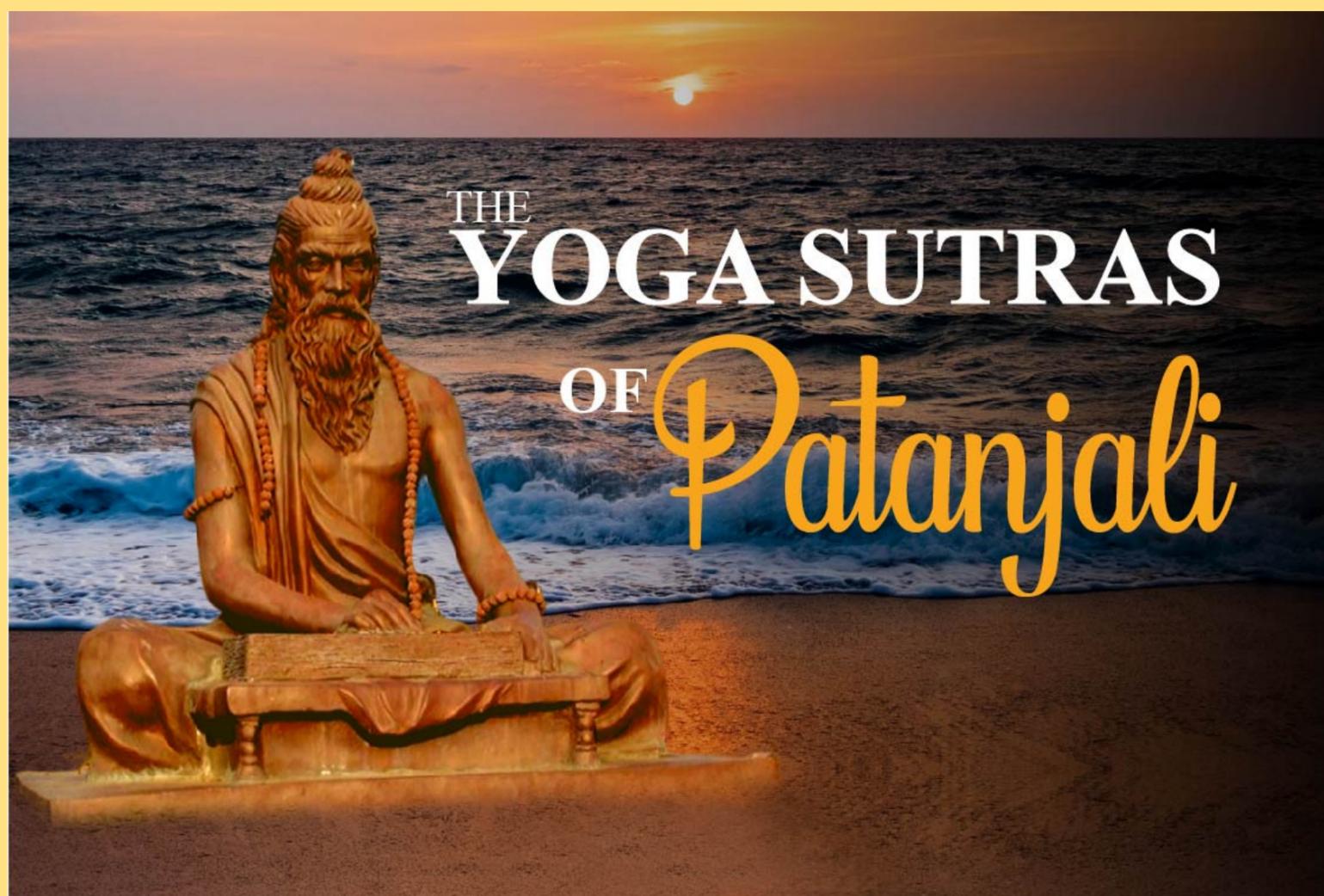


Exploring Deep Science in Patanjali Yoga Sutras



Anil K Rajvanshi

Preface

This is a booklet on the deep science embedded in Patanjali Yoga Sutras. According to me Patanjali was a true scientist who gave the first knowledge about the control of thought and mind and about universal laws governing time and space. Unfortunately *till now none of the commentaries on Yoga Sutras have explored them through the lens of science*. I feel this essay will help overcome that lacunae.

Sage Patanjali has been my teacher. Whatever little I have [written in the last 20 years on spirituality](#) or thought about the [interaction of mind-matter](#) and higher things have been inspired by Patanjali's Yoga Sutras and I have always felt that his spirit has guided me in this journey.

Yoga sutras is basically a book of life or how to maximize your living potential. *It also teaches little bit of Hatha Yoga* but the most important lesson it teaches in a scientific manner is how to make the mind (the instrument of comprehension) very powerful so that it can comprehend any secret of the Universe. And then use that powerful mind on different parts of body to get supernatural powers!

Patanjali's writings are like an infinite ocean. The more you read them the deeper is the knowledge. So this small booklet is a work in progress. I have been writing about the science in Yoga sutras for quite some time and have dealt them cursorily in my two books; [Nature of Human Thought](#) and [Exploring the Mind of God](#). But this article is an attempt to explore it further and in depth.

It is also surprising and fascinating that these sutras were written more than 2000 to 3000 years ago (the exact date is not known) and yet they present such scientifically advanced knowledge. One can only speculate that Sage Patanjali was not of this world but came from an advanced civilization to impart this knowledge. I have alluded to this aspect in this booklet.

The booklet has the following sections: Who was Patanjali; About his Sutras or the book; Science of Sutras; Was Patanjali an extraterrestrial being; Patanjali and stars; Major Omissions in Sutras; and the final section is about my teacher Sage Patanjali.

This is not a book in the true sense but a small booklet and my desire to publish it [through Amazon](#) is to make it available to a wide audience for discussions and debate.

I would therefore greatly appreciate it if the readers can comment on it either in Amazon book site or can send email to me.

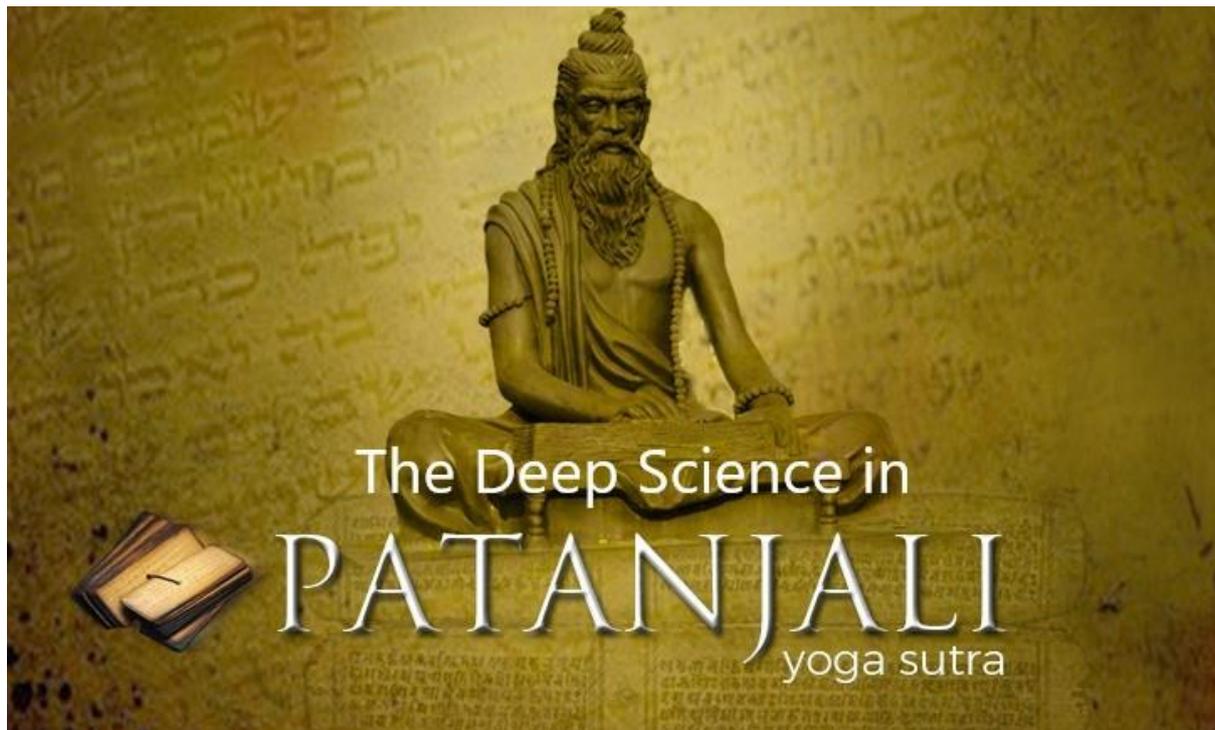
An [Institute lecture on this theme was presented at IIT Kanpur](#) on 9th November 2023. That lecture might clarify some of the ideas presented in this booklet.

[Anil K Rajvanshi](#)

Phaltan, Maharashtra, India

June 2023.

anilrajvanshi50@gmail.com



Who was Sage Patanjali?

We do not know who Patanjali was or when he wrote the Sutras or *even what we have today are really his Sutras*; but reading between the lines or extracting knowledge from them shows the great understanding and sparkling wisdom of his science.

Though we will never know the truth of his existence but his science-based teachings (Sutras) which were written *more than 2000-3000 years ago meant it must have come from a person not of this world!* I therefore feel that he may have been an astronaut from an advanced civilization who came to this world to impart great scientific knowledge. This speculation is explored in a later section.

Thus whether it is the definition of time; or how thought can be controlled; or how a powerful mind can be used to discover the secrets of nature; all can be gleaned from his writings and by reading between the lines.

Yoga sutras are not an easy read. They are precise and crisp. India has had a long tradition of passing knowledge from guru to disciple through oral transmission. It can be conjectured that the initial exposition by Patanjali must have been a very detailed one since the subject matter was difficult. With time the subsequent commentators made them crisp since it helped in memorizing the sutras. In this process it is quite possible that some important information and sutras may have been lost.

Another possibility is that when people did not understand the science behind these sutras some important ones may have been omitted. Thus, one needs to read between the lines with deep knowledge of modern science to fully appreciate their message. I will try to explain this in detail in sections below.

Yoga Sutras of Patanjali: The book

[The book](#) is divided into four sections with a total of 195 sutras. Section I (*Samadhi Pada*) contains 51 sutras; Section II (*Sadhana Pada*) has 55 sutras; Section III (*Vibhuti Pada*) contains 56 sutras; and the last section IV called *Kaivalya Pada* has 33 sutras.

The first two sections (*Samadhi* and *Sadhana*) talk about how to make the mind and body powerful enough so that one can focus on a single thought for a long time. This focus on a single thought leads to *Sanyam* (Patanjali defines it as combination of focus, contemplation, and *Samadhi*). *Sanyam* on any subject or object leads to its complete knowledge. The state of *Samadhi* is reached when the object of focus vanishes, and one gets immersed in its essence. *That is essentially spirituality.*

The third section (*Vibhuti Pada*) is the main section of Yoga Sutras where the Science of Yoga is fully developed. In this section Patanjali talks of using *Sanyam* on various parts of the body to get supernatural powers and by doing it on different celestial subjects to understand the laws of nature and the Universe.

I feel *Vibhuti Pada* is the real essence of his teachings on the conquest of nature via technology. This section has also inspired me to go on the journey of discovering the [interplay of spirituality and technology](#).

Since this section is the *meat of sutras*, I have a feeling that through time it has been tinkered by various commentators. Commentators who did not understand the science, either changed some sutras or may have even omitted some of the deep ones and surprisingly quite a number of distinguished commentators including [Swami Vivekananda have simply glossed over them](#).

In depth reading of *Vibhuti Pada* also reveals that some sutras are missing in this section since there is an abrupt change in the subject matter from one sutra to another; besides, they are arranged in a haphazard manner.

And the last or the fourth section of the book (*Kaivalya Pada*) talks about how using these supernatural powers and by understanding the universal laws, a Yogi gains liberation from the cycle of birth and death. One of the most important tenets of Indian philosophical system is the liberation of a soul, atman, etc. from the cycle of birth and death and Patanjali shows in this section on how to achieve it.

It is also interesting to note that there is no reference to God in the Sutras but only of Universal consciousness (7 out of 195 sutras). Patanjali defines this Universal consciousness as an entity called *Ishvara* (section I. 23) *which is beyond time* and identifies it (section I.27) with the original sound *Pranava*. Modern theories of Big Bang suggest that the first signal after birth of universe was sound which [was like a deep hum](#).

Strangely, reading of these Sutras somehow are [mandatory for practitioners of Hath Yoga \(Yoga exercises\)](#). However I feel the study of Yoga Sutras has nothing to do with practicing physical Yoga exercises or Hath Yoga. Patanjali

only talks about physical exercise and pranayama in about 5-6 sutras out of 195.

Thus Yoga sutras should be a recommended reading for students of psychology and all physical sciences. It is a remarkable document on how to live a good and emotionally satisfying life and therefore should be a recommended reading in any humanities course.

Science in Yoga Sutras

I will now attempt to show the science embedded in some of the sutras. This is based upon my limited understanding of them and is speculative in nature. However it shows that if we approach each sutra from a scientific point of view then its gem becomes evident.

In sections III. 53-55 of *Vibhuti Pada* Patanjali says, “By making *Sanyam* on a single moment and on the sequence of moments, a yogi gets *Vivek* (exalted knowledge) so that he/she can comprehend all objects in the universe simultaneously irrespective of their location and sequence of change”. Or in other words, the Mind of God!

And according to [John A Wheeler](#) – One of the world’s foremost expert on relativity, [Einstein’s theory of gravitation can be simply stated](#) as “Events and the interval between events build space-time”. The geometric nature of space-time gives rise to gravity, tells the mass how to move, and is the basis of Universe and the movement of all heavenly bodies.

Again, in *Vibhuti Pada* (Section III. 31) Patanjali says that by doing *Sanyam* on the hollow of throat, one conquers hunger and thirst. Recently scientists have discovered that by stimulation of Vagus nerve, hunger pangs can be suppressed.

[Vagus nerve](#) is concentrated near the esophagus tube – close to the hollow of throat. Few years ago [U.S. Food and Drug Administration \(US FDA\)](#)

[approved a device, which can electrically stimulate the Vagus nerve](#) so that the brain gets the signal that stomach is full.

Similarly in Section III. 43 Patanjali says that by doing *Sanyam* on relationship of body and space a body could be dissolved cellularly (becomes light as cotton fibers) and transported from one place to another. This results in the conquest of space and galactic travel. Almost all the [abductees' experience of getting their bodies transported](#) from their home to the alien spacecraft via tunneling and cellular transfer through walls and glass windows mirrors this sutra.

Interestingly in Section III. 40 of Vibhuti Pada, Patanjali talks about how doing *Sanyam* on vital currents of body a Yogi masters the art of floating over water, mud, or thorns without touching them. Superficially these two Sutras (III. 40 and 43) talk about transporting of body through space or antigravity process. Yet there is a difference.

It can be conjectured that Patanjali may be alluding that floating over water, etc. could be done via magnetic levitation while Section III. 43 talks about getting away from earth's gravity for intergalactic space travel via tunneling and cellular transfer. Again the [experiences of abductees have shown how aliens floated over land and other surfaces.](#)

This magnetic levitation could be possible if by some mechanism we can make the body a *room temperature superconductor* so that it could be levitated magnetically in the Earth's magnetic field. Presently the world does not have this technology.

In another sutra (Section III. 21) Patanjali says that doing *Sanyam* on body shape and its changes so that the reflected light does not reach the eyes of beholder one can make the body invisible. This process is used in [stealth aircraft](#) where sharp angles and absorption of visible spectrum by the aircraft body makes it invisible.

And in Section III. 35 of *Vibhuti Pada* Patanjali talks about how doing *Sanyam* on heart gives complete knowledge of consciousness. Recent scientific discoveries have shown a close [connection between the heart and mind](#).

Similarly he talks about how a Yogi can read the other person's mind by doing *Sanyam* on his *thought structure* and also control it (Sutra III. 19). This is being slowly perfected through various process of [Artificial Intelligence \(AI\)](#) and hypnosis.

And in another sutra in *Kaivalya Pada* (Section IV. 1) Patanjali talks about how all the supernatural powers can come to a Yogi by taking drugs! Recent studies on the effect of recreational and mind-altering drugs like LSD etc. have shown enhanced [spiritual experiences for drug takers and for some the experience of entity visitations](#). To my mind this discussion on mind altering drugs in yoga sutras is the first such anywhere in any ancient spiritual text.

Also in *Kaivalya Pada* (sections IV. 2, 3 and 9) Patanjali talks about rebirth happening by chance and not because of past *karma*. *This is a major departure from accepted notion that your birth is dictated by past karma*.

Even some sutras in *Samadhi and Sadhana Pada* (Sections I and II respectively), where Patanjali details the mechanism of thought control and *Sanyam*, are examined through the lens of modern-day neuroscience and brain research then the gems of his teachings become even brighter.

Thus his sutras on memory formation and removal (Patanjali calls memory as *Sanskaras*) and the nature of human thought tallies [closely with what we know today about the production and nature of human thought](#). For example in section I.41 he talks about making the mind pure as a crystal through *Samadhi* so that it absorbs whatever it focuses on. This can only happen with removal of memory knots.

Patanjali also talks about the existence of reality as independent of its perception by the observer (sections IV. 16,17). This is exactly what Einstein stated during his [dialogue with Rabindra Nath Tagore](#) in 1930.

An interesting feature of sutras is that Patanjali understood that the human body is an extremely complex machine and by understanding it thoroughly and doing *Sanyam* on various parts (or in other words tuning it), it can produce supernatural powers. In doing this Patanjali presented in those ancient times the concept of biomimicry (copy nature) – a modern design strategy used commonly for developing technologies.

I think a whole book can be written about the relevance of sutras to modern science and technology. So there is a need to study them more thoroughly since many secrets still need to be rediscovered.

The comparison of Patanjali sutras with modern science is neither to glorify our ancient tradition nor to belittle the latter – both are important in their own way; but to show that all great knowledge originates from the same [knowledge space](#) irrespective of the person and the time of its discovery.

Also this comparison helps establish the value and authenticity of the scientific aspect of sutras and gives credence to the fact that other sutras may hold secrets which could be revealed if studied thoroughly. This revelation may perhaps *show the path to new understanding of natural laws and novel inventions* and is the main reason why we are trying to read between the lines in these ancient texts.

Was Sage Patanjali an Extra-terrestrial Astronaut?

All the supernatural powers described in *Vibhuti Pada* have uncanny resemblance with those exhibited by aliens and hence one can speculate that [probably Patanjali was also an alien!](#)

In the seminal book on [extraterrestrial abductions](#) of humans by UFO inhabitants, [John Mack](#) a former Professor of Harvard University had shown that all the persons abducted and taken inside the spaceships (abductees) talked about extraterrestrials floating in air; could interact telepathically with them; could read their minds and modify them; become invisible; and *exhibited almost all the powers written in Vibhuti Pada of Patanjali Yoga Sutras*. Similar reporting of abductees experiences was also done by Coral and Jim Lorenzen in their book [“Encounters with UFO occupants”](#).

This similarity between powers written in Yoga Sutras and exhibited by extraterrestrials is so uncanny that I sometimes think that Sage Patanjali could have been an extraterrestrial being who came to earth almost 2500-3000 years ago to give us this knowledge!

In fact Patanjali alludes to extraterrestrials in *Vibhuti Pada* (section III. 52) when he says that a Yogi when approached by celestial beings should neither be surprised nor get attached to them because they are hindrance to his salvation. Interestingly this sutra is at the end of *Vibhuti Pada* so that Yogi is supposed to have acquired nearly all the powers attributed to extraterrestrials. Thus he/she can interact as equals with them and ward off their influence rather being [overwhelmed by their powers as most abductees have described](#).

Thus if we understand how a Yogi can get these supernatural powers and understands space-time and Universe then it may show us a possible way to understand [mind-matter interaction](#) and probably pave the way for developing galactic travel technologies.

Unidentified Flying Objects (UFOs) are real. There have been innumerable sightings and visitations by extraterrestrials throughout the history of mankind. In Indian scriptures like Ramayana and Mahabharat there are quite a few descriptions of various gods visiting earth in their flying machines. And recently US government has [officially released video](#)

[clippings](#) of few of these sightings. Similarly a recent series of [Netflix documentaries](#) has further shown the possibilities of these visitations and mankind's quest for understanding the technologies of UFO propulsion.

Propulsion technology used by UFOs effortlessly overcomes earth's gravitational pull and understanding it may help us produce unlimited renewable energies on this planet for our needs and benefits. Hence it is necessary that we invest money and resources in discovering and understanding them.

I firmly believe that the future of mankind is to become a galactic travelling civilization and mastering of the technology to do so [can only come when we develop the wisdom through spirituality to use it wisely.](#)

Patanjali and Stars

Another tantalizing indication of why Patanjali was an astronaut comes from the fact that in three short sutras (Section III.27-29) he talks about stars ! One can ask that in the book about mind control and Yoga what is the relevance of knowledge of stars? It can be conjectured that since he was an astronaut the knowledge of stars was necessary for intergalactic space travel. Besides he also explained that the knowledge of space and time could be obtained by understanding Sun, moon, and polar stars.

In Vibhuti Pada (Section III. 27), Patanjali has written that doing *Sanyam* on sun one obtains knowledge of Universe, celestial spaces, or [Akasha](#) !

This is an interesting concept since Akasha or celestial space focus using Sun is far removed from its life-giving rays which comes in various frequencies and colors. Besides, the sun also emits other cosmic rays and particles.

Maybe Patanjali conjectured that the knowledge of sun and how it produces energy may tell us everything about atomic energy, plasma physics, gravity,

and other deep science and hence the focus on Universe via Sun in this sutra.

It can also be conjectured that he may have meant space-time continuum or gravity since it pervades in all space. Thus *Sanyam* done on the sun, the greatest gravity source in our solar system, may help us in understanding space-time continuum or the nature of gravity. This is also detailed in Sutras III. 53-55.

He also talks about Moon (Section III. 28) and says that by doing *Sanyam* on moon a Yogi gets knowledge of the arrangement of planets. Newton discovered gravity by thinking how moon goes around the earth and the falling apple from the tree gave him the idea of gravity and about the motion of planets.

Similarly Patanjali talks about Pole star (Section III. 29) and says that *Sanyam* on it will help a Yogi understand the movement of all stars and planets. Pole stars through ages have been used not only for navigation on this planet earth but also to map the skies.

For understanding Universe and intergalactic space, I feel there must have been more sutras about other celestial objects, but they are missing from the book.

It is also remarkable that in three short Sutras Patanjali talks about Universe or celestial space and movement of planets and this was much before the time of Copernicus, Plato, Socrates, and Newton.

Major omission in Yoga Sutras

One of the glaring omission in Yoga Sutras is that there is no mention about [Kundalini Yoga](#).

Kundalini yoga is an important part of [Tantric yoga system](#) where yogis believe that through the extremely small central canal (called *Shushma Nadi*) of spinal cord, sexual chemicals from its base can be raised to reach the brain where they enhance the communication of neural pathways so that all the parts of brain work in unison and one can attain Samadhi. This is similar to what takes place in the brain [during the LSD episode](#), though the user taking the drug has no control over his/her experience.

Yogis also believe that sexual energy is coiled at the base of the spine hence the name *Kundalini* (coiled energy, snake etc.). They believe it can be raised in the [central canal – also called *Shushma Nadi*, by will](#).

It seems little strange that Sage Patanjali, who was the first to enunciate the Yoga principles of thought control and mind enhancement would not have included the science of Kundalini Yoga in it. There could be two reasons for such an omission.

One could be that Patanjali [did not believe in Kundalini Yoga as a real physical phenomenon](#). And the other speculation could be that probably that section could have been extracted by some commentators from his sutras and made into a separate Science of Tantric Yoga. After all the whole of *Vibhuti Pada* is Tantra (technique) of getting supernatural powers and description of Kundalini Yoga would have been very appropriate in it.

My Teacher Sage Patanjali

I have been greatly inspired by Patanjali sutras and have felt his spirit has guided me in my quest of spirituality. Hence, I would like to briefly write about my teacher.

Obviously, I never met or knew Patanjali but know him through his Yoga Sutras. Just like [Eklavya](#) who learnt his archery by practicing in front of the statue of Dronacharya, I have learnt about the science of Yoga by imagining that the spirit of Patanjali is guiding me.

A great teacher is one who allows his disciple to go through the rough and tumble of learning process, but his guiding hand is always available to show the correct path. So many times when I have been in doubt, I have repeatedly gone to [Patanjali's Yoga sutras](#) and discovered the hidden gems. I guess all great books are teachers in this sense.

I came to know Patanjali at [the age of 14 when I read his Yoga Sutras](#) in a book ([I. K. Taimni, Science of Yoga](#)) borrowed from a public library in Lucknow. Yoga Sutras is a very difficult book to read and more so since most of the commentators have explained the great science of thought and mind control in an extremely confusing way. Since most of them had no knowledge of science of mind control, their explanations were all clothed in mythology.

A great teacher sometimes has the maximum impact when the student is very sharp. A disciple elicits information from the teacher depending upon his/her intelligence. A great teacher therefore is like an ocean of knowledge, but you can only take the amount of knowledge depending upon the size of your container (brain power).

At age 14 when I was first introduced to my teacher, I could hardly understand what he meant but understood that by following his teachings one could get superhuman powers like flying, omniscience, mind reading and energy of thunderbolt for one's body, among others. Which 14-year-old does not want such powers?

I then got sidetracked by my [technology education in IIT Kanpur](#), but his teachings must have remained at the back of my mind, and they exerted an invisible pull so when the time was ripe, I again went back to him for knowledge.

Since then every time I have doubts about some aspects of science of mind I have gone to Patanjali's Sutras and have discovered new gems. With time

my container has also expanded little bit and thus I can absorb more of his knowledge !

Thus what I have shown in this booklet is the tip of iceberg as regards the wisdom and genius of Sage Patanjali. What is needed further is to trace the history and origins of his Sutras so that a comprehensive system of it is established and to study in depth his available sutras through the lens of modern science and technology.

Suggested Readings (Books)

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11. Anil K. Rajvanshi. *Nature of Human Thought (Second edition)*. Nimbkar Agricultural Research Institute, Phaltan, Maharashtra. 2010.
12. John A. Wheeler. *A Journey into Gravity and Space-Time*. Scientific American Library. 1990.

An [Institute lecture on this theme was given at IIT Kanpur on 9th November.](#)
This lecture will make some of the issues discussed in this booklet clearer.

A truncated article on [Patanjali and Stars was published as an Op-Ed in Times of India, 14 June 2023.](#)

Information from this booklet can be used only after properly acknowledging the source and the author.

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About the author



[Dr. Anil K. Rajvanshi](#) has more than 42 years of experience in renewable energy R&D and rural development. He did his B.Tech and M.Tech in Mechanical Engineering from Indian Institute of Technology (IIT) Kanpur in 1972 and 1974 respectively. He received his Ph.D. in Mech. Engg. from University of Florida, Gainesville, USA in 1979 under solar energy pioneer Dr. Eric Farber. He was on the faculty of University of Florida (Dept. of Mechanical Engineering) for 2 years before returning to India in 1981 to run his own rural NGO – [Nimbkar Agricultural Research Institute \(NARI\)](#) in Phaltan, Maharashtra.

NARI has done pioneering work in agriculture, renewable energy, and sustainable development, especially those affecting rural population. Dr. Rajvanshi has devoted the last 40 years at NARI to [apply sophisticated science and technology to solve the problems faced by the rural people](#) in the areas of energy, water, pollution, and income generation; broadly based on use of renewable energy in environmentally sound ways.

Dr. Rajvanshi has written extensively on his work on rural self-sufficiency. He has more than 250 publications; [six books and chapters in various books](#); and 7 patents to his credit. He has been inducted into several prominent committees of the government of India at the national and state level. He is the principal author of the Govt. of India national policy on [Energy Self Sufficient Talukas](#).

For his work, Dr. Rajvanshi has received a number of prestigious national and international awards, such as [Jannalal Bajaj Award](#); induction to the [U.S. based Solar Hall of Fame](#); Austria based Energy Globe Award; Federation of Indian Chambers of Commerce and Industries ([FICCI Annual Award](#)); Sweden based [Globe Award](#); [Distinguished Alumnus Award from University of Florida](#) (he is the first Indian to receive this award); [Padma Shri](#) (one of the highest civilian awards from Government of India); [Distinguished Alumnus Award from IIT Kanpur](#); [Legends of IIT Kanpur](#); among others. He has been a featured speaker at many prominent institutes, conferences, and forums, both in India and abroad and [lectures regularly on the issues of sustainability and rural development](#).

Besides his engineering work, he is also involved in studies of human consciousness and the interaction of spirituality and technology. His [writings](#) on these issues have appeared regularly in [Times of India](#); [Huffington Post](#) ; [Thrive Global](#); [South Asia Monitor](#), among others.

Books authored by him are: [Nature of Human Thought](#); [1970s America-An Indian Student's Journey](#); [Romance of Innovation](#); [Autobiography of an Ordinary Indian](#); [Exploring the Mind of God](#).