

# GURBANI, SCIENCE, AND SOUL

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## ABSTRACT

*All religions believe in the existence of SOUL in human body. Sikhism considers SOUL (atma) to be part of UNIVERSAL SOUL (parmatma), which is GOD. While all religions admit the existence of soul, but they differ in what happens after death. Sikh and Hindu concept of soul revolves around transmigration and reincarnation. Muslims and Christians believe in the Day of Judgment when its fate will be decided. All the followers have faith in their religions but if we believe in one and the same God (as Sikhs do), then both views cannot represent the truth that God made two types of souls. It's time for scientific evaluation to form a logical opinion. The concept of soul/God is explained using scientific logic and the theory that the entire universe is energy. According to law of thermodynamics, this energy can neither be created nor be destroyed. Everything in the universe came from this 'Energy' and will go back to this 'Energy' (because energy can convert into matter and matter can convert into energy). 'Everything' means all matter including human beings and all other beings. It is concluded that scientific concept enhances our understanding of religion, and is not about damaging a religious faith or creating a new religion, sect or movement.*

## DISCUSSION

### Faith and Science

**F**or an enlightened mind there is no conflict between science and religion/spirituality. In fact science strengthens our faith by providing eyes. Without science, we have faithfuls who believe that bacteria and viruses from holy places (Ganges, *sarovar*) are less infectious. They also believe that Guru Sahib performed miracles of attaching separated heads to the bodies of *panj piaras* (Abu Terani cited by G.S. Kulim in Sikh Diaspora Digest 1154 Message 10, 2004). Einstein was not out of order when he said:  
*Religion without science is blind.  
Science without religion is lame.*

We need knowledge of science to understand religion for spiritual growth, the real purpose of any religion.

Whether scientist or not we should be able to recognize that science is a modern tool, whether for modern conveniences, or to understand the nature, or to understand Gurbani and soul. The conflict is nothing more than religious ego of insecure followers in the name of faith. Science improves our understanding when something is discovered. It is not there to change anything. In this very elementary example, science has proved that earth is round, but there was and perhaps still is "flat earth society" who does not believe in science's proof that earth is round. And science has no purpose of changing their (flat earth believers) mind, if they do not want to. So any fear of science changing the Gurbani philosophy is unfounded. In fact, science may improve

our understanding of Gurbani incorporated in the Aad Guru Granth Sahib (AGGS) [1] making it a universal scripture in the modern era of science and technology.

In this age of science and technology, we cannot ignore scientific impact on religion. I tend to believe what Geneticist Dean Hamer of Harvard said in his recent book [3] "God Gene" that spirituality is in our nature (genetic-DNA: probably involving many different genes), which is nurtured by proper environment. Whether we admit it or not, science and technology has become a modern day religion although it is perceived as enemy of religion by many theologians. Today, the risk and damage to religion is only when scientific logic breaks myths. Surveys show that more than 95 percent of Americans believe in God, while 90 percent meditate or pray [3]. However, church attendance has been declining in the United States ever since the 1950s. More and more people feel that churches place too much emphasis on organization [rituals] and not enough on spirituality. As noted in one Gallup poll, "believing is becoming increasingly divorced from belonging."

Sikh philosophy interpreted in the real perspective is an exception. The simple facts such as creator and creation are not separate:

**ਖਾਲਿਕੁ ਖਲਕ ਖਲਕ ਮਹਿ ਖਾਲਿਕੁ ॥**

AGGS, Kabir, p 1350.

*The Creation is in the Creator, and the Creator is in the Creation.*

And there is no immaculate conception:

ਜੈਸੇ ਮਾਤ ਪਿਤਾ ਬਿਨੁ ਬਾਲੁ ਨ ਹੋਈ ॥

AGGS, Kabir, p 872.

*Without a mother and a father there is no child.*

And no rising from the dead – resurrection:

ਕਬੀਰ ਮਾਨਸ ਜਨਮੁ ਦੁਲੀਭੁ ਹੈ ਹੋਇ ਨ ਬਾਰੈ ਬਾਰ ॥

AGGS, Kabir, p 1366.

Kabir: *Precious human existence does not just come over and over again.*

The above phrases make it scientific and have no problem with science.

Science and religion have traditionally been treated like oil and water - they do not mix. The reason for this polarization is embedded in the idea that religion is a form of subjective fundamental belief whereas science is objective verifiable phenomenon.

In existence observe, and see how polar opposites are functioning together, hand in hand, as complementary. That has not been done yet for science and religion. The East has lived religiously - that is one pole - and because it has lived religiously it has not been able to produce good science.

The West has lived scientifically, and because of its science it has lost track of religion and spirituality. Now for the first time in this Space Age and Internet, the East is no more East and the West is no more West. The earth is becoming one: the earth is becoming one global village. This is the time when the reconciliation between science and religion can be seen, can be understood. (*Editor: This may be the reason that India is now producing many scientists in these days.*)

Humanity is entering into a new phase; a new consciousness is to dawn. There have been Buddhas and there have been Albert Einsteins, but we are still waiting for a Buddha who is also an Albert Einstein or an Albert Einstein who is also a Buddha. In his last days Albert Einstein, however was very interested in spirituality and religion. Nanakian Philosophy put in proper perspective is quite scientific and logical.

Rather than underscoring the conflict between religion and science and point to their mutual exclusivity, we need to unravel the strands in both and see the extent to which one augments the other.

Attaining scientific knowledge is not about damaging a religious faith or creating a new religion, sect or movement, but in fact is about understanding and loving every religion. The understanding of science, religion, and spirituality can fulfill our scientific as well as spiritual needs in this modern era of science and

technology. We need scientists from various fields such as biologists, microbiologists, geneticists, molecular biologists, biotechnologists, and biochemists to interpret Gurbani. We can no more depend on theologians to do justice, if we want to understand our scriptures in the real perspective.

*"The significance and joy in my science comes in those occasional moments of discovering something new and saying to myself, 'So that's how God did it.' My goal is to understand a little corner of God's plan."* -- Henry Schaefer, Professor and Director of the Center for Computational Quantum Chemistry

It does not do a justice when we challenge science by taking few science courses or none at all. For example, to relate the concept of "Soul/DNA/energy..." with Gurbani is lot more complicated than many of us assume. It's a simple fact that just to master (not completely) one discipline of science takes almost lifetime commitment. And we have so many specialties and sub-specialties in science related fields. It is no more physics, chemistry, biology or just medicine and technology - there are hundreds if not thousands of specialties. One of the exciting disciplines is to analyze mind-body connection in terms of emotions and changes in body chemistry and physiology. To understand science is lifetime commitment. It is unfortunate that someone with no science background blindly starts challenging use of science in Gurbani. I am not sure if the same applies to theology. We do not need theology courses to recognize our spirituality.

It's the balance between material, psychological, and spiritual dimensions that make a wholesome life, and this union brings feelings of comfort and security. However, this unified perspective cannot be forced on anyone until his or her consciousness is prepared to accept it.

### **The Concept of Soul and Its Relationship with God**

All religions believe in the existence of soul, and Sikhism considers SOUL (*atma*) to be part of UNIVERSAL SOUL, which is GOD (*Parmatma*):

ਆਤਮ ਮਹਿ ਰਾਮੁ ਰਾਮ ਮਹਿ ਆਤਮੁ

AGGS, M 1, p 1153.

*God is in the Soul and the Soul is in the God.*

The same concept is repeated at various pages of the AGGS. For example:

ਆਤਮ ਦੇਉ ਦੇਉ ਹੈ ਆਤਮੁ ਰਸਿ ਲਾਗੈ ਪੂਜ ਕਰੀਜੈ ॥

AGGS, M 4, p 1325.

*The soul is divine; divine is the soul. Worship Him with love.*

ਆਤਮ ਰਾਮੁ ਰਾਮੁ ਹੈ ਆਤਮ ਹਰਿ ਪਾਈਐ ਸਬਦਿ ਵੀਚਾਰਾ ਹੇ ॥

AGGS, M 1, p 1030.

*The soul is the Lord, and the Lord is the soul; contemplating the Sabd, the Lord is found.*

### Concept of God and Soul

We can have scientific explanation to the concept of Soul - God (*atma-parmatma*) (individual soul as part of universal soul) from Gurbani.

God and Soul is explained by Guru Nanak as the '*Jyot*', which is scientifically 'Energy'. Scientifically everything in this universe came from this 'Energy' and will go back to this 'Energy'. 'Everything' means all matter including human beings and all other beings. Guru Nanak still goes further that this 'Energy' came from 'Sun'. The 'Sun' means 'Nothingness' and 'Nothingness' means 'Everything'.

A universal mind or one mind or one God of which we are part of is universal energy, because "the universe is all energy and the energy is all universe." Albert Einstein discovered: the energy can convert into matter and matter can convert into energy. The basic units: atoms and subatomic particles - that form molecules, and cells, and tissues, and organs, and individuals, are our common origin. The atoms and subatomic charged particles do not grow old and are ageless and timeless. We can call these basic units of matter as soul (*atma*) created from the energy of the universe (*parmatma*) - the two are inter-convertible and represent *atma-parmatma*. The atoms in a child or a seedling are no younger than that of a wrinkled person or a yellowing leaf. That is why we can say that soul is eternal and never ages or dies, if we choose to say so.

It's only when we look at life in a specific form, we fall victims to our separation from rest of things. That separation is called the ego. (See article of Dr Chandan on EGO on pages 39, 42-46.). The ego is a false self that we made up to compete with God based on the thought that we are separate. That iron curtain of selfish ego separates us from Universal Spirit/Universal Energy or God. Once we accept the God within and realize that it's not possible to be separate from God and that we are one with God, then we know that we are love and we are peace and we are joy and we are happiness and we are eternal.

Here's what Guru Nanak Says:

**ਆਤਮਾ ਪਰਾਤਮਾ ਏਕੋ ਕਰੈ॥**

**ਅੰਤਰ ਕੀ ਦੁਬਿਧਾ ਅੰਤਰਿ ਮਰੈ ॥**

AGGS, M 1, p 661.

*Whose soul and the Supreme Soul (God) become one; the duality of the inner mind disappears.*

We are all part of one indivisible divine mind or the universal mind or Universal Energy or God. Our individual mind or soul (*atma*) is divine image of

supreme (or *Parmatma*), but we have to recognize it:

**ਮਨ ਤੂੰ ਜੋਤਿ ਸਰੂਪੁ ਹੈ ਆਪਣਾ ਮੂਲੁ ਪਛਾਣੁ ॥**

AGGS, M ?, p 441.

*O my soul/mind you're the image of Divine light; so know your source.*

And the same mind or one mind is the same as one God.

While all religions admit the existence of soul, but they differ in what happens after death. Sikh and Hindu concept of soul revolves around transmigration and reincarnation. Muslims and Christians believe in the Day of Judgment when its fate will be decided.

Therefore, the soul of Muslims and Christians is locked in the grave of a person waiting the Day of Judgment when its fate will be decided, whereas the soul of a Sikh and Hindu who believes in transmigration is immediately released after funeral so that its ready to enter into another body.

### The question is:

Will God (One and the same God for entire humanity, as the Sikhs believe) make two types of souls one for Hindus and Sikhs and other for Muslims and Christians?

Therefore, it is time for scientific evaluation to form a logical opinion, one way or another.

### Soul, Science, and Concept of Energy

Science can explain soul (*atma*) and God/Universal soul (*parmatma*) in terms of energy.

Discovery about the basic concept of energy has shown that all matter is convertible into energy and vice versa. So every thing is nothing but manifestation of energy. Any kind of matter can change or be destroyed but the energy, according to law of thermodynamics, can neither be destroyed nor be created (*ajooni\**). This is also called the law of conservation of energy. This energy can be considered the Highest of All or the Divine Force or the Almighty God? It's this creative energy that created every thing from almost nothing in a very methodical and organized way: consciousness, intelligence, love, beauty, happiness, organization of all living things from atoms to molecules to cells to complex organisms. Accepting the Energy of the Universe as the Doer Force (or Creator/ *karta purkh\**) is accepting the scientific basis of soul.

The individual soul is part of universal soul/energy created from charged particles (electrons, protons, neutron) to atoms to molecules to cells to complex organisms. The soul is part of mind that is associated with our consciousness.

Consciousness means awareness. The consciousness is

not existing by itself as many people think, rather it is one of the most important aspects of energy itself [2]. Living organisms can only reveal it where nervous system connected to senses is present. Our five senses (sight, smell, taste, hearing, touch) can work only in the presence of consciousness. A conscious person is aware of himself and his environment, whereas, an unconscious person is totally cut off from the world. A person in coma even though living, is like living without consciousness. Our conscious mind while awake can see the world around but the same mind during deep sleep becomes completely unaware of any thing. Our life will have no meaning in the absence of consciousness because the five senses linking us with the environment become functionless. Consciousness is not limited to humans. It is a part of all types of life wherever with and without the presence of nervous system connected to senses.

The big question here is that where does the consciousness come from? Does the offspring get it from the parent/s or it comes from the environment? The only link between an offspring and parent is chemical material, chiefly DNA. Does the DNA have consciousness? The DNA itself contains a very small amount of conscious energy as chemical energy and DNA is not a conscious molecule from the standpoint of a conscious mind. But it's DNA that carries all the characteristics of living system from the parents to offspring. Consciousness is realized when the nervous system is fully functioning.

Let us focus on the living forms in which the nervous system is well developed. For the source of consciousness, the fully developed wiring system of the nervous system gets connected to the consciousness, which is an important part or property of energy within the living system and the environment or the universe around. The amount of received consciousness is according to the capacity of a particular nervous system in humans or animal life forms. Consciousness in the Universe is like an audio or audiovisual program ready to be received by a functioning radio or TV - whenever we turn them on. Similarly, the nervous system is turned on during the wake cycle when it becomes functional, while it is cut off during the deep sleep cycle by built in mechanisms under the control of full consciousness prevailing in a non-cessation manner. The full consciousness is fully alert continuously even when the conscious mind is fast asleep. The whole body functioning is governed by intelligence of energy under its full consciousness continuously, with absolutely no pause. The mind is all natural consciousness of energy. The energy is everywhere, so is the consciousness because it is one of the properties of energy. Only a very small portion of the mind is conscious mind

connected to our five senses. The rest is all subconscious or unconscious mind or we can call it the greater consciousness or the Kingdom of God or SOUL. The latter is not experienced by the conscious mind, which may think it is not there. The conscious mind is not completely out of touch with the Soul, because it keeps on receiving guidance to keep it on right course of actions. The greater consciousness is fully approachable. We are using when we are awake, only a limited amount of consciousness from a pool of much bigger and higher consciousness.

Our wakefulness, therefore, is only a partial opening with large potential still remaining. The real wakefulness will be if we expand our conscious mind into the full consciousness of the subconscious mind and become awake to the full. This is also called "*Surati*" or the realization of the highest of all or enlightenment. The whole universe is all consciousness, because it is all energy. The most important part of the conscious mind is the Attention or "*Dhyan*". To whatever thing we pay our attention we remember that, and from whatever thing the attention is withdrawn, we forget that. This is the most valuable tool of the conscious mind to expand wakefulness, but it is being lost into worldly things or what we call an attachment to material world, depriving it of the real opportunity of merging with the Highest of All or Divine Force to see through and enjoy every thing in the whole universe, as many of the religious prophets have suggested us. We may have to divert our attention from outward to inward to experience and know the Almighty we call God.

Love, intelligence, beauty, happiness... are all other aspect of the energy depicted in humans and some animal life. But these are realized only in the presence of consciousness.

The basic units of life (electrons, protons, neutrons, atoms, molecules) do not die but change form and rearrange themselves. So we can say soul (part of energy of the universe) never dies but body does, if we choose to say so.

*"The Soul can never be cut to pieces by any weapon, nor burned by fire, nor moistened by water, nor withered by the wind."* Bhagvad Geeta

Guru Nanak means essentially the same:

ਨਾ ਜੀਉ ਮਰੈ ਨ ਡੁਬੈ ਤਰੈ॥

AGGS, M 1, p 151.

*Soul does not die; it does not drown or swim across.*

In conclusion, the charged particles (electrons, protons, neutrons), atoms, molecules, which are basic units of creation including human body and Soul (*atma*) are

created from and end up with the universal energy (*parmatma*) that we have explained above as divine force or highest of all or Lord of the Universe or almighty God. Therefore, a universal mind or one mind or one God of which we are part of is universal energy/energy of the universe, because "the universe is all energy and the energy is all universe."

### Soul Transmigration

As discussed above the Sikh's and the Hindu's concept of soul revolves around transmigration and reincarnation. Muslims and Christians believe in the Day of Judgment when its fate will be decided. There has not been any Judgment Day for over 2000 years of Christianity and nobody knows when will it happen. And those who believe in transmigration, we don't know when and where their soul enters into another body of what species. Again it is time for scientific evaluation to form a logical opinion, one way or another.

Prof Chahal (Sikh Diaspora Digest 1369 Message 5, 2004) has provided a scientific concept on transmigration: "The child have all the dominating and midway between characters of both the parents. It means the DNAs (SOULS) of both the parents have been duplicated and they have been transmigrated into a new life while the parents are still alive."

Buddhists believe spirituality is determined by chromosomes (that contain DNA) from your mother and father.

We can take this concept a step further that what one sows so does one reap:

ਆਪੇ ਬੀਜਿ ਆਪੇ ਹੀ ਖਾਹੁ ॥

AGGS, Jap 20, p 4.

*What you sow so shall you reap.*

The good deeds parents do in this life to be good role models or bad role models is the reward or suffering they earn in this life for next life (children). If parents are criminals, they pay through their children as bad deed. On the other hand if they are good parents and some times even sacrifice their life to raise children properly, they are rewarded through children as good deed.

I concur with Khushwant Singh [4] that "the real test of the worth of any religious system is how much of what its founders said can stand up to the challenges of present day scientific, social and psychiatric advancement." We, who try to bring in science, are not here to challenge anyone's faith but sincerely believe that Nanakian Philosophy embodied in his Bani if interpreted in its real perspective, will survive forever as 'Eternal Truth'.

So any fear of science changing Nanakian Philosophy is

unfounded. It certainly has a potential to improve our interpretation and understanding. The fact is, it was scientific findings by Herbert Benson of Harvard Med School that made Mahesh Yogi, the popular Meditation Guru, a well-known world figure and meditation a household name in the west. I will not be surprised if Nanakian Philosophy enshrined in the Bani of Guru Nanak incorporated in the AGGS presented in a scientific way makes it the best spiritual scripture for the entire humanity.

### CONCLUSIONS

- All religions believe in the existence of SOUL in human body. Sikhism considers SOUL (*atma*) to be part of UNIVERSAL SOUL (*parmatma*) which is GOD. Science explains the same concept in terms of energy of the universe.
- Characteristics of God defined by Gurbani and by the concept of energy are more similar than different. Energy of the Universe is the Doer Force or Creator/*karta purkh*\*. And according to law of thermodynamics, this energy can neither be destroyed nor be created (*ajooni*\*). This is also called the law of conservation of energy. We can refer to this Divine Power as **He, Him or His. He is Universal God (The Energy of the Universe), the Supreme Being or the Lord of the Universe.**
- He (Energy of the Universe) is everywhere in all forms as well as formlessness (*sargun* as well as *nirgun*). All matter and all space is Him (energy). He has been and will be there forever (*akal murat*\*). He creates, maintains and destroys any thing. He is Life. He is Self Creating (*saebhang*\*).
- Energy is creator and matter created from energy is creation including humans and their souls. Therefore, creator/creation or energy/matter are interconvertible. Gurbani says the same that creator and creation are not separate.
- Soul/ DNA/Energy/Mother Nature's universal laws/ God are different representations of the same concept in view of scientific logic.

All matter is a form created from formless Energy, i.e., Him/God/Creator. His creativity is infinite and His method of self-creativity is a real wonder when we look at the creation and growth of living organisms. A scientist cannot deny the feeling of being startled at Nature's absolutely phenomenal and the most intelligent work of self-creation into all the complicated life forms

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including a human being through a greatly thoughtful and organized manner. And that's why Albert Einstein said: "God does not play dice with the world."

We have tried to provide alternate views using science and logic to questions that were perceived to be confusing and contradictory varying from faith to faith. We hope these will be more acceptable to our next generation of science and technology. Have we settled the discussion on soul? Not likely, even though we have learned a lot about soul in this discussion.

### REFERENCES

1. AGGS = Aad Guru Granth Sahib. 1983 (reprint). Publishers: Shiromani Gurdwara Parbandhak Committee, Amritsar. (M = Mahala, i.e., succession number of Sikh Gurus to the House of Guru Nanak, P = page number of the AGGS. M is replaced with the name of Bhagat or Bhatt).
2. Dhillon, S.S. 004. Science, religion, and spirituality: In Search of God. Unpublished Manuscript.
3. Hamer, Dean. 2004. "The God Gene." Random House/Doubleday, New York.
4. Khushwant Singh. 1968. 'Guru Nanak Lectures' delivered by the author at the University of Madras in 1968.

\*From Commencing Verse (Manglacharan or Moolmantra): AGGS, Manglacharan, p 1.

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## NATURAL RESOURCES

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ਪਵਣੁ ਗੁਰੂ ਪਾਣੀ ਪਿਤਾ ਮਾਤਾ ਧਰਤਿ ਮਹਤੁ ॥  
 ਦਿਵਸੁ ਰਾਤਿ ਦੁਇ ਦਾਈ ਦਾਇਆ ਖੇਲੈ ਸਗਲ ਜਗਤੁ ॥  
 ਚੰਗਿਆਈਆ ਬੁਰਿਆਈਆ ਵਾਚੈ ਧਰਮੁ ਹਦੂਰਿ ॥  
 ਕਰਮੀ ਆਪੋ ਆਪਣੀ ਕੇ ਨੇੜੈ ਕੇ ਦੂਰਿ ॥  
 ਜਿਨੀ ਨਾਮੁ ਧਿਆਇਆ ਗਏ ਮਸਕਤਿ ਘਾਲਿ ॥  
 ਨਾਨਕ ਤੇ ਮੁਖ ਉਜਲੇ ਕੇਤੀ ਛੁਟੀ ਨਾਲਿ ॥ ੧ ॥

AGGS, Jap, p 8.

*"The air is as the Guru, water as the father, the great earth as the mother.*

*Days and nights are as the nurses in whose laps the whole humanity lives (play).*

*Our good and bad deeds are evaluated according to the Laws of the Nature.*

*It is only your deeds on which bases you will be judged to be near to or far from the Almighty.*

*Those, who comprehend / contemplate on the Almighty get rid of their difficulties." [9]*

Interpretation from: Chahal, DS (2003) "JAP: The Essence of Nankian Philosophy" IUS Publication.