

## Science — Religion Dialogue: A Sikh Perspective

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### Abstract

*Science and religion are based on different aspects of human experience. Science is a way of knowing and understanding the natural world, using empirical evidence and testable explanations. Religious faith does not depend only on empirical evidence and typically involves supernatural forces or entities. Thus, science and religion are separate and address the aspects of human understanding in different ways. The dialogue between science and religion is productive from a theological point of view since the world-environment in which the theologians live is most productively studied by the sciences. The Sikh teachings, as recorded in Sri Guru Granth Sahib (SGGS), not only recognize a relationship between religion and science, logic and culture, it describes them to be interdependent. Sikh doctrines enunciate that the pursuits of learning about the cosmos by science and religion are not confrontational but complementary. Sikh precepts stress that the key to creating syncretism between*

*science and religion is to cultivate a spirit of humility among scientists, theologians, faith practitioners, and clerics in front of Infinite Wisdom (Creator).*

### Introduction

The term “science” as it is currently used, became common only in the nineteenth century [1]. Before this, what we call “science” was referred to as “natural philosophy” or “experimental philosophy.” William Whewell [2] standardized the term “scientist” to refer to practitioners of diverse natural philosophies. Philosophers of science have attempted to demarcate science from other knowledge-seeking endeavors, in a particular religion.

Before the nineteenth century, the term “religion” was also rarely used [1]. For medieval authors, such as Aquinas, the term religio meant piety or worship [3]. The term “religion” obtained its considerably broader current meaning through the works of early anthropologists, such as E.B. Tylor [4], who systematically used the term for religions across the world.

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One way to distinguish between science and religion is the claim that science concerns the natural world, whereas religion concerns both the natural and the supernatural [1]. Scientific explanations do not appeal to supernatural entities such as gods, demi-gods, or angels, or non-natural forces (like miracles, *karma*, or *Qi*). For example, neuroscientists typically explain our thoughts in terms of brain states, not by reference to an immaterial soul or spirit. The view that science can be demarcated from religion in its methodological naturalism is more commonly accepted.

#### **Relationship and Why do we need it?**

The relationship between religion and science is the subject of continued debate in philosophy and theology [5]. To what extent are religion and science compatible? Are religious beliefs sometimes conducive to science, or do they inevitably pose obstacles to scientific inquiry? The interdisciplinary field of “science and religion”, also called “theology and science”, aims to answer these and other questions. It studies historical and contemporary interactions between these fields and provides philosophical analyses of how they interrelate. Since the 1960s, scholars in theology, philosophy, history, and the sciences have studied the relationship between science and religion.

For most people, admittedly, religion [6-7] is largely a matter of the heart. It consists of relationships: vertical ones with their prophets/Gods, Gurus, and saints; horizontal ones with fellow beings. The ordinary practice of faith is equally relational, for example, social interactions after listening to the discourse. For most of them, the doctrine may be little more than the background, requiring scant conscious attention. Affective adherents may feel indistinctive that “God is love” is a sufficient basis for belief and motivation for behavior. One achieves holiness by worshipping, observing religious laws and rituals, doing good, and living virtuously. However, sinful one may be, there is always the chance, through repentance, of returning warmly to grace.

That religious sensibility is not sufficient for those who seek a faith that makes sense. They are not attracted by miracles or rituals. They are generally horrified by literalism, recognizing the role that sacrament, symbol, and metaphor play in conveying religious truth. They need a creed that does not seem to contradict what they believe to be true on non-religious grounds. The very first beginning of any religion depends on the acceptance of the existence or absence of supernatural power (God). Most of the adherents want to be assured that faith is not a blind leap into the dark but an act fully

consonant with reason. The wisdom gained from the dialogue between science and religion helps make that leap of faith as confident as possible. It enables thoughtful believers to inhabit an integrated universe.

The science and religion dialogue is most important as it helps prepare the adherents of a religion to hear the message in ways compatible with their understanding of reality, conditioned as it is by science. While such a dialogue lowers intellectual barriers between religious adherents and scientists, it benefits ordinary citizens even more. Belief in science is automatic in most human cultures. A good percentage of people believe reflexively that science offers an accurate, if limited, account of the way things are. They can hardly doubt it. All our 21st-century technological marvels are based on solid knowledge obtained by the scientific method. Many adherents are less certain that their religion is similarly in touch with reality. Dialogue between science and religion can help assuage their doubts, clearing away obstacles to a vital faith. It can also make that faith more reasonable for those who may be considering joining a religion.

### **Systematic Study**

The systematic study of science and religion started in the 1960s [1, 5], with authors such as Ian Barbour [8] and Thomas F. Torrance [9] who challenged the

prevailing view that science and religion were either at war or indifferent to each other. *Zygon*, the first specialist journal on science and religion, was also founded in 1966. The early study of science and religion focused on methodological issues. The authors from the late 1980s to the 2000s developed contextual approaches, including detailed historical examinations of the relationship between science and religion

### **Models of the Interaction:**

Several typologies characterize the interaction between science and religion. The most influential model of the relationship between science and religion remains Barbour's: conflict, independence, dialogue, and integration [10-11].

#### **(i) The Conflict Model**

With the loud protests of a small number of religious groups over teaching scientific concepts like evolution and the Big Bang in public schools, and the equally loud proclamations of a few scientists with personal, anti-religious philosophies, it can sometimes seem as though science and religion are at war. The Conflict model is based on the assumption that if science is right, religion is wrong or vice versa. The conflict model, which holds that science and religion are in perpetual and principal conflict, relies heavily on two historical narratives: the trial of Galileo [12] and the reception of Darwinism [13]. The vast majority of authors

in the science and religion field are critical of the conflict model and believe it is based on a shallow and partisan reading of the historical record.

### (ii) The Independence Model

Brother Marie-Victorin [11] said in the middle of the 1920s that we need to “let religion and science travel on parallel paths, towards their own goals” and not get bogged down in attempts to find harmony at all costs between religious beliefs and scientific discoveries.” The idea was a consensus in the scientific world until recently. Stephen Jay Gould [14] developed an influential independence model with his “*Non-Overlapping Magisteria*” (NOMA) principle. The independence model holds that science and religion explore separate domains that ask distinct questions.

Stephen Jay Gould identified science’s areas of expertise as empirical questions about the constitution of the universe and religion’s domains of expertise as ethical values and spiritual meaning. According to him, religious leaders should refrain from making factual claims about, for instance, evolutionary theory, just as scientists should not claim insight on moral matters. Gould [14] held that there might be interactions at the borders of each magisterium, such as our responsibility toward other creatures. One obvious problem with the independence model is that if religion were barred from

making any statement of fact it would be difficult to justify the claims of values and ethics, e.g., one could not argue that one should love one’s neighbour because it pleases the creator [15].

### (iii) The Dialogue Model

The dialogue model [10] proposes a mutualistic relationship between science and religion. It assumes that there is common ground between both fields, perhaps in their presuppositions, methods, and concepts. For example, the Christian doctrine of creation may have encouraged science by assuming that creation (being the product of a designer) is both intelligible and orderly, so one can expect some laws can be discovered. Creation, as a product of God’s free actions, is also contingent, so the laws of nature cannot be learned through *a priori* thinking, which prompts the need for empirical investigation. According to Barbour [10], both scientific and theological inquiries are theory-dependent, rely on metaphors and models, and value coherence, comprehensiveness, and fruitfulness. In dialogue, the fields remain separate, but they talk to each other, using common methods, concepts, and presuppositions.

### (iv) The Integration Model:

The integration model is more extensive in its unification of science and theology. Barbour [10] identifies three forms

of integration. The first is *natural theology*, which formulates arguments for the existence and attributes of God. It uses the results of the natural sciences as premises in its arguments. For instance, the supposition that the universe has a temporal origin features in contemporary cosmological arguments for the existence of God. The second, *theology of nature* starts not from science but a religious framework and examines how this can enrich or even revise the findings of the sciences. Thirdly, Barbour believed that *Whitehead's process philosophy* [16] was a promising way to integrate science and religion. While integration seems attractive (especially to theologians), it is difficult to do justice to both the scientific and religious aspects of a given domain, especially given their complexities. The integration seems skewed towards theism as Barbour [10] described arguments based on scientific results that support (but do not demonstrate) theism, but failed to discuss arguments based on scientific results that support (but do not demonstrate) the denial of theism.

In the contemporary public sphere, the most prominent interaction between science and religion concerns evolutionary theory and creationism/Intelligent Design. In recent decades, Church leaders have issued conciliatory public statements on

evolutionary theory [5]. For the past fifty years, science and religion have been de facto Western science and Christianity [1]. The field of science and religion has only recently turned to an examination of non-Christian traditions, such as Judaism, Hinduism, Buddhism, and Islam, providing a richer picture of interaction [1].

### **A Perspective from Sikhism**

According to the popular narrative [17] on the relationship between science and religion, we are constantly told that they are in conflict and have little in common. Yet there was much to tease out together in terms of big questions about human origins, purpose, and destiny.

When it comes to science, the Sikh clergy/theologians completely ignored it, as their educational handicaps did not permit interference, as others did [18]. However, there are some exceptions such as Professor Puran Singh [19] and Raghbir Singh Bir [18]. It leads to the impression that Sikh clergy / theologians have left the conversation or were never properly there to start with. This frustrates those of us in both camps who seek better engagement, and indeed, the perception of the conflict itself can become a self-fulfilling prophecy.

When a group of young students in Canada was interviewed about their

understanding of the Science–Sikhism relationship, a clear majority spoke of a desire to see it defined positively. They applauded scientific endeavour. But they experienced frustration by the task of engaging seriously with religion against the backdrop of a popular narrative of science–faith conflict that pervades contemporary culture.

Meanwhile, the ‘trickle-down’ effect of this popular narrative makes ordinary Sikhs feel unqualified to participate in important public discussions on topics ranging from: What would it mean for belief in God and the story and themes of Sikh faith about the origin and evolution of the Universe? When did it all begin? Where is the Universe heading, and what does that tell us about human purpose and destiny? What if there were multiverses? What does the Sikh faith reveal about free will and consciousness, climate change and sustainability, artificial intelligence and trans-humanism, human cloning and medical ethics, food fads, and response to *LGBTIQ* people?

Despite what the popular narrative might have Sikh scientists believe, there is a genuine hunger in the Sikh community to address the questions that contemporary research asks of their religious beliefs. Our current initiative expresses the conviction that science and theology, at the Gurdwara,

and community level, can illuminate one another to the benefit of all.

### Science and Sikhism

In the last two decades, several Sikh scientists and theologians [18-51] have successfully attempted to determine the interrelationships between Sikh religion and science. Based on their narrative, analytical analysis of the inter-relationship between science and Sikh religion is reported hereafter.

Narinder Singh Kapany [20] delineates that “the Sikh Gurus, through the Guru Granth Sahib, have laid the foundation to bring the concepts of all technical and non-technical fields, including science, into the same domain as morality and spirituality.”

Bhai Harbans Lal [18] enunciates that “Science refers to a system of acquiring knowledge of nature and its creations. ....Perhaps the most general purpose of science is to produce constructive and pragmatic models of reality. ....the Guru Granth views the Nature and the study of its reality as a religious goal. There is no distinction made between a scientist and a theologian. With the required educational training, a scientist may also become a theologian and vice versa. They both seek reality in their own way, and there is an affirmative relationship between them.” He further emphasizes that “it is more

productive to say that religion and science are about the same domain, namely the human experience of the Truth, natural or supernatural. To search for truth by every means is the gist of the religion according to Guru Nanak:

ਏਕੇ ਧਰਮੁ ਦਿੜੈ ਸਚੁ ਕੋਈ ॥

*To grasp the Truth is the only religion (Dharma).* (SGGS, M.1, p. 1188)

I. J. Singh [21] reports that “there is minimal if any inconsistency between the steady march of science and the very clear logical worldview of Sikh teaching..... Science and religion remain two sides of the same true coin of reality. How can one side have any value without the other; how can one diminish the other?”

In his works, *Harmony in Science and Sikh Religion (2012)*, and *Scientific Vision in Sri Guru Granth Sahib & Interfaith Dialogue (2007)*, Hardev Singh Virk [22-23] articulates that “the spiritual/mystical vision in SGGS is compatible with modern science in its approach to cosmology, nature of reality, origin and evolution of life, the relation of the microcosm to macrocosm and consciousness.”

Nikky-Guninder Kaur Singh [24] reports, “as we apply the empirical data of our Milky Way galaxy with its hundred billion stars and the scientific observations regarding billions of other galaxies, we

really begin to visualize what Guru Nanak meant, and thereby gain a fuller understanding and appreciation of his verse. The scientific adventure, its observations, and factual data do not clash with Sikh sacred scripture; they reveal its intrinsic vigor, its far-reaching insights, and its contemporary relevance. .... Science and religion are not polarized in the Sikh text: the grandeur of secular scientific discoveries reveals the absolute magnificence and power of the sacred.”

In his book *Nanakian Philosophy: Basics for Humanity (2008)*, Devinder Singh Chahal argues [25] that “Guru Nanak propounded original and unique philosophy which can stand the test of scientific scrutiny. Nanakian philosophy is perennial and universal and most suitable for the humanity of the Current Science Age.” He further points out that the answers to the vital questions such as the concept of God, the creation of the universe, the origin of life, the reality of death, the immortality of the soul, etc., as given by Nanakian Philosophy, are in consonance with the discoveries of modern science. But he laments the fact that “Conflicts between religion and science are not only common in other religions but are happening in Sikhism too. ....any researcher who finds anything which goes against the concept of the so-called authority on Sikhism is

either declared as an atheist or anti-Sikh or is condemned by the opposition groups or excommunicated from Sikhism.”

In this context, Bhai Harbans Lal [18] enunciates that “...The Sikh scientists mostly remained humble before the Guru Granth Sahib and refrained from speaking out. It is only recently when the age of the internet made its debut that limited conflict began to disrupt our peaceful society. Still, it is bare minimum compared to the challenging debates seen in many other societies”.

Gurmel Singh Kandola [26] proclaims that “It should be understood that the Sikh Gurus were not scientists nor trained in scientific methods. Yet, they provided tremendous insights into the workings of the natural and physical world. They have remarkably stated their ideas in a language that not only satisfies religious quest but also proves true on the touchstone of science. Sikhism is scientific and consistently challenges the illogical and superstitious beliefs.”

In his book *Sikh Religion and Science* (2003), Gurbachan Singh Sidhu [27] opines that “Sikhism and science are not incompatible but complementary. In many ways, science today is simply corroborating what the Sikh Gurus had said and recorded centuries ago ..... (Thus) Science and

Sikhism are not irreconcilable antagonists. Indeed discerning the close interrelation between Sikhism and science one can say that science and Sikhism can heartily embrace each other harmoniously and bring about all-round fulfillment of the human genius for the good of humanity.”

In his book *Scientific Vision of Guru Nanak* (2008), Dalvinder Singh Grewal [28-29] states that “Guru Nanak’s version appears to be unique, scientific, truthful and logical. He has explained the origin, development, and existence of the universe very vividly”.

Gajinder Singh [30] reports that “it must be born in mind that for human ambition and welfare, religion is as important as the progress in science, more so in recent times. To achieve a harmonious balance, science and religion should be working together, in mutual respectful trust and not at loggerheads with each other. .... Science, as we know it today, was not clearly defined in the times of the Gurus. It is, therefore, only hypothetical to suggest that Guru Nanak expounded theories of the cosmic origin of the universe in strictly scientific terms. He has repeatedly stated that the creator alone knows the facts of the origin of the Universe.

ਜਾ ਕਰਤਾ ਸਿਰਠੀ ਕਉ ਸਾਜੇ ਆਪੇ ਜਾਣੈ  
ਸੋਈ ॥



Only the Creator knows how the creation has come into being. (SGGS, M.1, p. 4) ....It is easy to cast aspersions and trade blame on spirituality in religion, whereas finding a synthesis of the scientific and the spiritual must need equal knowledge and experience of both streams.”

Gurbakhsh Singh [31] describes that “when it is stated that Sikhism is a scientific faith, it should be taken to imply that there is nothing unscientific (irrational, illogical) in its teachings, and not that it follows the basic principles of science.”

However, Tarlochan Singh Mahajan’s description [32] is diametrically opposite to that of Gajinder Singh and Gurbakhsh Singh when he reports that: “In Guru Granth Sahib, God has been identified with the ultimate Truth. It should not, therefore, come as a surprise that one finds in the Holy Guru Granth Sahib (several) hymns, which provide answers to certain fundamental questions about nature and the universe. What is surprising however is the uncanny precision with which many of these writings coincide with the present-day concepts of natural philosophy.”

Taking Tarlochan Singh Mahajan’s observation, one step further, Baldev Singh [33] proclaims, in his book *Gurmat-Guru Nanak’s Path of Enlightenment* (2015), that “All world religions describe ‘God’ in the context of supernaturalism, but in Guru

Nanak’s system, ‘God’ is strictly confined within the context and framework of naturalism. Because he expounds naturalism, he discards the entrenched beliefs in magic and miracles and discourages the magical thinking inherent among the followers of traditional religions by emphasizing reason and logical thinking in the understanding of God and life. For Guru Nanak, God is Truth and Knowledge (*Sabd*) is understandable through wisdom and discerning intellect (*bibek buddh*).”

Deliberating the ill effects of genetic manipulation of beings, Surjit Kaur Chahal [34] reports that “as per the Sikh tenets, the creation of the Lord is infinite and a Sikh dives into its unfathomed ocean by harmonizing with nature. One can explore the mysteries of the universe by exploring One’s mind as dictated by the Guru. A Sikh always cherishes to lead ahead and engage in scientific research for the benefit of mankind.” Thus she recommends the existence of a harmonious relationship between science and religion.

Supporting the idea of the integration of science and religion, Sukhraj Singh Dhillon [35] articulates, “Both science and religion are the attempt to share the experience of the infinite and inexpressible with our fellow travelers on this beautiful spaceship we call Earth. Science and religion are identical in purpose, but they are

opposite in method. In fact, one might almost say that science is religion without a heart, and religion is science without a head; two opposite approaches to the identical task: to express the inexpressible so that others may share it and experience spiritual life. The current evolutionary state of human consciousness is that these two are finally becoming one. Religion is giving its heart to science, and science has given its head to religion. The logic we use in religion is the head. The age of blind faith is over. The age of belief without knowledge died with the advent of instantaneous global information sharing. We have irrevocably entered the age of conscious knowledge, experience, and responsibility. The union of science and religion is now taking place.”

Pondering over the ongoing debate between science and religion, Avtar Singh [36] proclaims that, “Modern science, especially cosmology, is paralyzed with unsolved paradoxes (quantum gravity, dark matter, dark energy, and evolution of the universe, etc.) and singularities (Big Bang, black holes, etc.). Similarly, religion is paralyzed by the multiplicity of traditions and beliefs of different sects and ideologies. ....Sri Guru Granth Sahib reveals a common cause, paralyzing both the mainstream science and religion, and suggests a panacea to cure it.” Thereby, Avtar Singh boldly asserts for the fruitful

integration of the spheres of science and religion.

The author of the book “*Science and Sikhism - Conflict or Coherence*”, D. P. Singh [37] delineates: “Science and religion represent two great systems of human thought, both of these phenomena seek objective perceptions in their attempts to comprehend existence and reality. ....Both approaches are intellectual as well as empirical; in one case the confirmation of an idea is sought in the external experiment, while in other this confirmation is sought in internal experience. In both cases, we get metaphors of truth: either as scientific theories and explanations or as religious symbols and scriptures. .... For the material and spiritual progress of humankind, the coherence of these two forces is an urgent need of modern times”.

Thus, science and religion dialogue has received attention in the recent Sikh literature, and that probably will be important in the coming years. Recent work in this field has examined the implications of scientific research for the justification of religious beliefs. In the words of Sukhraj Singh Dhillon [35], “Science is not about knowing the mind of God; it is about understanding nature and the reasons for the things... Science can give us a glimpse into things - such as genetic code, the functioning of the human body and mind,

space, energy, etc. .... Science may not teach us about moral values and ethics. Science, however, can predict how human activity may change the climate and whether it would be good or bad..... The “battle” between science and religion is not as polarized as it seems? Unfortunately, the evidence of potential harmony is often overshadowed by the high decibel pronouncements of those who occupy the opposites poles of the debate..... The fact is: Science is the technology of knowing or understanding the essence of the Universe, and religion is the experience of one’s own identity with that essence. We must fundamentally understand that true religion is that experience.”

In the light of the above, one may say that the dialogue between science and religion is productive from a theological point of view since the world-environment in which the theologians live is most productively studied by the sciences. This dialogue can also be productive from a scientific point of view since it is possible to explore science non-scientifically but in a way that is acceptable to scientists. Searching for common ground for science and religion dialogue, it would be reasonable to maintain the position of realistic pragmatism. We must learn to obtain practically useful information about reality, first from the perspective of natural

sciences, and then from that of theology. Thus, we may diversify the ways of knowing and can move toward a productive dialogue between science and religion.

One fundamental attitude shared by Sikhism and science is the commitment to keep searching for reality by empirical means and to be willing to discard accepted or long-held positions if our search finds that the truth is different. SGGS enunciates:

**ਖੇਜਤ ਖੇਜਤ ਬਹੁ ਪਰਕਾਰੇ ਸਰਬ ਅਰਥ  
ਬੀਚਾਰੇ ॥** (SGGS, M. 5, p. 714)

*Continuously engaging in research in all possible manner, rationalize every opinion before accepting it.*

**ਖੇਜੀ ਉਪਜੇ ਬਾਦੀ ਬਿਨਸੈ....॥**

*As the spirit of inquiry grows, dogmas degenerate.* (SGGS, M. 1, p. 1255)

This kind of openness can make individuals receptive to fresh insights and discoveries, and when it is combined with the natural human quest for understanding, this stance can lead to a profound expansion of our horizons.

Keeping in view the glaring lack of connection between the ordinary account of reality by Sikh preachers/theologians and the scientific account, and the fact that a discrepancy between ordinary Sikh thinking and what science holds, does not invalidate any official teaching, creates the need for a satisfactory reconciliation. Thus it is

worthwhile to conclude that the religion and science dialogue as well as the inculcation of a harmonious relationship between these two complementary undertakings is a sine qua non for the attainment of everlasting peace, prosperity, and spiritual enlightenment of humankind.

### Conclusions

A productive dialogue between science and Sikh religion is possible, or more accurately, underway, but it should be openly acknowledged, and important questions and answers should be clearly formulated. Humankind already seems to

possess the means for achieving immediate and future objectives of such a dialogue. The scientific and religious imaginations must share the same basic refusal to rest content with what we know. To describe the reality we need the contributions by both science and theology. Perhaps in the future, this way will allow us to rationalize what so far has tended to be irrational. It may also vindicate the part of the scientific creative process based on intuition and insight. Furthermore, such a rationale will be able to imbue the mystical parts of theology with new meanings. □

### REFERENCES

1. Alvin Plantinga, Religion and Science, *Stanford Encyclopedia of Philosophy* (Winter 2016 Edition), Edward N. Zalta (ed.), Stanford University, California, USA.  
<https://plato.stanford.edu/archives/win2016/entries/religion-science/>
2. William Whewell, On the Connexion of the Physical Sciences. By Mrs. Somerville, *Quarterly Review*, 51, 1834, pp. 54–68.
3. Peter Harrison, *The Territories of Science and Religion*, University of Chicago Press, Chicago, USA, 2015.
4. Edward Burnett Tylor, *Primitive Culture: Researches into the Development of Mythology, Philosophy, Religion, Language, Art, and Custom*, John Murray, London, UK, 1871.
5. Helen De Cruz, Religion and Science, *The Stanford Encyclopedia of Philosophy* (Summer 2019 Edition), Edward N. Zalta (ed.), Stanford University, California, USA.  
<https://plato.stanford.edu/archives/sum2019/entries/religion-science/>
6. The Intersection of Science and Religion, The National Academy of Sciences, Engineering, Medicine, Washington, D.C., USA.  
<https://www.nationalacademies.org/evolution/science-and-religion>

7. David M. Byers, Religion and Science in Dialogue, America - The Jesuit Review, 5 Feb. 2005  
<https://www.americamagazine.org/issue/517/article/religion-and-science-dialogue>
8. Ian Barbour, Issues in Science and Religion, Vantage, New York, 1966.
9. Thomas F. Torrance, Theological Science, Oxford University Press, London, 1969.
10. Barbour, Ian, 2000, When Science Meets Religion: Enemies, Strangers, or Partners?, Harper Collins, New York, USA.
11. Yves Gingras, Can Religions and Sciences Dialogue?, Social Worlds, Humanities and social sciences Magazine, 24 Jan. 2019. <https://sms.hypotheses.org/10297>
12. Gregory Dawes, Galileo, and the Conflict between Religion and Science, Routledge, London & New York, 2016.
13. Peter J. Bowler, Reconciling Science and Religion: The Debate in Early-Twentieth-Century Britain, University of Chicago Press, Chicago, USA, 2001.
14. Stephen J. Gould, Nonoverlapping Magisteria, in *Intelligent Design Creationism and Its Critics*, Robert T. Pennock (ed.), MIT Press, Cambridge, Ma., 2001, pp. 737–749.
15. John Worrall, Science Discredits Religion, in *Contemporary Debates in Philosophy of Religion*, Michael L. Peterson and Raymond J. Van Arragon (eds.), Blackwell, Malden, MA, 2004, pp. 59–72.
16. Alfred North Whitehead, *Process and Reality*, The Free Press, New York, 1929.
17. Kathryn Pritchard, Religion and science can have a true dialogue, Nature News - International Weekly Journal of Science, Column: World View, Springer Nature, 20 Sept. 2016,  
<https://www.nature.com/news/religion-and-science-can-have-a-true-dialogue-1.20627>
18. Bhai Harbans Lal, The Harmony of Science with Sikh Religion, Abstracts of Sikh Studies, Vol. XII: N0. 4 (Oct-Dec 2010), pp. 33-46.
19. Professor Puran Singh  
[https://www.sikhiwiki.org/index.php/Professor\\_Puran\\_Singh](https://www.sikhiwiki.org/index.php/Professor_Puran_Singh)
20. Narinder Singh Kapany, Foreword: Harmony in Science and Sikh Religion, 2012, Publisher: H. S. Virk, Mohali, Punjab, India, p. 7-9.
21. I. J. Singh, Science Vs. Religion: What Conflict?, Abstracts of Sikh Studies, Vol. XII:4 (Oct.-Dec. 2010), pp. 63-69.
22. Hardev Singh Virk (Ed.), Harmony in Science and Sikh Religion, Publisher: H. S. Virk, Mohali, Punjab, India, 2012, p. 29.

23. Hardev Singh Virk, Scientific Vision in Sri Guru Granth Sahib & Interfaith Dialogue, Singh Brothers, Amritsar, India. Nov. 2007, p. 112, ISBN: 81-7205-400-9.
24. Nikky-Guninder Kaur Singh, Foreword: Scientific Vision in Sri Guru Granth Sahib & Interfaith Dialogue, Singh Brothers, Amritsar, India. Nov. 2007, pp. 15-24. ISBN: 81-7205-400-9.
25. Devinder Singh Chahal, Nanakian Philosophy: Basics for Humanity, IUS, Quebec, Canada. 2008, pp. 9-10. ISBN: 978-0-9734291-3-8.
26. Gurmel Singh Kandola, Foreword: Sikh Religion and Science, Guru Nanak Charitable Trust, Ludhiana, Punjab, India, 2003, p. 8.
27. G. S. Sidhu, Sikh Religion and Science, Guru Nanak Charitable Trust, Ludhiana, Punjab, India, 2003, pp. 11 & 176.
28. Dalvinder Singh Grewal, Scientific Vision of Guru Nanak, National Book Shop, Delhi, India, 2008, p. 20. ISBN: 978-81-7116-490-0.
29. D. S. Grewal, Guru Nanak Leads the Modern Science, Abstracts of Sikh Studies, Vol. XII:4 (Oct.-Dec. 2010), pp. 47-62.
30. Gajinder Singh, Science and Sikhism, Abstracts of Sikh Studies, Vol. XII:4 (Oct.-Dec. 2010), pp. 1-5.
31. Gurbakhsh Singh, Religions and Science, Abstracts of Sikh Studies, V XII:4 (Oct.-Dec. 2010), pp. 6-9.
32. Tarlochan Singh, Science and Gurbani, Abstracts of Sikh Studies, Vol. XII:4 (Oct.-Dec. 2010), pp. 70-77.
33. Baldev Singh, Gurmat - Guru Nanak's Path to Enlightenment, Publisher: Hardev Singh Shergill, K. T. Foundation of North America Inc., USA, 2015.
34. Surjit Kaur Chahal, Sikh Perspective on Modern Scientific Technology, in Harmony in Science and Sikh Religion, Ed. by Hardev Singh Virk, Publisher: H S Virk, Mohali, Punjab, India, 2012, pp. 114-126.
35. Sukhraj Singh Dhillon, Concept of Spirituality in Science and Religion, in Harmony in Science and Sikh Religion, Ed. by Hardev Singh Virk, Publisher: H S Virk, Mohali, Punjab, India, 2012, pp. 58-75.
36. Avtar Singh, Is Creation an Illusion?-Scientific Vision of SGGS, in Harmony in Science and Sikh Religion, 2012, Ed. by Hardev Singh Virk, Publisher: H S Virk, Mohali, Punjab, India. pp. 91-102.

37. D. P. Singh, Science and Sikhism - Conflict or Coherence, Singh Brothers, Amritsar, India, 2018. ISBN: 81-7205-582-X
38. I. J. Singh, Science Vs. Religion: What Conflict?, in Harmony in Science and Sikh Religion, 2012, Ed. by Hardev Singh Virk, Publisher: H S Virk, Mohali, Punjab, India. pp. 150-157.
39. Surjit Kaur, Sikh Perspective on Modern Scientific Technology, Abstracts of Sikh Studies, Vol. XII:4 (Oct.-Dec. 2010), pp. 20-32.
40. Tarlochan Singh Mahajan, Science and Gurbani, in Harmony in Science and Sikh Religion, Ed. by Hardev Singh Virk, Publisher: H S Virk, Mohali, Punjab, India, 2012, pp. 127-134.
41. D. P. Singh, Ecological Concerns in Sri Guru Granth Sahib, Abstracts of Sikh Studies, Vol. XII:4 (Oct.-Dec. 2010), pp. 10-19.
42. Devinder Pal Singh, Guru Nanak's Scientific Attitude, Sikh Missionary College, Ludhiana, Punjab, India, March 2004.
43. D. P. Singh, Dharam ate Vigyan, 3rd Edition, Singh Brothers, Amritsar, India, 2019. ISBN: 81-7205-262-6
44. D. P. Singh, Science and Religion: The Inter-relationships, Invited Talk, Indian Science Day Celebration, Chitkara University, Chandigarh-Patiala NHW, Punjab, India. 15 Feb 2019.
45. D. P. Singh, Guru Nanak: A Prophet with a Scientific Attitude, Proc. 4th Canadian Punjabi Conference, celebrating the 550th birth anniversary of Sri Guru Nanak Dev, organized by Punjabi Heritage Foundation of Canada, Ottawa, 6 July 2019.
46. Sarabjit Singh, Gurmat ate Science in Present Scenario, E-book, Oct. 2017, (Book Gurmat And Science.pdf), <http://www.geocities.ws/sarbjitsingh/>
47. Hardev Singh Virk, Sikh Dharam ate Vigyan, 2nd Edition, Panj Pani Prakashan, Mohali, Punjab, India, 2017. ISBN: 978-81-7914-236-3
48. Hardev Singh Virk, God Particle (Higgs Boson): Implications for Science and Gurbani, Abstracts of Sikh Studies, Vol. XV:2 (April - June 2013). [https://sikhinstitute.org/april\\_2013/6-hardevsingh.html](https://sikhinstitute.org/april_2013/6-hardevsingh.html)
49. Devinder Singh Chahal, Nanak: The Guru - The Founder of Sikhi (sm), IUS, Quebec, Canada, 2014. ISBN: 978-0-9734291-4-5
50. Devinder Singh Chahal, Environmental Ethics: Perspectives from Nanakian Philosophy, Understanding Sikhism, Vol.17(1) (Jan-Dec 2015), pp. 3-15.
51. Sri Guru Granth Sahib Ji and Vigyan, International Center for Sikh Studies, DSGMC, New Delhi, India, 2017.