶ that the One¹ is in everything² and everything² is the One³.

AGGS, M 1, p 907.

About 20 centuries before Guru Nanak Anaxagoras (born ca. 500–480), a Greek philosopher, propounded a physical theory of "everything-in-everything". It is somewhat close to that of the above observation of Guru Nanak. Anaxagoras also claimed that nous (intellect or mind) was the motive cause of the cosmos (meaning denied the divinity of all other gods but his principle, the mind). [2]

Guru Arjun has also explained this attribute as follows:

ਏਕੈ ਰੇ ਹਰਿ ਏਕੈ ਜਾਨੰ ॥

Ēkai re har ekai jān.

ਏਕੈ ਰੇ ਗੁਰਮੁਖਿ ਜਾਨੰ ॥੧॥ ਰਹਾਉ ॥

Ēkai re gurmukh jān. ||1|| rahāo

ਅਗਗਸ, ਮ: 5, ਪੰਨਾ 535.

Hey enlightened person! Comprehend⁶ the Eternal Entity (God) as One and Only^{1,2,4}.

AGGS, M 5, p 535.

ਨਾਨਕ ਵਰਤੈ ਇਕੁ ਇਕੋ ਇਕੁ ਤੂੰ

॥੨੨॥੧॥੨॥ ਸੁਧੁ ॥

Nānak varṭai ik iko ik tūn. ||22||1||2|| sudh.

ਅਗਗਸ, ਮ: 5, ਪੰਨਾ 966.

"Nanak Says:

You⁵, the One and Only^{2,3,4}, pervade¹ everywhere.

AGGS, M 5, p 966.

I may add here that some scholars, without understanding properly the following phrase of Guru Nanak, they justify that he himself says that God is also 'One' in Vedas:

ਬੇਦਾ ਵਖਾਣਿ ਕਹਰਿ ਇਕੁ ਕਹੀਐ ॥

Bed vakhāṇ kahēh ik kahīai.

ਓਹੁ ਬੇਅੰਤੁ ਅੰਤੁ ਕਿਨਿ ਲਹੀਐ ॥

Oh beant ant kin lahīai.

ਅਗਗਸ, ਮ: 1, ਪੰਨਾ 1188.

However, critical study of the above phrase shows that here ਬੇਦ/ਵੇਦ (*bed/ved*) means intellect/wisdom according to Bhai Kahn Singh [15] although ਬੇਦ/ਵੇਦ (*bed/ved*) also means, sacred books in Hinduism. Therefore, the above phrase has been interpreted as follows:

Intellectual¹ deliberation² reveals⁴ that the Eternal Entity (God) is 'One'³.

The Oh (That)⁵ is Infinite⁶ and

nobody⁸ has found⁷ its limit⁷.

AGGS, M 1, p 1188.

Another example ਬੇਦ/ਵੇਦ (*bed/ved*)

means knowledge/wisdom to justify the above interpretation is found in JAP bani:

ਅਹਰਣਿ ਮਤਿ ਵੇਦੁ ਹਥੀਆਰੁ ॥

Ahraṇ maṭ ved hathīār.

ਅਗਗਸ, ਜਪੁ 38, ਪੰਨਾ 8.

Wisdom² should be anvil¹ and knowledge³ be the tools⁴.

AGGS, Jap 38, p 8.

Therefore, it is wrong to say that Guru Nanak was following Vedic philosophy to address the Eternal Entity (God) as 'One'. The following verses of Guru Nanak further confirms that the Eternal Entity (God) to be 'One and Only:

ਝੰਝੈ ਨਦਰਿ ਕਰੇ ਜਾ ਦੇਖਾ ਦੁਜਾ ਕੇਈ

ਨਾਹੀ ॥

ẖāñai naḍar kare jā dekḥā dūjā koī nāhī.

ਏਕੋ ਰਵਿ ਰਹਿਆ ਸਭਾ ਥਾਈ ਏਕੁ ਵ

ਸਿਆਮ ਮਨ ਮਾਹੀ ॥੧੩॥

Ēko rav rahiā sabḥ thāī ek vasiā man māhī. ||13||

ਅਗਗਸ, ਮ:1, ਪੰਨਾ 433.

When visioned², I saw³ that there is no⁵ second⁴ (other).

The One⁶ pervades⁷ everywhere^{8,9} and the One¹⁰ also pervades¹¹ in my mind¹².

AGGS, M 1, p 433.

Note: ਝੰਝੈ is a letter of Gurmukhi script used just to start the phrase, a style of writing poetry.

This phrase also confirms that this One is not numeral 1 since there is no number 2 after it

ਓ (ਓਹ - Oh) (meaning 'That'). It is qualifier noun for ੧ (One) in ਓ, Eternal Entity (God)

ਨਾ ਓਹ ਮਰੈ ਨ ਹੋਵੈ ਸੋਗੁ ॥

Nā oh marai na hovai sog

ਅਗਗਸ, ਮ: 1, ਪੰਨਾ 9.

Oh (That) does not die; thus, there is no reason to mourn.

AGGS, M 1, p 9.

ਓਹੁ ਬਿਧਾਤਾ ਮਨੁ ਤਨੁ ਦੇਇ ॥

Oh bidhātā man ṭan deie.

ਅਗਗਸ, ਮ:1, ਪੰਨਾ 931.

Oh¹, (That – Eternal Entity)² blesses⁵ the mind³ and body⁴.

AGGS, M 1, p 931.

Extended End () of Open

Oora' (ਓ) is also qualifier sign for ੧

(One) in ਓ to represent its Infinity

ਗੁਰਮੁਖਿ ਬੇਅੰਤੁ ਧਿਆਈਐ ਅੰਤੁ ਨ ਪਾਰਾ

ਵਾਰੁ ॥੪੬॥

Gurmukh beant dhiāīai ant na pārvār. ||46||

ਅਗਗਸ, ਮ: 1, ਪੰਨਾ 936.

The enlightened person¹ contemplates³ the Infinite², who has no limit⁴ or end⁵.

AGGS, M 1, p 936.

ਤਾ ਕੇ ਅੰਤ ਨ ਪਾਏ ਜਾਹਿ ॥

Ṭā ke ant na pāie jāhi.

ਏਹੁ ਅੰਤੁ ਨ ਜਾਣੈ ਕੇਇ ॥

Ēhu ant na jāṇai koe.

ਅਗਗਸ, ਜਪੁ 24, ਪੰਨਾ 5.

The infiniteness² of That¹ cannot be comprehended³.

(In fact) Nobody⁶ knows⁵ its infiniteness⁴.

AGGS, Jap 24, p 5.

Now let us consider if this ੧ (One)

used in ਓ is 'Nothingness' or 'Singularity' as understood by scientists? [16]

WHAT IS NOTHINGNESS OR SINGULARITY?

To comprehend ੴ (One) in ੴ, it is necessary to understand 'Nothingness' or 'Singularity'. Their understanding would further strengthen our thesis that ੴ is an original and unique logo conceptualized by Guru Nanak to represent the **Eternal Entity** (God).

Singularity

According to standard theory [16] our Universe sprang into existence from "Singularity" around 13.7 billion years ago. Singularities are zones which defy our current understanding of physics. They are thought to exist at the core of "black holes." Black holes are areas of intense gravitational pressure. The pressure is thought to be so intense that finite matter is squished into infinite density (a mathematical concept which truly boggles the mind). These zones of infinite density are called "Singularities." Our Universe is thought to have begun as an infinitesimally small, infinitely hot, infinitely dense, something - a Singularity.

Nothingness

Nothingness has been defined by Kaup [17] as follows: "Nothingness Theory defines nonexistence as being the absence of existence, the absence of nothingness, and the absence of absence. It is, what is not being referred-to under any circumstances. Nonexistence is that which cannot be referred-to, named, or defined. So, referring to it in any way violates its strict definition. Nevertheless, this fundamental paradox is at the basis of Nothingness Theory and must be referred-to anyway. Despite it is not being absolute nonexistence exerts a

detectable force. We have proven through simple logic that **the Universe has and always will exist. Therefore, the Universe must have existed before the "Big Bang" and will exist forever.** This also means that the state of Nothingness from which the Universe burst into existence must have existed relative to absolute nonexistence given that absolute nonexistence is not achievable. **So, energy-matter and space-time can attain relative nonexistence by collapsing into infinite density, which is a uniform state of static equilibrium.** Examples of this state of relative nonexistence can be seen throughout the Universe in the form of **black holes.** A 'black hole' is the pinnacle of perfectly symmetrical uniformity of energy, matter, space, and time.

Therefore, **'Nothingness' does not mean 'without anything'.** However, it is in such a small volume that it appears to be 'Nothingness'. According to the 'Big Bang Theory', the energy was in such a small volume that has been termed as **'Nothingness'** by some scientists and as **'Singularity'** by others. This 'Nothingness' is termed as **ਸੁੰਨ (SUNN)** and **ਨਿਰਗੁਨ (Nirgun)** state by Guru Nanak. It is also termed as **'Jyot'** (highly condensed energy) by Guru Nanak.

Is 'ੴ' (Ek – One) in ੴ 'Singularity' in Gurbani? Yes.

This **'One'** of Guru Nanak in ੴ is the same as the **'Singularity'** of scientists in which energy-matter and space-time have attained relative nonexistence by collapsing into infinite density, which is a uniform state of static equilibrium?

Therefore, the Big Bang Theory can be considered equivalent to Guru Nanak's view that the Universe exploded and started to expand from 'ੴ' (One) in ੴ:

ਕੀਤਾ ਪਸਾਉ ਏਕੋ ਕਵਾਉ ॥

Kītā pasāo eko kavāo.

ਤਿਸ ਤੇ ਹੋਏ ਲਖ ਦਰੀਆਉ ॥

Fis te ho-e lakh dārīāo.

ਅਗਗਸ, ਜਪੁ 16, ਪੰਨਾ 3.

It is literally translated by most of the writers as follows: [18]

You created the vast expanse of the Universe with One Word.

Hundreds of thousands of rivers began to flow.

AGGS, Jap 16, p 3.

Using present day science and the methodology of Guru Nanak, remembering that he would express his philosophy allegorically, metaphorically, and symbolically, therefore, my interpretation will be quite different from that of all other writers:

The Universe exploded from one² source of energy (Singularity)³ and started to expand¹, thereafter, appeared many⁴ things⁵.

The above phrase of Guru Nanak indicates the One (Singularity, Nothingness- ਸੁੰਨ-Sunn, the ਨਿਰਗੁਨ - Nirgun state) has given rise to everything means ਸਰਗੁਨ (Sargun) state, the Nature/Universe.

Note:

ਪਸਾਉ¹ (pasao) means to expand.

ਕਵਾਉ² (kavao) does not mean sound, word or note. In fact, it means 'energy' as explained by Guru Arjun as follow:

The word, ਦਰੀਆਉ³ (dariao), in the above phrase of Guru Nanak has been explained with a new word, ਸਭਿ

(*sabh* - everything), and ਕਵਾਉ (*kavao*) with another word, ਕਵਾਵੈ (*kavavai* - energy) by Guru Arjun:

ਏਕ ਕਵਾਵੈ ਤੇ ਸਭਿ ਹੋਆ ॥੧॥

Ēk kavāvai tē sabh̥ hoā. ||1||
 From one¹ source of energy² (Singularity) everything³ was created⁴.
 AGGS, M 5, p 1003.

Note: 'ਏਕ ਕਵਾਵੈ' (*ek kavavai*) in the above phrase is the same as ਏਕੋ ਕਵਾਉ² (*eko kavao*) used by Guru Nanak in his previous phrase.

ਕਵਾਵੈ² (*kavavai*) is from ਕਵਾ (*kava*) which means 'energy' according to *Mahan Kosh*. [15]

ਦਰੀਆਉ³ (*daryao*) has been literally interpreted as rivers by many scholars. Keeping in view the methodology used by Guru Nanak, 'ਦਰੀਆਉ³' (*daryao*) has been used as a metaphor for the word, things. What are those things?

The word, 'ਲਖ ਦਰੀਆਉ' (*lakh dariao*), has been used to mean 'many things', because of the 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 water on the Earth. Therefore, 'ਲਖ ਦਰੀਆਉ' (*lakh dariao*), is a metaphoric expression of many things (that means starting from elementary particles to protons, electrons, neutrons, and neutrinos which formed various elements. The first element formed was Hydrogen with one proton encircled with one electron. Then Helium was formed joining two protons and two neutrons in nucleus encircled by two electrons. Thereafter, many more elements appeared to give rise to many galaxies

containing many stars and planets as explained in the following Fig. 4.

Wesley [19] has explained the evolution of Universe from Singularity (Nothingness or ਸੁੰਨ (*Sunn*) after Big Bang as follows (Fig. 4):

- after about 10^{-43} seconds: Planck Era???

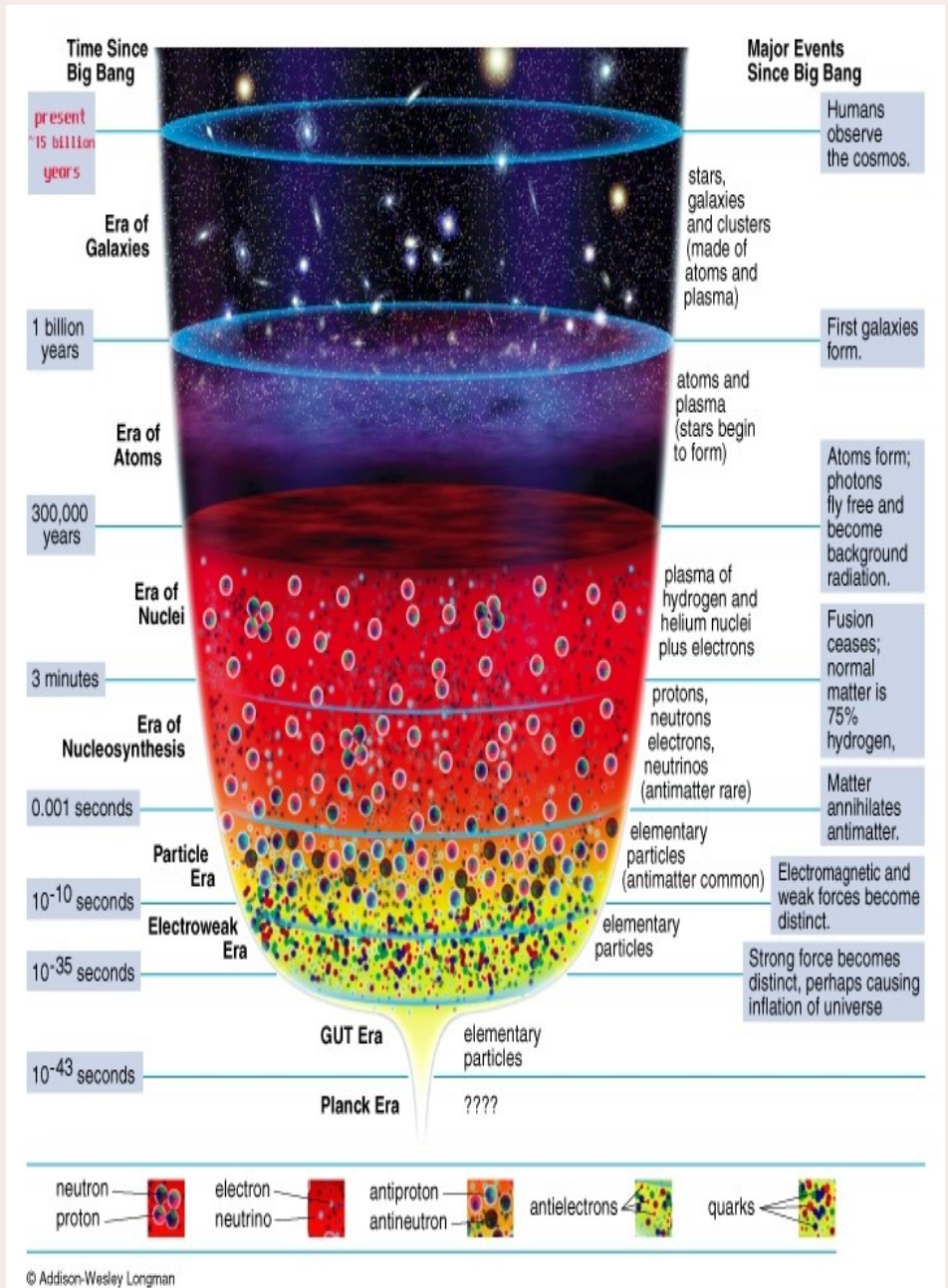


Figure 4. Origin of Universe from Singularity (Nothingness or ਸੁੰਨ - *Sunn*) according to the Big Bang Theory based on the above description.[19]. Picture Credit: Wesley, Addison

- after about 10^{35} seconds: Elementary particles appeared.
- after about 0.001 second to 3 minutes: Electrons, protons, neutrinos, and neutrons appeared.
- after about 3 minutes to 300,000 years: The plasma of Hydrogen, Helium nuclei plus electrons gave rise to more elements.
- after about 1 billion years: Galaxies, stars (suns) and planets started to form.
- today the Universe is 13.7 billion years old.
- our Solar System including our Earth was formed 4.6 billion years ago.

Nature – God

ਨਾਨਕ ਸਚ ਦਾਤਾਰੁ ਸਿਨਾਖਤੁ ਕੁਦਰਤੀ

॥੮॥

Nānak sach dātār sinākhat̄ kudratī.
||8||

Nanak says¹:

The Ever-existing² Bountious³ (Eternal Entity) is recognized⁴ as Nature⁵ (the Universe).

AGGS, M 1, p 141.

Here Guru Nanak is equating God with Nature (Universe). That means “God is Nature”.

Note: Nature: 1. Physical World - all natural phenomena and living things. 2. The forces and processes collectively that control the phenomena of the physical world independently of human volition or intervention.

According to German philosopher Karl Jaspers, when Baruch Spinoza (1632-1677) wrote "*Deus sive Natura*" ("**God or Nature**") Spinoza meant God was *Natura naturans* not *Natura naturata*, that is, "a dynamic nature in action, growing and changing, not a passive or static thing." [20] In 1929 Rabbi

Herbert Goldstein sent a telegram to Albert Einstein [21] asking, "*Do you believe in God?*". In response Einstein wrote that he admired the Dutch Jewish philosopher Baruch Spinoza, and stated: "*I believe in Spinoza's god, who reveals Himself in the lawful harmony of the world, not in a god who concerns himself with the fate and the doings of mankind.*"

Is it not strange that the Natural Philosophy of Guru Nanak, GOD IS NATURE has been accepted by Spinoza and Einstein after about 140 and 390 years, respectively, after the demise of Guru Nanak?

It is evident from the above discussion that the Eternal Entity (God), conceptualized by Guru Nanak as a logo, ੴ, is Nature/Universe.

Therefore, according to Guru Nanak's philosophical doctrine his God (ੴ) is Pantheistic.

Nevertheless, in the whole AGGS there is Pantheistic as well as panentheistic God.

Note:

Pantheism is defined as follows:

- The doctrine that God is the transcendent reality of which the material Universe and human beings are only manifestations: it involves a denial of God's personality and expresses a tendency to identify God and nature.

- Any religious belief or philosophical doctrine that identifies God with the Universe. (Dictionaly.com)

Panentheism is defined as follows: [22]

Panentheism is meant to be different from pantheism, which ontologically equates the Universe with God. Thus, the panentheistic God is both an immanent force

within all creation, and the transcendent power over the Universe.

In pantheism the God is impersonal while in panentheism the God is considered personal in almost all religions.

IS ਸੁੰਨ (SUNN) 'Nothingness' in Gurbani?

The 'ੴ' (Ek – One) in ੴ is very much comparable to 'Singularity' in science as explained previously. This 'ੴ' (Ek – One) in ੴ is also called ਸੁੰਨ (Sunn) or ਨਿਰਗੁਣ (Nirgun) state by Guru Nanak, but called 'Nothingness' in science, is explained as follows:

The first three phrases are in the form of questions about ਸੁੰਨ (Sunn):

ਸੁੰਨੇ ਸੁੰਨ ਕਰੈ ਸਭੁ ਕੇਈ ॥

Sunno sunn kahai sabh ko᳚.

ਅਨਹਤ ਸੁੰਨੁ ਕਹਾ ਤੇ ਹੋਈ ॥

Anhat̄ sunn kahā t̄e ho᳚.

ਅਨਹਤ ਸੁੰਨਿ ਰਤੇ ਸੇ ਕੈਸੇ ॥

Anhat̄ sunn rat̄e se kaise.

Everyone speaks about the sunn¹.

How did Infinite² sunn³ originate⁴?

How⁵ can one understand⁷ the Infinite⁵ sunn⁶?

Then Guru Nanak answers it as follows:

ਜਿਸ ਤੇ ਉਪਜੇ ਤਿਸ ਹੀ ਜੈਸੇ¹² ॥

Jis t̄e upje tis hī jaise.

That (Nothingness)⁹ originated¹⁰ from the Universe¹¹, therefore, it is the same since it has everything of that Universe¹², and it (ਸੁੰਨ - Sunn) will become same as the Universe again.

AGGS, M 1, p 943.

Guru Nanak also supports origin of ਸੁੰਨ (Sunn) as follows:

ਅਵਿਗਤੇ¹ ਨਿਰਮਾਇਲੁ² ਉਪਜੇ³ ਨਿਰਗੁਣ⁴ ਤੇ
ਸਰਗੁਣ⁵ ਬੀਆ⁶ ॥

Avigato nirmā=il upje nirgun̄ te sargun̄
thī=ā.

ਅਗਗ, ਮ:1, ਪੰਨਾ 940.

The *Nirgun*⁴ state of the Eternal Entity
originated² purely¹ from Nothingness¹
and this *Nirgun* state became⁶
*Sargun*⁵ state (Nature/Universe).

AGGS, M 1, p 940.

This is comparable to today's theory
that the Universe will go into a "big
crunch" [23] ending up as one point
called Singularity, Nothingness or ਸੁੰਨ
(*Sunn*).

Now in the following phrase Guru
Nanak is indicating that this
Nothingness (ਸੁੰਨ -*Sunn*) and ਨਿਰਗੁਣ
(*Nirgun*) state is Eternal Entity that
does not take birth or dies since it is
always present in one form or other
(Singularity, Nothingness, and ਸੁੰਨ -
Sunn) or Nature/Universe:

ਜਨਮਿ ਨ ਮਰਹਿ ਨ ਆਵਹਿ ਜਾਹਿ ॥

O=ē janam na marēh na āvahi jāhi.

ਨਾਨਕ ਗੁਰਮੁਖਿ ਮਨੁ ਸਮਝਾਹਿ ॥੫੨॥

Nānak gurmukh̄ man samjhāhi.
||52||

ਅਗਗਸ, ਮ: 1, ਪੰਨਾ 943.

This state of ਸੁੰਨ (*Sunn*) to Universe
and back to ਸੁੰਨ (*Sunn*) is a continuous
cycle. Therefore, neither it is born nor
dies.

Oh, Enlightened person! Orientate
your mind so that you can understand
the above fact. 52.

AGGS, M 1, p 943.

Guru Nanak is explaining that when
Nothingness (ਸੁੰਨ - *Sunn*) or
Singularity became the Nature/
Universe after the Big Bang then it will

go back to Nothingness (ਸੁੰਨ - *Sunn*)
or Singularity again.
Guru Arjun has explained the above
philosophy of Guru Nanak in his own
words as follows:

ਕਈ¹ ਬਾਰ² ਪਸਰਿਓ³ ਪਾਸਾਰ⁴ ॥

Ka=ī bār pasri=ō pāsār.

ਸਦਾ⁵ ਸਦਾ⁶ ਇਕੁ⁷ ਏਕੰਕਾਰ⁸ ॥

Saḍā saḍā ik ekankār.

ਅਗਗਸ, ਮ: 5, ਪੰਨਾ 276.

The Universe⁴ came into existence³
many¹ times².

Nevertheless, the One⁶ (ਸੁੰਨ - *Sunn*,
Nothingness or Singularity) remains
One and Only⁷ (*Ekankar*⁸ -
Singularity) all the time⁵.

AGGS, M 5, p 276.

The above stanzas of Guru Nanak
and Guru Arjun, respectively, had
expressed the same theory about
550 years ago as formulated by
Bergman now. Bergman [24] says if
there is enough matter in the
Universe, eventually gravitational
forces will stop its expansion. When
this happens, gravity will cause the
Universe to reverse its direction and
begin to collapse under its own
weight. This phase of the Universe's
life is known as the 'Big Crunch'. [23,
24] He says that some theorize that
the Universe could collapse into the
same state that it began as and then
blow up in another Big Bang. In this
way, the Universe would last forever
but would continually go through
these phases of expansion and
contraction - Big Bang and Big
Crunch, and so on.

Guru Nanak says that *panj tatt* (five
elements) originated from the ਸੁੰਨ

(*Sunn*) (Nothingness or Singularity),
which is comparable to the evolution
of Universe from Singularity:

ਪੰਚ¹ ਤਤੁ² ਸੁੰਨਹੁ³ ਪਰਗਾਸਾ⁴ ॥

Panch̄ taṭ sunnahu pargāsā... 14

ਅਗਗਸ, ਮ: 1, ਪੰਨਾ 1038.

The five¹ elements² have originated⁴
from Nothingness³ (*Sunn*)...14.

AGGS, M 1, p 1038.

Guru Nanak further says that ਸੁੰਨ
(*Sunn*) (Nothingness or Singularity)
gave rise to stars and planets:

ਸੁੰਨਹੁ¹⁰ ਚੰਦੁ¹¹ ਸੂਰਜੁ¹² ਗੈਣਾਰ¹³ ॥

Sunnahu chand̄ sūraj gaināre.

ਤਿਸ¹⁴ ਕੀ ਜੋਤਿ¹⁵ ਤ੍ਰਿਭਵਣ¹⁶ ਸਾਰੇ ॥

Fis kī joṭ̄ taribhavan̄ sāre.

ਸੁੰਨੇ¹⁷ ਅਲਖ¹⁸ ਅਪਾਰ¹⁹ ਨਿਰਾਲਮੁ²⁰ ਸੁੰਨੇ²¹

ਤਾੜੀ²² ਲਾਇਦਾ ॥੫॥

Sunne alakh̄ apār nirālam sunne ṭāṛī
lā=idā. ||5||

ਅਗਗਸ, ਮ: 1, ਪੰਨਾ 1037.

Moons¹¹ and Suns¹² (planets and
stars) have originated¹³ from
Nothingness¹⁰ (ਸੁੰਨ -*Sunn*).

The Energy¹⁵ of That¹⁴ (ਸੁੰਨ -*Sunn*)
pervades in the whole Universe¹⁶
(mythical three worlds).

(Guru Nanak is talking about the
Eternal Entity (God) in the state of
Nothingness (ਸੁੰਨ -*Sunn*) and
Universe.)

The Ineffable¹⁸, Infinite¹⁹, without any
flaw²⁰ (the Universe) originated from
Nothingness (ਸੁੰਨ -*Sunn*)¹⁷ and will go
back/imbibed²² in the same
Nothingness (ਸੁੰਨ -*Sunn*)²¹. 5.

AGGS, M 1, p 1037.

This explanation by Guru Nanak is
comparable to 'Big Crunch'.

Guru Nanak continued to describe
that human body was formed by the
Panj Tatt (five elements + many

elements) which originated from ਸੁੰਨ (Sunn):

ਪੰਚ ਤਤੁ ਮਿਲਿ ਕਾਇਆ ਕੀਨੀ ॥

Pancḥ̄ ṭaṭ̣̄ miḹ kāiā kīnī.
The human body was made by five elements
AGGS, M 1, p 1030.

And he repeats the same as follows:

ਪੰਚ ਤਤੁ ਮਿਲਿ ਇਹੁ ਤਨੁ ਕੀਆ ॥

Pancḥ̄ ṭaṭ̣̄ miḹ iḥ̄ ṭaṇ̄ kīā.
The human body is made of five elements.
AGGS, M 1, p 1039.

Bhagat Kabir also says that the human body was made by mixing five elements:

ਪੰਚ ਤਤੁ ਮਿਲਿ ਕਾਇਆ ਕੀਨ੍ਹੀ ਤਤੁ ਕਹਾ ਤੇ ਕੀਨੁ ਰੇ ॥

Pancḥ̄ ṭaṭ̣̄ miḹ kāiā kīṇ̄hī ṭaṭ̣̄ kahā tē kīṇ̄ re.
The human body was made by God by mixing five elements, but he questions wherefrom these five elements came.
AGGS, Kabir, p 870.

Bhagat Kabir (1398 - 1448 or 1440 - 1518) appeared before Guru Nanak (1469 - 1539) but does not talk about the origin of five elements. He is mentioning five elements (air, earth, fire, water, and sky) as accepted in Hinduism but does not know where the five elements came from. However, Guru Nanak did explain that five elements came from ਸੁੰਨ (sunn - Nothingness / Singularity).

Guru Ramdas also follows ancient philosophy that the Eternal Entity (God) created the Universe with the *panj tatt* (five elements) and nobody can create the sixth element:

ਪੰਚ ਤਤੁ ਕਰਿ ਤੁਧੁ ਸ੍ਰਿਸਟਿ ਸਭ ਸਾਜੀ ਕੇਈ ਛੇਵਾ ਕਰਿਉ ਜੇ ਕਿਛੁ ਕੀਤਾ ਹੋਵੈ ॥

Pancḥ̄ ṭaṭ̣̄ kaṝ ṭuḍ̄ḥ̄ sarisaṭ̄ saḅ̄ḥ̄ sājī

koī cḥ̄hevā kariō je kicḥ̄ḥ̄ kītā hovai.

ਅਗਗਸ, ਮ: 4, ਪੰਨਾ 736.

The Eternal Entity (God) has created the Universe with five elements; if anyone can create sixth one then let him show us.

AGGS, M 4, p736.

Strangely, the above statement is the reverse what happened according to scientific information that the five elements (air, earth, water, fire, and sky (space)) made the Universe. However, according to scientific information these so-called five elements were formed after the evolution of the Universe.

During ancient times in classical thought, the four elements **air, earth, fire, and water**, and as proposed by Empedocles (490 - 430 BCE) frequently occur. Aristotle (384 -322 BCE) added a fifth element, **aether**; it has been called **akasha (sky)** in India and quintessence in Europe. [25] Ancient cultures in Egypt, Babylonia, Japan, Tibet, and India had similar lists. The origin of *Pani Tatt* from ਸੁੰਨ (Sunn) and the formation of celestial bodies (stars/suns, planets, galaxies) and human bodies by them as mentioned during the discussion of ਸੁੰਨ (Sunn), the *Panj Tatt* of Guru Nanak, the Natural Philosopher, could be considered comparable to modern five elements - Carbon, Hydrogen, Oxygen, Nitrogen and Phosphorus – the basic plus more. Therefore, the *Panj Tatt* when mentioned by Guru Nanak are different than the ancient and complex elements (air, earth, fire, water, and fire). Antoine Lavoisier

(1743-1794), together with Louis-Bernard Guyton de Morveau, Claude-Louis Berthollet and Antoine Francois de Fourcroy, developed *Méthode de nomenclature chimique* (Method of Chemical Nomenclature), in 1787. The ancient concept of five elements of earth, air, fire, and water to which the fifth, aether or sky, was added, was discarded instead some 55 substances which could not be decomposed into simpler substances by any known chemical means, were provisionally listed as elements. [26] Now there are 118 elements in the periodic table. [27]

OTHER OPINIONS ABOUT ੴ

This is another independent subject to be discussed later somewhere. However, the survey of the available literature indicates that Bhai Gurdas was the first Sikh scholar trained at Banaras school, who has pronounced ੴ as **ਏਕੰਕਾਰ ਓਅੰਕਾਰੁ (Ek Oankaar)** as is evident from his *Pauri* 15 of *Vaar* 3. [28] Thereafter, pronunciation of ੴ as **ਏਕੁ ਓਅੰਕਾਰੁ (Ek Oankaar)** became popular in the Sikh world. While some Sikh and non-Sikh scholars accept ੴ as **ਏਕੁ ਉਮਕਾਰ (Ek Omkar)**, however, both **ਓਅੰਕਾਰੁ (Oankaar)** and **ਉਮਕਾਰ (Omkar)** represent OM which stands for Trinity of God: Brahma, Vishnu, and Shiva. Guru Nanak does not accept the Eternal Entity (ੴ) in Trinity.

On the other hand, some scholars have refused to accept the above both pronunciations. Nirmal Singh Kalsi [29] may be the first who refused to accept ੴ as *Ek Oankar* instead he pronounced it

as “Ekoooooooo...”. He is ignoring to pronounce open Oora with its extended end (ੳ with extended, ੳ). Thereafter, Gulbarg Singh Basi [30, 31] and Dr Iqbal Singh Dhillon [32] followed him and pronounce ੳੳ as “Ekko”. However, both Basi and Dhillon involve open Oora (ੳ) with One of ੳੳ to pronounce Ekko and are ignoring its extended end (ੳ) as a calligraphy. While Col Manmohan Singh Scout is of opinion that ੳੳ should be pronounced as ਏਕੰਕਾਰ (akankar) (Personal communication). However, Bhai Gurdas has already pronounced One in ੳੳ as ਏਕੰਕਾਰ (akankar) meaning Eko Ek (One and Only). He does not involve open Oora (ੳ) to make it Eko Ek. All of them are ignoring to pronounce open Oora and its extended end (ੳ with extended, ੳ) which are most important qualifier word and sign referencing to One of ੳੳ.

CONCLUSIONS

- Guru Nanak is a great Natural Philosopher who founded ‘Sikhi’ based upon his observations that every action and reaction in this Universe and living being is going on under the Natural Laws.
- ‘Sikhi’ has been defined as the ‘enlightening philosophy’ based on Guru Nanak’s experience in Natural Philosophy.
- Natural Philosophy became to be known as ‘Science’ based on the Natural Philosophy of Copernicus, Galileo, Newton, and others during the 19th century.
- After briefly description of the main heading, Sikhi and Science, this article discusses at length the Eternal Entity (God) conceptualized

by Guru Nanak as a logo, ੳੳ.

- It indicates that ‘One’ in ੳੳ is ‘That’ (ੳ with extended, ੳ) which is Infinite’ (amount of energy). Therefore, ੳੳ means ‘One and Only That is Infinite’ (amount of energy) in English and ਇਕੁ ਓ ਬੇਅੰਤ) Ek Oh Beant) in Punjabi.
- According to Guru Nanak the ‘One’ in ੳੳ is not a numeral but a physical one which is supported by qualifier letter ੳ (open Oora) with its extended end (ੳ) indicating That One is Infinite (amount of energy).
- The ‘One’ in ੳੳ is called ਸੁੰਨ (Sunn) or ਨਿਰਗੁਨ (Nirgun) state of the Eternal Entity (God) by Guru Nanak which is comparable to physical ‘One’, called Singularity or Nothingness in science of today.
- When this ‘One’ in ੳੳ exploded it gives rise to the ਸਰਗੁਨ (Sargun) state, the Nature/Universe.
- According to Big bang Theory after the explosion of Singularity/ Nothingness Elementary Particles, Electron, Neutrons, Neutrinos, Protons appeared.
- The first element, Hydrogen, was formed with one Electron encircling one Proton. Thereafter, second element, Helium, was formed by two Electrons encircling two Protons along with two neutrons.
- Thereafter, more elements were formed to give rise to the formation of suns (stars), planets, and galaxies.
- Guru Nanak has declared, ‘God is Nature’. Spinoza also wrote “Deus sive Natura” (“God or Nature”) and Einstein said he believes in

Spinoza’s God about 140 and 390 years, respectively, after the demise of Guru Nanak.

- Therefore, the God of Guru Nanak is ‘Pantheistic’ although in the AGGS the God is accepted both ‘Pantheistic’ as well as ‘Panentheistic’.
- The origin of Pani Tatt from ਸੁੰਨ (Sunn) and the formation of celestial bodies (stars/suns, planets, galaxies) and human bodies by them during the discussion of ਸੁੰਨ (Sunn), the Panj Tatt of Guru Nanak, the Natural Philosopher, could be considered comparable to modern five elements - Carbon, Hydrogen, Oxygen, Nitrogen and Phosphorus – the basic plus. Therefore, the Panj tatt when mentioned by Guru Nanak are different from the ancient Panj Tatt (air, earth, fire, water, and sky) which were discarded by Antoine Lavoisier and his associates and reported about 55 real elements. Now there are 118 elements in the periodic table.

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