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## Contribution of Yoga for positive health

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### Abstract

*The paper attempts to review the contribution of 'yoga' towards understanding some of the basic concepts of health. Yoga has been widely acknowledged as the Indian contribution to the world towards maintaining and upgrading mental & physical health, wellbeing and peace. However, it is somewhat less known that Yogic exercises and postures have also made significant contribution towards some of the fundamental concepts in mathematical and biological sciences. For instance, derivations of sine, cosine and tangent were related to 'Danurasana'. Similarly, concepts of oxidation, carbonation and calcification emanated from 'Anulom Vilom Asna'. Modern concepts of latitude and longitudes on which global navigation grid and location finding systems are based were derived from 'Surya Namaskar' (sun salutation). Asanas (postures) like Ardhchakrasana, Sarpasana, Ardskapotasana, Ustrasana have led to the recognition of concepts like chord, measuring dimensions of a spherical body, reflection radiation etc. Early explorers and yogis devised these systems for calculations and arriving at accurate results. The earliest known Indian treatise containing references of these is Surya Siddhanta. Techniques of breath control (prānāyāma) is an important contribution in this regard.*

**Keywords:** Yoga, Surya Namaskar, Surya Siddhant , Dhanurasana, Sarpasana, Ardhchakrasana.

### Introduction:

Yoga has Indian roots that date back as far as 5000 years ago. In ancient India, yoga was considered a mental, physical, and spiritual way to practice meditation and transform the body and mind. The beginnings of yoga were developed in Northern India. Around 2nd century A.D. Yoga-Sūtras were written and documented first by Patañjali' in his book known as Yogaśāstra. It is often described as an experience of an individual soul's uniting with the divine, and/or

becoming liberated from the material world. In the course of history, yoga practitioners travelled to the west. These travelers attracted followers, who popularized yoga in different parts of the world with different orientations. The historical continuities and changes continued for centuries. However, contemporary yoga practices are understood as the essence of Indian spirituality for human welfare. Yoga, however, took on new meanings by becoming a mental, physical, and ethical discipline to link it with a scientific, evidence-based practice to improve health and well-being. By way of practice, the evolution of yoga has converged with the all-round development of individuals as well as humanity as a whole. Progressing gradually yoga kept an association with liberation and the realization of the ultimate nature of reality. In the early 21st century, all these meanings remain current in the Indian context, where yoga is continuing to experience a revival and a mass movement. This was the first systematic guide to yoga, setting up the foundations of the practice we know today. International Day of Yoga, commonly and unofficially referred to as Yoga Day, is celebrated annually on 21 June since its inception in 2015. An international day for yoga was declared unanimously by the United Nations General Assembly.

### Brief review:

Yogic practice has passed through the tests of time and subsequent modifications. It is a continuation of Indian tradition as a way of social acceptance. However, it has passed through several phases where its graph registered a low response partly because of it being an old age practice and partly because of modernization of Indian tradition in the wake of western influences of health and related practices. Ancient tradition of Yoga has contributed extensively to the scientific fields of physics, mathematics<sup>1</sup>, astronomy<sup>2</sup> and geometry<sup>3</sup> as they were linked with the measurements. Indian efforts became successful in 2015 when United Nations General Assembly passed unanimous resolution for 21<sup>st</sup> June as 'International Yoga Day'. Besides UN resolution, Indian Mission abroad contributed significantly towards its popularization. Scholars in India and abroad have further contributed towards its popularity by their scientific writings.

### Contribution of Yoga to Science:

Basically, there are four groups of yoga viz. Karma yoga, Bhakti yoga, Jnana yoga and Raj yoga. Yoga is a group of physical, mental and spiritual practices which originated in ancient India. It is one of the six schools of Hindu philosophical traditions. It has come from Hinduism, Buddhism, and Jainism. In western world the term 'yoga' often denotes physical practice of postures called asanas. Yoga increases your blood flow. This can also help you if you have swelling in your legs from heart or kidney problems. Yoga also boosts levels of hemoglobin and red blood cells, which carry oxygen to the tissues.

India has made significant contribution to science. In ancient times, religion and science were closely linked. Astronomy made great strides in India because the planets began to be considered as gods and their movements began to be observed closely. Ancient Indian philosophers developed several combinations of stars, constellations and tried to link it to human health and future prospects under such a situation. Since most of it was based on diurnal and nocturnal observations, philosophers tried to sketch the geometric and astronomical phases on the ground. Such a system of observation and yogic practice came to be recognized in solar eclipse (Surya Grahan) and lunar eclipse (Chandra Grahan) as grahan yoga. In the course of time, it gave an

idea of alignment and casting of shadows resulting in full and partial eclipses explaining umbra and penumbra concepts in physics.

There has been great contribution of ancient Indian scholars in the field of mathematics and geometry. Dhanurasana represents an arc of a circle (chord). The straight line joining the two extremes of an arc of a circle is like a string of a bow and this line is a chord of a circle. At some point of time Indian Yogis have realized that computations would be more convenient if one used the halves of the chords instead of full chords. It was then associated with the halves of the arcs as 'jya' in geometrical literature. An arc of a circle which subtends an angle of  $90^\circ$  at the center is called a *vritta-pada* (a quadrant of a circle). Indian astronomers coined the term *tri-jya* to denote the radius of the base circle. The radius is also called *vyasardha*, *vistardha*, both meaning semi-diameter.

## Conclusion:

The foregoing explanation leads to conclude the following:

1. Yoga has been practiced in India since historical past. However, it was first documented and codified by Patanjali in his seminal book known as 'Yogasastra'. Yogic exercises were very common and a way of life by ascetic communities earlier. It is often described as an individual's experience of uniting soul with divine and becoming liberated from the material world. Ancient and medieval Indian traders and travelers carried this routine practice to far off places where people adopted it with some modifications as per their geographical and climatic conditions.
2. Yogic exercises directly as well as indirectly contributed to the evolution of scientific concepts and calculations which proved to be useful in extending the laws and regularities of nature. This was done in the field of astronomy in which Surya Siddhant could have been framed in the light of Surya Namaskar. Similarly, concepts of physics such as 'umbra' and 'penumbra' have been associated with Chandra Grahana and Surya Grahana related to casting shadows on the earth.
3. Geometric concepts of 'Jya'; 'Cojya' and 'Sparsh Jya' relating to radius, diameter and circle have their roots in Dhanurashana which represents an arc of a circle. It has also been associated with the trigonometrically popular concepts of sine, cosine and tangents.
4. Yoga continues to experience revival with the continuity and change across geophysical and changing climatic conditions in the world.
5. Recent Indian efforts have not only popularized Yoga on global scene but has proved its utility to cope up with the stress and other chronic ailments by practicing yoga as a routine exercise for refreshing body and keeping fit for further mental and physical strains.
6. Yoga is now recognized world over as a valuable cultural resource that has potential to revitalize individual's mental as well as physical health. Indian tradition of Yoga is deep rooted in scientific concepts and their easy explanations.

## References

- 1- B. B. Datta and A. N. Singh (1983), **Hindu Trigonometry (PDF)**. *Indian Journal of History of Science*. Vol.18 (1): 39–108.
- 2- Glen Van Brummelen (2009), **The mathematics of the heavens and the earth: the early history of trigonometry**. *Princeton University Press*. Pp. 95–97. ISBN 978-0-691-12973-0.

- 3- Katz, Victor (July 2008), **A history of mathematics (3<sup>rd</sup> ed.)**, Boston: Pearson.
- 4- United Nations (2015) Declared 21<sup>st</sup> June as International Yoga Day.
- 5- Yoga : Its Origin, History and development, *Retrieved* 20-06- 2018
- 6- UN General Assembly (2016),“to hold informal consultations on International Day of Yoga” *The Economic Times*, 10<sup>th</sup> October 2016.
- 7- Suzanne Newcombe (May, 2017), Oxford Research Encyclopedia of Religion- Chapter on “The revival of Yoga in Contemporary India, *Oxford University Press*. DOI: 10. 1093/acrefore/9780199340378.013.253

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