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SCIENTIFIC AND BENEFICIAL ASPECTS OF TANTRA CULT

ASPECTOS CIENTÍFICOS Y BENEFICIOSOS DEL CULTO TANTRICO

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Conflicto de intereses: Ninguno que declarar.

Abstract

This article endeavors to identify and isolate the scientific and beneficial from falsehood, superstition and mysticism surrounding tantrism.

Among the various ancient Indian religious and semi-religious practices, tantra cult has got the most widespread recognition and popularity all over the world. The reason for this popularity of tantra has hardly been from academic, spiritual or philosophical interests. On the contrary, it has been associated with promises of achievements of magical and supernatural powers as well as promises of enhancement of sexual power and intensity of sexual enjoyment, and restoration of lost sexual potency of old people. In India, tantra cult has assumed a bad reputation among ordinary people. Mystery, guilt psychosis and fear have also been associated with this esoteric cult.

Tantra itself is not a religion but it has penetrated most of the major religious and sub-religious communities not only in India but also in Tibet, China, Japan and many other countries (especially Asian). In India there are innumerable tantra-based societies and individual tantriks as gurus (teachers) with their circles of disciples.

Nevertheless, there are many aspects of tantra which are scientifically verifiable and the effects of which are beneficial for individuals and the human society. Accordingly, at the end of the article, some studies proving decreased stress levels as a result of tantra practices are highlighted.

This work also aims at inspiring more competent and erudite researchers to carry forward the task herein initiated.

Resumen

Este artículo se propone identificar y aislar lo científico y beneficioso de la falsedad, superstición y misticismo que envuelve al tantrismo.

De todas las prácticas religiosas y semireligiosas antiguas de la India, el culto tántrico es el que ha conseguido el mayor reconocimiento y la mayor popularidad en todo el mundo. La razón de esta popularidad no ha sido el interés académico, espiritual o filosófico. Por el contrario, se lo ha asociado con promesas de obtener poderes mágicos y sobrenaturales, como también promesas de mejorar la potencia sexual y la intensidad del disfrute sexual y restablecer la potencia sexual perdida en las personas mayores. En la India, la gente común le confirió una mala reputación al culto tántrico. El misterio, la psicosis de culpa y temor también se asocian a este culto esotérico.

El tantra en sí no es una religión pero ha penetrado en la mayoría de las comunidades religiosas y subreligiosas no solo de la India sino también de Tíbet, China, Japón y muchos otros países (especialmente asiáticos). En la India, son innumerables las asociaciones de tantra y los tántricos individuales en calidad de gurús (maestros) con sus círculos de discípulos.

Sin embargo, son muchos los aspectos del tantra que son científicamente demostrables y sus efectos son beneficiosos tanto para los individuos como la sociedad en su conjunto. En esta línea, al final del artículo se destacan algunos estudios que demuestran la reducción de los niveles de estrés como resultado de las prácticas tántricas. Este trabajo también apunta a inspirar a más investigadores competentes y eruditos a continuar con la tarea aquí iniciada.

Keywords | Palabras clave

Tantra; esoteric; mysticism; beneficial aspects; physiology; parasympathetic; cortisol; stress; esoterismo; misticismo; aspectos beneficiosos; fisiología; parasimpático; angustia

Introduction

Since my childhood, like many other persons in our country, I had fear and misgivings about tantra and tantriks. My mother, a simple lady, believed that tantriks possess supernatural powers which they always use for mischievous purposes and doing harm to others. Stories and rumors abound about the blood chilling activities of the tantriks, esp. the vama-chari (left) tantriks and the kapalikas.

My father, a rational Advaita Vedantic, considered tantra as a non-Vedic esoteric practice, and had warned me that most of the so called tantriks (plenty of them roaming in rural areas) are in essence very vicious criminals without any conscience; most of them being drunkards and womanizers without any supernatural powers.

They use magic tricks and utilize poisons to perpetrate harm on his enemies or enemies of persons employing them. So to me and most of my friends during our youth, a tantric was a horrible creature like the Dracula in the western world.

Another disgusting thing about the tantriks was sacrifice of animals and even human beings, esp. young children. However, sacrifice to mother goddess Kali is not confined to the tantriks alone.

This heinous practice is still common among ordinary people performing worship of the mother goddess.



Mother Goddess Kali, Worshipped by Tantriks

Later on, during my college life I happened to visit a famous Kali temple at a place called Tarapith (abode of goddess Tara i.e. Kali) in the Birbhum District of our province, West Bengal.

Close to the temple, there was a famous cremation ground of the Hindus inside a vast compound enclosed by walls. As soon as I approached the entrance of the compound, an elderly person cautioned me, “Boy, be careful while you move inside the compound. The approach road to the cremation grounds is lined with tantriks most of whom are vicious criminals taking shelter here to avoid arrest as police cannot enter a religious site.” This incident enhanced my repulsion to tantra and tantriks.



However, an incident suddenly changed my negative attitude towards tantra cult. My health had broken down because of chronic bronchitis and conventional medical treatment was of little use.

A specialist physician opined that the problem was congenital and could not be fully cured by medicine. He referred me to a learned person practicing tantra. At first I was reluctant to seek help from a tantrik, but when the doctor said that he was not a saffron clad fake tantrik but a Professor of Philosophy of a renowned university, I changed my mind and decided to visit the professor.

The professor prescribed a few very simple breathing and meditational practices and posture which in course of a few months cured me

completely from the bronchial malady and my health showed signs of rapid recovery.

This novel experience made me interested in tantra and I started studying books on tantra and practicing simple *asanas*, *mudras* and breathing exercises under the guidance of the tantrik professor.

But as regards the theories I started differing with the professor and the tantra books and it dawned upon me that the cause of widespread prevalence of fake tantriks is rooted in the tantra books themselves. As preached by the standard tantra texts and by the teachers of tantra in various religious sects, tantra has been made to be esoteric, and shrouded by mysticism, superstitions, surrealism, and mixed up with spiritualism.

The worst have been the abundance of rigorous rituals, most of which have nothing to do with tantra and use of thousands of unnecessary awkward looking and awe inspiring *yantras* (instruments).

So, I resolved to endeavor to give a scientific interpretation of tantra and to make tantra free from its esoteric nature, unnecessary rituals and *yantras*, superstitions, spiritualism, mysticism and surrealism.

We are to remember that no rigorous practices like tantra are necessary for spiritual uplift. Tantra may help, but tantra as such is not spiritualism. Bhakti (devotion) to the supreme is the essence of spiritualism (Basu, 2011).

Faith, simple meditation, and cultivation of ethical thinking are enough for spiritual achievements. However, it cannot be denied that disease free sound health and equanimity of mind achieved through yogic or tantra practices facilitate meditation for spiritual uplift, but without bhakti, tantra or yoga as such cannot lead to spiritual uplift.

So, it is high time that modern and enlightened students of tantra should endeavor to unveil the scientific truth of tantra and make it free from esoterism (enabling everybody to get access to interpretation and practice of tantra), occult practices, meaningless rituals and *yantras*, superstitions, surrealism and mysticism, and its wrong association with spiritualism.

In recent years, there has been mushroom growth of tantra societies in the western countries and the Indian gurus with some basic knowledge of tantra have taken the pioneering role to establish such societies which are sources of lucrative income for them and their western agents. Unfortunately these societies are doing more harm than benefit to tantra and generating a vulgarized interpretation of tantra in the minds of people in the west.

The basic objective of tantra practice in these societies is sexual gratification. This is contrary to the basic objective of tantra, viz. to uplift body and mind of the student practicing tantra.

Tantra and Yoga

A clear distinction between tantra and yoga is necessary as there has been, in recent years, a mushroom growth of fake yoga and meditation societies all over the world, passing off as yoga and meditation, cumbersome practices borrowed from tantra books. They are mostly businessmen striving to earn money from the gullible by promising spectacular super-natural healings and other achievements which have no real or scientific basis.

Yoga is purely a spiritual practice. It is based on simple meditation and ethical practices. The objective of yoga is spiritual uplift for union with the supreme. So unlike tantra, it has nothing to do with mundane gains, magic powers, magic cures or super natural powers – it does not make false promises of this or that gain.

Pure yoga is of four kinds:

1. Raj Yoga (Basu, 2011a) as enunciated by Patanjali in his famous treatise 'Yoga Sutra'. There are controversies about the date of compositions and it appears that it was composed sometimes in between 100 B. C. to 100 A. D. Yogasutra of Patanjali mentions a simple and pleasant posture (Padmasana) and simple pranayama unlike the complicated postures and *pranayamas* as prescribed in tantra texts or hathayoga (based on various tantra practices) texts (Vivekananda, 2015).
2. Karma Yoga (Basu, 2011c) as enunciated in the Hindu sacred text Gita (Telang, 1882, Goodwin, 2015). Karma Yoga is based on spiritual achievements through unflinching and detached devotion to one's duties.
3. Jnana Yoga (yoga based on jnana or knowledge): This yoga consists of spiritual achievement through knowledge and wisdom (Vivekananda, 2015a).
4. Bhakti Yoga: Spiritual Achievements through devotion to the supreme as exemplified in the Gita of the Hindus, Bible of the Christians and Quran of the Muslims (Basu, 2011).

Now-a-days all cumbersome things based on cults of various tantra sects are passed off as yogas. The term yoga has a better marketability because of general respect attached with it, whereas tantra has a bad reputation in the society. Among the collection of tantra practices going under the name of yoga, most mention worthy is Hatha yoga, popularized

since the composition of the book *Hathayoga Pradipika* by Swami Svatmarama during the 15th century A. D. (Svatmarama, 2015).

It is basically a collection of tantra practices, which have no direct relevance for yoga, skipping many mystical and esoteric rituals of tantra. Some of the practices ensuring sound physical and mental health, however, may be helpful for Yoga proper. Nevertheless, on the whole, it is not a treatise on yoga, notwithstanding its name, because its purpose and methods of practice are radically different from that of yoga proper.

Essential and Proven Beneficial. Aspects of Tantra

The essential major aspects of tantra, the results of which can be verified with existing knowledge of science, are depicted below. Actually these basic practices are made mysterious and esoteric through innumerable rituals and use of *yantras* which have nothing to do achievements through tantra.

I shall here mention only the ones which may have beneficial effects on our health or help us in achieving various feats like athletics, boxing, martial art, dancing and music etc. and those tantra related practices the method of working on the body and mind of which could be comprehended by the preliminary knowledge of school level human physiology and bio-chemistry.

There are however, many feats achievable by tantra, which have been observed by me and many reliable persons. But the scientific cause and effect relationship are only under research. I would skip discussing those practices here.

A. Physical Aspects

Stage-1: *Asanas* (postures) here I give an exhaustive list of *Asanas*. These *asanas* make the glands, nervous system, blood circulation, respiratory system, digestive system, excretory system, muscular system and all organs of the body function perfectly.

Most of the shortcomings (except genetic ones) of the organs and physiological and bio- chemical functions of the body are removable by these *asanas*. A multitude of complicated *asanas* are not necessary for achieving disease-free sound mental and physical health.

Complicated postures are prescribed for achievement of higher tantra related goals like supernatural or magic power (most of which are likely to be imaginary and based on false promises).

The scientific explanation of effects of *asanas*, *pranayamas* and *mudras* needs a separate article. These methods were developed through trial and error procedure over centuries. The gurus (teachers) had neither

any intention to have a scientific cause-and-effect analysis, nor was it possible until the development of modern sciences pertaining to human physiology and bio-chemistry, to undertake such analysis. Every explanation was in terms of myths, supernatural powers and mysticism and these were faithfully accepted by all and sundry. Only in recent times, especially since the early 20th century, there have been attempts at scientific explanations which have enabled us to distinguish between the practices with real beneficial effects and those with high mystical promises only.

Only a group of six to eight of these *asanas*, selected according to specific requirements of a person, is enough for regular practice. However, those who are to make stage performances for demonstration may temporarily practice many of the *asanas*. During my mid-twenties once I had demonstrated on stage at the Annual Function of my elder brother's Gym 57 *asanas*. But continuous practice of so many *asanas* would not only be wastage of your time necessary for study or other essential works but it may also have pernicious effect on health.

A person with normal health and having objective of maintaining disease free good health may choose from the following 24 simple *asanas* according to his requirements (specified by the specialist):

Essential *Asanas* for All (alphabetically)

Akarna Dhanurasana; Ardha Candrasana; Ardha Matsyendrasana; Bhujangasana; Chakrasana; Dhanurasana; Gomukhasana; Halasana; Kukkutasana; Kurmasana; Matsyasana; Mayurasana; Padahasthasana; Padmasana; Pascimottanasana; Salabhasana; Sarvangasana; Sirsasana; Uddiyanabandha; Usthasana; Viparitakarani; Vajrasana; Virasana; Vrikshasana.

After each *asana* rest should be taken by Shavasana. Shava means dead body. So in this posture you are to lie on your back with hands spread on both sides of your body for about half a minute. In savasana posture if one concentrates on various parts of the body, it may help in bringing about sleep.

Complicated *asanas* may be required to achieve specific skills necessary for the fields of athletics, boxing, dancing, martial art, music, swimming, and wrestling.

Warning: Description and pictures of these *asanas* are available free in the internet. But if you want to practice *asanas* even for health purposes alone, go to a gym and consult the expert.

Don't try them on your own. Even practice of simple *asanas* without consulting a teacher may lead to disastrous consequences, e.g. a simple *asana* like the *sarvangasana* may be harmful for a person with high blood pressure or eye problems; for a person with chronic dysenteric problems

any back bending asana (e.g., *bhujangasana*) may be disastrous. A thorough medical checkup is also necessary for practicing certain asanas.

Extended List of Asanas (alphabetically)

List of Asanas -the list is not exhaustive and many of the asanas mentioned below are improvisation upon the original asanas prescribed in the basic texts-(Svatmarama, 2015).

A

Adho Mukha Svanasana; Adho Mukha Vrikshasana; Akarna Dhanurasana; Anantasana; Ardha

Candrasana; Ardha Matsyendrasana; Ardha Navasana. B

Baddha Konasana; Bakasana; Balasana; Bhekasana; Bharadvajasana; Bhujangasana; Bhujapidasana.

C-D-E

Chakrasana; Caturanga Dandasana; Dandasana; Dhanurasana; Dwipada sirsasana. E-G

Eka Pada Rajakapotasana; Ekapadaprasarana-sarvangatulasana; Eka Pada Sirsasana; Garbhasana; Garudasana; Gomukhasana; Guptasana.

H-J-K-L

Halasana; Hanumanasana; Jatharaparivartanasana; Janusirsasana; Kakasana; Kapotasana; Karnapidasana; Krauncasana; Kukkutasana; Kurmasana; Lolasana.

M-N

Makarasana; Muktahastasirsasana; Mandalasana; Matsyasana; Matsyendrasana; Mayurasana; Mritasana; Muk-tasana; Natarajasana; Niralambasarvangasana.

P-R

Padahastasana; Padmasana; Paripurnanavasana; Parivrittaparsvakonasana; Parivrittatrikonasana; Paryankasana; Pasasana; Pascimottanasana; Paccimasana; Prasaritapadottanasana; Rajakapotasana.

S

Salabhasana; Samakonasana; Sarvangasana; Shavasana; Sarvasana; Setubandhasarvangasana; Sethubandasana; Siddhasana; Simhasana; Sirsasana; Sukhasana; Suptabaddhakonasana; Suptakonasana; Suptapadangusthasana; Suptavirasana; Suptavajrasana; Svastikasana.

T

Tadasana; Tittibhasana; Trikonasana; Tulasana.

U

Uddiyanabandha; Upavistakonasana; Urdhavadhanurasana; Urdhvamukhasvanasana; Urdhavadandasana; Usthasana; Uttanakurmasana;

*Utkatasana; Uttanasana; Utthitahastapadangusyhasana;
Utthitaparsvakonasana; Utthitatrikonasana.*

V

*Vasisyhasana; Vatayanasana; Viparitakarani; Vajrasana; Virasana;
Virabhadrasana; Vrikshasana; Vriscikasana.*

Stage-2: Pranayama (breathing control)

(I mention here only the proven effects and not the promises in the texts which are yet to be scientifically accepted.)

Pranayama consists of three parts: *Rechaka*: Exhalation, *Puraka*: Inhalation and *Kumbhaka*: Retention of Breath

The texts mention eight kinds of *Kumbhakas*:

Surya Bhedan, Ujjayi, Sitkari, Sitali, Bhastrika, Bhramari, Murchha, and Plavini.

It may be necessary for a person to cleanse his system from impurities before beginning pranayama. For this purpose the texts suggest 6 methods:

If there be excess of fat or phlegm in the body, the six kinds of *kriyas* (*duties*) should be performed first. But others, not suffering from the excess of these, should not perform them.

The six kinds of duties are: *Dhauti, Basti, Neti, Trataka, Nauli* and *Kapala Bhati*. These are called the six actions. Of these *Dhauti, Basti* and *Neti* are complicated procedures and may be physically torturous. Although in many clinical asramas, these are prescribed for treatment of diseases, but the necessity of these cumbersome practices is doubtful and therefore I skip them here and only concentrate on the rest.

The methods are described in brief below (Warning: Never try them on your own).

Trataka

Being calm, one should gaze steadily at a small mark, till eyes are filled with tears. This is called *Trataka*. *Trataka* destroys many the eye diseases, but it may also be harmful for persons inflicted with glaucoma. So, thorough check up of the eyes by some optician is necessary before practicing *trataka*. In most of the cases *trataka* is regularly practiced by persons endeavoring to achieve hypnotization skill.

Nauli

Sitting on the toes with heels raised above the ground, and the palms resting on the ground, and in this bent posture the belly is moved forcibly

from left to right, just as in vomiting. This is called by adepts the *Nauli Karma*.

It removes dyspepsia, increases appetite and digestion.

Kapala Bhati

When inhalation and exhalation are performed very quickly, like a pair of bellows of a blacksmith, it dries up all the disorders from the excess of phlegm, and is known as *Kapala Bhati*.

Some *acharyas* (teachers), however, do not advocate any other practice, being of opinion that all the impurities are dried up by the practice of *Pranayama*.

Pranayamas are of 4 kinds: *Puraka*, *Rechaka*, *Sahita* (with *puraka* & *rechaka*) *Kumbhaka* and *Kevala*

(only) *Kumbhaka*:

Considering *Puraka* (Filling), *Rechaka* (expelling) and *Kumbhaka* (confining), *Pranayama* is of three kinds, but considering it accompanied by *Puraka* and *Rechaka*, and without these, it is of two kinds only, i.e., *Sahita* (with) and *Kevala* (alone).

Exercise in *Sahita* should be continued till success in *Kevala* is gained. This latter is simply confining the air with ease, without *Rechaka* and *Puraka*.

In the practice of *Kevala Pranayama* when it can be performed successfully without *Rechaka* and

Puraka, then it is called *Kevala Kumbhaka*.

On the completion of *Kumbhaka*, the mind should be given rest.

Stage-3: Mudras

According to the tantra or tantra-related texts *Mudras* are to be practiced to awaken *Kundalini*. The concept of *kundalini* is an imaginary and mysterious one having no way to prove its existence in reality. However, all these mudras have beneficial effects on our physical and mental systems, especially neurological, respiratory and endocrine systems.

The texts mention 10 *Mudras*:

Maha Mudra, *Maha Bandha*, *Maha Vedha*, *Khechari*, *Uddiyana Bandha*, *Mula Bandha*, *Jalandhara Bandha*, *Viparita Karani*, *Vijroli*, and *Sakti Chalana*. These are the ten *Mudras* necessary for awakening of *kundalini* [there is neither any scientific proof of existence of *kundalini* nor of its upward rise with practice of mudras. But the mudras have many beneficial effects on health and the reasons have been explained

scientifically. (I would discuss the scientific explanations of beneficial effects of asanas, pranayamas and mudras in a separate article later on).

B. Mental Aspects

(a). Concentration

The most important mental aspect of Tantra (and also Yoga) practices is concentration of mind. The tantra sects have deliberately made the means of concentration shrouded in mystery and overburdened with rituals and *yantras*.

In fact the most effective way to achieve concentration is very simple. Sit in 'Padmasana' Posture (for those who have knee problems may sit in ordinary posture), close your eyes and concentrate at the bridge of your nose (this site is close to *Ajna Chakra* or the Pituitary Gland).

Soon you'll visualize a circle of light in the area of your concentration. Now in your mind go on uttering (silently) in rapid succession a single word or syllable. I am giving a list and you may choose from among them according to your faith or liking or you may select similar other words: Love, Good, Om, Hari, Jesus, Allah, God, Ram, Krishna etc. The uttering should be in rapid succession, with strong accent and without any pause. Never utter words with vulgar connotation e.g., evil, hate, bad, kill, sex etc. or words related to sexual activities or sex organs.

The continuous uttering (mentally) of the single word would soon drive out every distractive elements from your mind and with a few days' practice you would be able to achieve perfect concentration of mind. This continuous uttering makes one sleepy, but try to avoid sleep.

(b). Purification of Mind

Ethical and pious thinking is the best way to purify mind.

Patanjali in his *Yogasutra* has prescribed the following methods for purification of mind (Basu, 2011a):

1. *Yama* (the five "abstentions"): non-violence, non-lying (*satya*), non-covetousness (*asteya*), non-sensuality (*Brahmachariya*), and non-possessiveness (*aparigraha*). In detail *yama* includes:

2. *Niyama* (The five "observances"): purity, contentment, austerity, study, and surrender to god. In detail:

I) *Shaucha*: cleanliness of body and mind.

II) *Santosha*: satisfaction; satisfied with what one has.

III) *Tapas*: austerity and associated observances for body discipline and thereby mental control.

IV) *Svadhya*: study of the Vedic scriptures to know about God and the soul, which leads to introspection on a greater awakening to the soul and God within.

V) *Ishvara pranidhana*: surrender to (or worship of) God.

Tantra and Religious Communities

Tantra itself is not a religion. It is practiced by all the sects of the Hindu Religion – Saivas, Vaisnavas, Saktas and all other idolaters, enclosed under the broad religious umbrella known as Hindu Religion. To start with, Vedic Religion classified tantra along with idolatry in the category of prohibited magic cults of the Anaryas (non-Aryan barbaric people). Later on many tantra practices found entry into Vedic religion since the emergence of the Yoga Sutra by Patanjali (Basu, 2011a). By the 15th century A. D. hatha yoga practices (Basu, 2011b) which are derived mostly from the tantra practices, became a part of orthodox Hindu Religion.

Tantra has become a part of various sects of the Buddhist Religion. Most important of them is the Vajrayana sect (a branch of Nyuingma Buddhism) popularized since 8th century A. D. by Guru Rinpoche (the Indian Buddhist teacher Padmasambhava) in Tibet, China and among Tibetan tribes residing in Bhutan and North East India.

This sect has many sub-sects each having its own rituals of tantrik practices. Common characteristics of all these sects is the unnecessary complexities, esoterism, use of meaningless complicated rituals, awkward yantras and sex and alcohol related frenzies. This type of Buddhism is, however, completely contrary to the sacred teachings of Lord Buddha.

Jain Religion in India too has its own schools of occult and esoteric tantra practices.

Besides tantra related sects under these major religious communities, there are thousands of independent tantric sects in India having their own theories and rituals pertaining to tantra.

So it is very difficult to isolate the pure, beneficial and scientific aspects of tantra from the vast body of rituals and theories going in the name of tantra, and it is a very difficult task to restore tantra to its own glory with beneficial effect on human society.

Meaning and Origin

Nobody could tell when the tantra cult originated. It appeared as a parallel to yogic cult which contained similar physiological postures and breathing exercises and also the ultimate goal of self-realization and unification with the supreme was the same.

But they differed radically as regards the approach towards our desires, emotions and passions, especially those pertaining to food and sex habits. The yoga cult considered all our physical desires as vices and suggested repression and abstention from the very beginning. On the other hand tantra considered our worldly desires as natural and endowed us by god.

They are vices so long as they remain crude and confined to transitory gratification of desires. So the tantric recognize them as reality and without repressing them he is to be taboo free about all desires for sex and food. His endeavor should be to transcend the crude aspect and get all these desires sublimated to a higher plain. In this way sex ultimately transcends to a level where the physical union of the male and the female transcends to the cosmic union of “*purusa*” and “*prakriti*”.

The first evidence of these esoteric cults dates back to about 5000 B.C. Sculptures of yogic postures have been discovered in excavations pertaining to Indus valley civilization. The first literary evidence of esoteric cult is Atharva Veda (Basu, 2011 d) which is not considered as pious by the orthodox Vedic school. Later on there are innumerable evidences in Buddhist and Jain texts and the most systematic compilation in Patanjali's Yoga Sutra composed between 100 B.C. to 100 A.D. Tantra cult evolved and took various forms under Vajrayana and Zen schools of Buddhism, and Sakta, Vaishnava and Saiba schools of Hinduism. During the fifteenth century the Hat Yoga cult emerged borrowing heavily from the physical rites of tantra.

The rigorous tantra cult of the Sakta school is popularly known as tantrism in India. This school belong to the *Vamachari Sakta* cult. Their descriptions of inner human anatomy and physiology are the closest to modern bio-scientific discoveries of human economy.

The tantra cult developed through of millennia long trial and error but the tantriks had no scientific theoretical knowledge and so they mixed up mysticism and extra mundane speculative philosophy with tantra. Their goal too was mystic, to resolve the mystery of life and death and union with the creator of the universe.

Aspects of Tantra as Described in Tantra Texts (Woodroffe, 2008, Avalon, 1972)

Here I avoid the lengthy introductory part of tantra texts which deals only with divine and mystical background. I only mention the anatomy and physiology of human system as depicted in the tantra texts.

The *chakras* described below are located at important places of human anatomy and physiology, like the coccyx, solar plexus, heart, thyroid gland, pituitary gland and cerebrum.

As the actual reasons and the organs involved for the important role of these places in human system could not be understood because of paucity of knowledge of human anatomy and physiology, they were described with imagination.

Chakras are purely imaginary concepts and they do not exist in reality. However, the locations of the imaginary *chakras* are certainly of overwhelming importance for functioning of the human economy.

Similarly the concept of *nadis* is pure imagination. It pertains to the central and autonomic sympathetic and parasympathetic nervous systems (Benson, 1990).

It would be simply a wastage of time and energy to verify scientifically concepts having purely imaginary or mythical origin. But we may examine the locations of specified for various *chakras* to find out why so much importance had been attached to these locations.

Modern science has already discovered the reasons for importance of these locations. Now, let us have a glance at the concepts of *chakras* and *nadis* as described in the tantra texts.

(a) *Chakras*

Tantra cult describes seven *chakras* (wheels) in human body. Their locations are: coccyx (*muladhara chakra*), sacrum (*swadhisthana chakra*), lumbar close to the navel (*manipura chakra*), thoracic close to the heart (*anahata chakra*), cervical close to the throat (*visuddha chakra*), base of the skull in between the angle of the eyes and the pituitary gland (*ajna chakra*), and top of the cerebrum (*sahasrara chakra*).

These *chakras* rest at important nerve plexuses, major points of contact between the central, sympathetic and parasympathetic nervous systems and some major endocrine glands.

The tantriks, like the yogis, believe that our main source of life force and vital energy is stored in a dormant form in the coccyx. They get this shrouded in mystery by visualizing that goddess *kundalini* as the source of our life force lies dormant in the coccyx in a three and a half fold coil.

In fact this is nothing but our life force in the form of genetic code of the DNA. For ordinary persons, only an insignificant fraction of the genetic possibilities become manifest. Moreover the coccyx region is one of the two most important feedback centers (the other is at the top of the cerebrum) for the central and autonomic sympathetic and parasympathetic nervous systems.

Central nervous system relates to our conscious knowledge. But most of the vital functions are performed without our conscious knowledge by the autonomic nervous systems. They are like an extremely powerful computer mechanism with programs embedded in the genetic code. Only a tiny fraction of these programs are operative.

The tantra rites, through breathing control and auto suggestions, endeavor to retrieve from the hard disc stored in the coccyx the dormant genetic possibilities. They, however, define this as awakening of the *kundalini* goddess, the supreme mother goddess responsible for giving shape to the palpable universe and the energies that flow through this universe. She is lying dormant in three and a half coil inside the *muladhara chakra*. We are to awake her from sleep and let her move upwards along the path of the chakras toward the *sahasrara chakra* at the top of the cerebrum where the supreme god *purusa* (the inert and invisible creator by whose command and will the supreme mother goddess has created this visible universe). With the ascent of the mother goddess along the path defined by the chakras the tantrik acquires extraordinary supernatural powers and ultimately if the goddess can get united with the supreme god, the tantrik becomes one with the supreme and gets free from the cycle of birth and death.

The tantriks through trial and error procedure could learn about the immense power that could be acquired by the methods of postures, breathing and meditation methods through millennia long trial and error processes. Without any scientific knowledge, they ascribed this to be the manifestation of power of the goddess *kundalini* who, after being awakened moves upwards with continued efforts of the tantric and upper and upper she moves the man is endowed with more and more spectacular powers.

(b) *Nadis* (Rivers)

Breathing processes are very crucial to the awakening of the *kundalini*. The breathing tracks are called *nadis* (rivers). Three rivers have been visualized by tantra cult. The first river *ida* starts from the left side and the second river *pingala* from the right side of the *muladhara chakra* and the third river *susumna* passes along the spinal column. They cross at each chakra, *ida* and *pingala* alternating sides. *Ida* passes through the left nostril and crossing the *ajna chakra* reaches the *sahasrara chakra*

from the right side. *Pingala* on the other hand, passes through the right nostril and crossing the *ajna chakra* reaches the *sahasrara chakra* from the left side. *Susumna* unites with them from the middle.

These *nadis* (rivers) may be compared with the sympathetic, parasympathetic and central nervous systems. It is believed that with tantra practices the *kundalini* force rises along the *susumna* river toward the cerebrum.

Now in reality, with the rigorous breathing, postures, meditation and auto suggestions, our dormant genetic possibilities open up gradually and we have gradual access to the hitherto autonomic nervous systems. More and more we have command over the autonomic nervous system along the spinal column from coccyx to sacral, sacral to lumber and so on, our latent genetic possibilities open up more fully. However, these results are still under scientific examination and definite results are yet to be obtained.

Sex, Greed and Failure

From the very beginning of this awakening the tantric experiences tremendous energy and power which the ignorant persons consider as supernatural. Majority of the tantriks fail after the initial achievements and because of their degeneration they cannot continue further practices properly. Their minds do not elevate in conformity with the elevation of the genetic possibilities. The most important reason is the freedom from taboos resulting in abject surrender to passions. The tantriks fail because of over indulgence of the desires like sexual desire and desire for power and fame by showing off his capabilities earned through practice of tantra.

The most important hindrance is sex. Sex is the most powerful aspect of our vital force as nature demands from us in the first place that we procreate for continuation of the species. Therefore the initial success of tantra practice is accompanied by empowerment of libido and sexual capabilities and the power to attract the females into sex orgies. So the tantrik is carried away by obsession with sex and this disables him to continue further practice successfully.

Some tantriks start making a show off of their acquired power through magic described by them as supernatural power. They attract people in large numbers to become his disciples. This guru cult fulfils his greed for money and power and he loses his way.

Now his limited power cannot be enhanced through tantra practices but his greed demands more capabilities and he now resorts to invented ideas of worship like offering sacrifices of animals and even human beings

to the goddess Kali whom the superstitious tantriks consider as a blood thirsty goddess.

Falsehood

Tantra practices like all exercises, *asanas* (body postures) and simple *pranayamas* (breathing exercises) have immense beneficial effects as they set free our dormant genetic potentials. But our outlook in this regard should be scientific rather than mystic and superstitious. The tantra cult has been associated with mysticism and supernatural. These are simply falsehood.

There is nothing mystic about tantra power. The powers we gain by tantra rituals are simply physiological like all other exercises or *asanas*. No goddesses or gods are involved in the seven chakras (nerve plexuses) and their base at coccyx. The dormant genetic potential at the coccyx is simply associated with our bio-genetic system and no *kundalini* goddess is involved here.

There are innumerable invented stories and myths about supernatural powers gained by tantra practices. Most of them are false and creation of the figment of imagination or hype targeting at befooling gullible people. The powers that could be achieved by tantra rituals are to be proved by evidence of actual achievements. Power could be achieved indeed. But how much and what type of power? This should be based on real experience of those who practice the rituals consistently and with sincerity.

Vedic teachings negate the concept of supernatural. The Supreme invisible being has created the universe and the laws (as discovered by science) to govern it. Supernatural means violation of laws created by the Supreme and the Creator Himself would never change the laws as change of a single law would, with its chain effects, destabilize the entire creation.

For practicing the finer *asanas*, breathing exercises, meditation and auto suggestions one should not go to the forests, hills or cemeteries, nor should one worship gods and goddesses. Necessity of rituals with human skulls or skeletons, animal or human sacrifices to the goddess, alcoholic or hashish addiction, dirty sex orgies all are the creation of perverted and deranged minds. These criminal and unclean activities do not help tantric achievements. On the contrary they lead to further degeneration of mental and physical health.

Honesty and Ethics

Honesty and ethics should be associated with tantra practices. The mind should be elevated to a higher ethical plain along with tantra related achievements. Otherwise power achieved by these practices would be harmful for the society. Physical exercises, boxing, martial art all these give one physical prowess.

Unless the mind is controlled, the strength thus acquired would turn a man into a bully and powerful criminal. Similarly tantra powers could be used to deceive people by magic, and thereby seduce innocent females into dirty sex orgies, or collect a large group of disciples with blind faith for the guru and use these man power to earn money and social & political power.

So ethics and morality are essential for deriving social benefits from tantra. A weak, unethical and dishonest person is not as harmful for the society as a strong one. So ethics (freedom from greed for money or social & political power, jealousy, pride, sexual obsession etc.) is more important for one gaining power by tantra practices than an ordinary person without such powers.

Be free from self-deception by associating myths, superstitions and mysticism with tantra and don't deceive others by magic, false stories of achievements (which you yourself have not experienced) for personal gain (money, social and political power, sexual orgies etc.)

Remember that Bhakti Yoga (*sakta*, *vaisnava*, *sufi* etc.) calls for the most sacred and magnanimous mind. Association of bhakti (devotion) with addiction to drugs and alcohol, dirty sex orgies and killing living beings (for sacrifice) in the name of bhakti rituals are grave sins from the standpoint of Bhakti cult.

Addiction results in derangement of intellect and sex orgies lead to perversion of senses and no yogic, tantra related or devotional achievement is possible with a deranged or perverted mind. In *sakta* bhakti cult goddess Kali is conceived as the universal mother. Not only human beings but also all other living beings are her children. Can a mother be thirsty for her children's blood?

Greed, Lust and Perverted Desires

The objective of a normal balanced person should be to achieve through tantra disease free sound physical and mental health, energy to perform his duties in a better way, capabilities to serve society more efficiently. These could be achieved by open tantra practices (of course under the guidance of a competent teacher).

The question arises if spectacular capabilities like flying in the air, stopping breathing for days, stopping function of the heart for hours, etc. could be achieved by tantra. In my knowledge there is no evidence of such magic achievements. I have heard only stories and while asked the story teller, "Have you yourself observed this?" The answer would always be "No. But Mr. X told me he saw this with his own eyes". But nobody probably has met this Mr. X. Moreover, even if these capabilities could be achieved through tantra, are they at all necessary for sound living? Not at all. Desire for these magic powers is not likely to arise in a sound mind. It arises out of greed, lust, malice, hatred and similar basic vices which, according to the sacred text Gita, are the roads to hell. These are simply the outcome of a perverted way of thinking.

Most of the people, who are goaded by these perverted desires fall prey to unscrupulous people who make money by tempting this sort of greedy and foolish folks. All cumbersome and esoteric practices associated with tantra are based on false promises of miraculous results which could never be achieved. With age, sexual power diminishes and our minds should be prepared to accept this natural decadence. But many people are unable to accept the reality and fail to moderate sexual desires keeping pace with falling natural capabilities. They become desperate to restore sexual capabilities and fall prey to dishonest persons pretending to have tantra powers to restore sexual capabilities. Certain cumbersome procedures exerting strain on prostate and other sex related glands may lead to disastrous consequences like the horrible effects of the chemical sildenafil (Mukherjee, 2006).

Not all persons propagating such esoteric practices are, however, swindlers. Some of them do this out of their own belief and superstitions.

Recent Scientific Experiments

Still many scientists have examined and explained certain uncommon achievements through tantra which have scientific evidence. To end this review article and personal testimony, I will cite some examples:

a) Research study by the Stress Studies Laboratory (Labeest), Department of Structural and Functional Biology, Institute of Biology, and the Metabolic Unit, School of Medical Sciences, both from the University of Campinas, Campinas, São Paulo, Brazil. November, 2015.

The study objective was to evaluate the effects of tantrik yoga practice (TYP) on stress levels by using a quantitative design with a 22 volunteer (15 female and 7 male) pre-post-test group. The study used protocols approved by the local ethics committee (Batista, 2014).

For six weeks, volunteers did tantrik exercises for 50 minutes each time, twice a week, and always at the same morning time.

To check results, salivary cortisol concentration (SCC) was used to measure the physiology of distress and to analyze the short- and long-term effects of TYP on stress levels. The psychological distress/well-being was evaluated by applying a specific perceived stress questionnaire (PSQ). Results (mean±standard deviation) were analyzed by the Wilcoxon test ($p < 0.05$).

Data collection showed SCC decreased 24% after the first week of tantrik exercises.

Tantrik practice was also effective to increase psychological well-being in volunteers as reflected in the PSQ ((0.45 ± 0.13 versus 0.39 ± 0.07). Namely, irritability, tension, and fatigue analyzed by the PSQ decreased (0.60 ± 0.20 versus 0.46 ± 0.13), as did the fear and anxiety domains (0.54 ± 0.30 versus 0.30 ± 0.20).

The study concluded that tantrik practice led to decreased cortisol production in the short term. Such effects have added to the participants' physical and mental well-being.

b) Another comparative study among *vajrayana* Buddhist (tantrik) practice, *Theravāda* Buddhist (*vipassana*) practice and Hindu (yoga) practice, carried out by the Psychology Department of the National University of Singapore, the Martinos Center for Biomedical Imaging, MGH, and Harvard Medical School, showed that only tantric practices led to a significant and immediate increase in intellectual response performance, increased perception, and heightened **phasic alertness** (voluntary, conscious and sustained attention) while the other types of practices failed to show any performance benefits after their practice (Amihai, 2014).

“To generalize the concept of **meditation** as for all of the yoga practices —either Buddhist or Hindu— and tantrik practices is incorrect since they are exercises that, under the same name, are drastically different” (Gómez, 2008).

The *g-Tummno* meditation was one of the studied tantrik meditations together with the contemplative meditations of the *Theravāda* (*Vipassana*) and Hindu (yoga) traditions (Yeshe, 1987).

Tantrik practices allow to increase the activity of the sympathetic system and to have a better response to external or internal stimuli. Studies conducted on practitioners of *g-Tummo* meditation showed this meditation actually increases body temperature, which is an indication of an efficient sympathetic response (Benson, 1990).

Kozhevnikov showed that the *g-Tummo* tantrik meditation allows not only to increase peripheral body temperature but also, and even more important, central body temperature, which demonstrates the activity of the sympathetic nervous system increases substantially as a consequence of such a practice (Kozhevnikov, 2013).

Another study shows completely opposite results between tantrik practices and the *Theravāda/Mahayana* ones: relaxation, calmness, and reduced perception (total absentmindedness from outside reality) in *Theravāda/Mahayana* practices; and arousal, mindfulness and wakefulness in tantrik practices (*Vajrayana*) (Amihai, 2015).

Conclusion

Unlike *Theravāda/Mahayana* meditation practices, *Vajrayana* practice does not cultivate relaxation but a heightened alertness (being mindful and wakeful). *Vajrayana* Buddhist scriptures aim at the realization of “wakefulness” or “an awake quality” of the mind, free from dualistic thoughts, and they warn against excessive calmness (Rinponche, 1999). In contrast, scriptures and meditation instructions from the *Theravāda* or *Mahayana* tradition aim at the realization of quietness and calmness (Buksbazen, 2002).

This highlights the philosophical, social, and cultural consequences of these two types of meditations: tantrik, active; and *Theravāda/Mahayana*, contemplative.

In other words, based on the previous presented research studies, tantrik practices would create better cognitive and physiological responses: heightened arousal and **phasic alertness**, and at the same time they would significantly reduce stress levels; while the other types of meditation from the *Theravāda (Vipassana)* Buddhist or Hindu (yoga) traditions would create a relaxation response and **tonic alertness** (involuntary) with increased parasympathetic activity (Wu, 2008).

In light of this article, I count on having demonstrated that essential tantrik practices—which have nothing to do with magic formulations, sexual rites or complicated mystic ceremonies but rather with individual physical exercises designed to consciously control emotions, thoughts, and the attention—add to human health, as I showed with my personal experience under the guidance of a tantrik master—a professor at a prestigious university, Prof. Bishnu Charan Ghosh—and the evidence-based research studies presented at the end.

I also look forward to letting the door open to health researchers to devote their attention to the actual, and hitherto obscured, tantrik practices.

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