

The Science behind Indian Rituals, Customs and Traditions.

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Abstract— *Every tradition or custom would not have been practiced without having significance. The generation today looks at traditions to be based on pure beliefs. From time immemorial, Indians have observed numerous rituals and traditions from dawn to dusk in their day to day life. Some are pointed out in Vedic scriptures and some were included later during the ages of Brahman scriptures. In Indian society, these rituals were and are followed religiously, tagging it with superstition. It's high time we realize that our forefathers were way more visionary and intelligent than what we are. Religion and science are not opposing streams. There is a strong connection between them. With the advent of science and technology, we have found scientific reasons behind these rituals and traditions. Traditions and customs were taught at a very young age and followed as part of life. In this modern age of globalization, the existing challenge is an attempt to bridge traditions and Science. This article sums up the rituals, customs and traditions with the possible scientific reasons and significance they carry with them.*

Keywords— *Etiquette, Indian Rituals, Pandemic, Samsara's, Science.*

I. OBJECTIVE OF THE STUDY:

There are a large number of customs that are followed in India. Many people believe that these traditions are just superstitions with no reasonable or scientific motivations. But the fact is that many of these rituals have scientific thinking behind them. As the scientists dwell deeper into the mysteries of these ancient customs, they found that our customs are precipitous with logic and science. The rituals followed in India are also aimed at bringing a holistic balance between the body, mind and soul. It's a real surprise to see how our forefathers were ahead of their times and knew a lot about the health and mental benefits of many things that we are unaware of even today. This paper is a study to understand the science behind every ritual and customs followed in every Indian household which has been wrapped under the shadow of myth and superstitions.

II. SIGNIFICANCE AND SCOPE OF THE STUDY

Our heritage is so rich that the whole world is attracted by our customs. *Customs* are laws or rules which are not written but are practised since ancient times and are passed on by ancestors to the next generation. *Tradition* is a belief, principle or way of acting in a particular

society or group continued to follow for a long time. Rituals are procedures which are performed according to prescribed rules. These have become our heritage today. At first, they were considered superstitions but with the advent of science, the realization of the underlying scientific basis behind these traditions became clear and is being carried forward. So, the study of science behind these traditions holds great significance at this particular time when the whole world is reeling under the pandemic stress which will allow the scholars for further study.

III. INTRODUCTION

There will be no exaggeration if we say that Indian culture is the storehouse of all human qualities because Indian culture believes in the mantra '*Survey Bhavantu Sukhinah* (Brihadaranyaka Upanishad) meaning may all become happy and from this arises a great welfare mantra of '*Vasudev Kutumbakam*' (Maha Upanishad 6.71-75) meaning the whole world is one single family. India is a land of culture, tradition and customs. Indian traditions and culture are known universally. "*Culture* describes all the mental processes that are (or can be) subject to social transmission, as well as other elements of human behaviour that help to establish and form our mental processes. (Norbert Ross). Our heritage is so rich that the whole world is attracted by our customs. We have been following our customs and tradition since ages and science is embedded in these traditions and customs. Countless rituals and traditions have been performed in Indian homes for centuries. At first, they were considered superstitions but with the advent of science, the realization of the underlying scientific basis behind these traditions became clear and is being carried forward.

1. Significance of ringing a bell and blowing a conch

We ring the bell when we go to the temple and worship at home in the Hindu faith. It is believed that by ringing the bell, the idols installed in the temple awaken consciousness. The charming and resonant sound of the bell has the potential to lead the mind towards spirituality. The mind attaches to the rhythm of the bell and feels peace. Not only is there a religious reason behind the installation of a bell outside the temple, but scientific reasons also support the theory. Scientists say that when the bell is rung, there is a vibration in the atmosphere. The advantage of this vibration is that all the bacteria, viruses and micro-organisms that come in its area are destroyed, and purifies the environment and removes negative powers.

Shank comes from the Sanskrit word "**Shum**" which means something good and "**Kham**" meaning water, hence **Shankam** (conch) means, holding the sacred water. ([www.speaking tree](http://www.speakingtree.com)) It is an integral part of Hindu customs and traditions. Other than in temples many Indian households use this as a part of their worship. It has its origin from the sea. When we place the conch near our ears we can hear the melodious sound of the ocean. Blowing it enhances positive vibrations in the environment, and the vibrations coming out destroys the germs in the atmosphere. It is also found that by regularly blowing the conch speech can be corrected for children who stammer. It also helps in clearing heart blockage and

improves the respiratory system. When water stored in conch is used it helps to cure many skin diseases and allergies, indigestion etc; and also to treat menopause.

2. Customs and Manners

Customs and manners are the expressions of ethics and social conduct in a society. Indian culture is dominating the whole world today because of its rich culture. When the whole world is reeling under the Pandemic threat western countries are adopting the Indian traditions which include many forms of greetings, and etiquette like washing the hands and feet's before entering the house, drink water without sipping (no lip contact). Each of them was tagged with cultural beliefs, having scientific reasoning behind it.

2.1. Namaskara

In Indian tradition when people meet, they greet each other with their palms joined together in front of the chest. This gesture symbolizes respect to all living beings and also the feeling of oneness. This form is called '*Namaskara*' which is offered to parents, elders and older siblings. The word '*Namaha*' derives its roots from the word '*nam*' which means 'to bend down'. When we bend down in front of others we overcome our ego. The science behind this gesture is that while we join both our palms it ensures we don't have physical contact with the other person, helping us to avoid transmission of germs or virus through contact or touch. Secondly, when the tip of all the fingers are together they represent the five elements wherein the thumb represents fire, index finger air, middle finger space, ring finger the earth and little finger water. Hence pressing the fingers denotes that the pressure points of our eyes, ears and mind are activated.

2.2. Saastaanga Namaskara

In this form, the person lies down flat on his stomach, with the eight parts of the body touching the ground. The following verse defines the greeting:

*“urasaa shirasaa chaiva manasaa vapushaa giraa|
Padbhyaam jaanubhyam karaabhyaam namasakaaro staanga ucyate “*

Meaning a salutation is said to be eight-limbed when it is performed with one's chest, head, mind, body, speech, feet, knees and hands". When one does this it increases the blood circulation and also provides useful exercise and promotes vigour and enthusiasm.

2.3. Charan Sparsh (Touching the feet)

The word *charan* denotes the feet and *Sparsh* touch. Together they mean 'to touch one's feet'. The Atharva – Veda gives great importance to this type of greeting. Here a person exhibits the respect one holds for the elderly person. The scientific basis to Charan sparsh is that the human body releases vibrations and also receives them from the person who comes close. This helps in the flow of energy in the body.

3. Etiquette

The global epidemic reminds us of our old culture and tradition that has been left behind the western culture. We feel proud to westernize. Indian values follow few rituals from time immemorial having its own significance. The habit of washing the hands and feet before eating a meal, before entering the house, was considered as a cultural belief, has more science behind it. The human body is the powerhouse of energy, called 'chakras'. When we are asleep this part stops generating energy hence we are inactive for some time when we wake up. That is the reason why we wash our face and take a bath so that we energize these chakras. When we travel from one place to another we roam about in many places many germs attack us through our hands and feet. According to Ayurveda, it is believed that diseases related to eyes occur when we have unhygienic feet. So Indians follow a tradition of leaving their footwear outside the house and wash their hands and feet before entering the house so that the negative energy is warded off. When we wash our hands and legs with cool water it relaxes and relieves our body from stress. The reason why most Indians don't sip water from a glass, or bottle sipped by another person is to ensure that he does not transfer germs leading a way to contract diseases.

4. Samskaras

Indian culture holds special importance for the rituals termed as Samskaras. It is an integral part of the Vedic tradition. Each samskara has a definite significance and serves a definite purpose. It helps the individual to proceed through each stage of life. There are *forty samskaras* mentioned in the scriptures (**being Smart Samskaras, Panch Maha yajnas, Paka yajnas, Sruta Karmas and Soma Yajnas**) which are performed as occasion arises. Of all these Samskaras the *Shodash Samskaras (The Sixteen Samskaras)* have a prominent place and are prevalent in Indian Society. These shodash samskaras do not involve mere preaching or powerful mantras of religious instincts, but these rituals involve processes affecting the subtle level of human consciousness. It also has an impact on human psychology, the endocrine system and the genetic machinery. Along with the constant refinement of man and his growth, the concrete objective has been to purify the environment around the man and keep him healthy. In Indian culture, there are many rituals in the life of a person from birth to death. A major identity of Indian culture and civilization is the customs, which begin with the rites when the fetus develops within the mother and performed for the well-being of both (Fetus & Mother). There are sixteen types of these sanskaras. described in 'Vyasamriti'.

*"garbhadhaanan punsavanan seemanto jaatakarm ch /
naamakriya nishakramonnepraashanan vapan kriya //
karn bedho vrataadesho vedaarambh kriya vidhi: //*

*keshaant: snaanamudvaaho vivaahaagni parigrah: //
tretaagnisan grahashcheti sanskaara: shodash: smrtah // (Vyasamriti
1/13-15)*

Garbhadhana is a samskara that sanctifies conception, the act by which the embryo is well borne. Medical research has confirmed that during the time of physical intimacy the

mental state of the couple has a reflection on the child. *Pumsavana* is performed in the third month of pregnancy for the birth of a male child. At this time the fetus starts growing physically. The mother's emotion and feelings affect the fetus. This ceremony is conducted to prepare the mother of her responsibility with emotional strength towards the unborn baby. *Simantonnayana* is a samskara performed in the sixth or eighth month of pregnancy which is meant for the well - being of the mother and the child she is carrying. The derivation of the word *Simantonnayana* is '*simamantamunniyate yena karmana tat*', which is the act of parting the hair. The husband parts the wife's hair, so as to invoke goddess Lakshmi for the protection of the mother and the unborn child. This prenatal samskara provides a conducive and a positive emotional environment. *Jaatakarma* is a samskara performed at the birth for the purification of the newborn child. This is done for the strength, longevity and intelligence of the child. In this ceremony cotton soaked in ghee is placed on the baby's head. The scientific reason behind this ritual is that it prevents heat loss from the baby's head preventing hypothermia. During this ceremony, the baby is given honey and ghee which is both nutrition and immunization. Another reason is that honey serves as a mild allergen which help's to start the synthesis of antibodies, helping the baby from any infection. This also helps in initiating the gastrointestinal movement of the baby and activate the gut. The chanting of mantra's during this ceremony helps the parents by giving them psychological support mainly the mother.

Namakarana is the ceremony celebrated on the 11th day of childbirth. It means the naming ceremony an integral part of one's identity. The importance of naming ceremony is beautifully expressed in the following verse by *Brhaspati* in *Viramitro-daya-samskara-prakasa* –“*namnaiva kirtim labhate manusyah tatah prasastam khalu namakarma*” meaning through name alone a person gets fame hence the naming ceremony is praiseworthy. The samskara is performed after 11 days because the early neonatal period is passed and the child has a lower risk of infection. Bathing of mother and baby with medicated water helps in maintaining hygiene and keeping infections at bay. *Niskramana* is the ceremony performed during the third or fourth month after the childbirth. It means 'stepping out of the house'. By this time the newborn child gets accustomed to the sun, air and the noise of the environment. The baby develops enough immunity and tolerance to the external environment. The baby's head becomes steady, there are hand and eye coordination. The persistence of primitive reflexes, if any can be known. *Annaprasana* is the ceremony held in the 6th month where the child is fed with solid food for the first time. Traditionally a mixture of rice, ghee, curd and honey is given. During this ceremony, mantras are chanted by the priest for the health and strength of the child. This also signifies that the child learns to eat the right kind of food. During this time the child starts teething and the digestive system of the child is ready to accept solid food. Cereals are the basic food which helps the child to obtain nutrition thereby providing nourishment and facilitate growth. Intake of fruits provides the baby with all the vital vitamins and minerals. *Chudakarana* is the samskara performed when the child is a year old or when the child is three years old. It is performed by chanting of mantras following the family tradition. All the hair is shaved off during this ceremony. Hair acts as a protective layer. Cutting of hair gives lightness and prosperity. This *samskara* gives a chance for the examination of the skull and growth of hair. Detection of abnormalities like craniocynostosis, wide sutures,

microcephaly, macrocephaly, elevated or depressed fontanels etc. It also helps reveal cranial defects or craniotables. (Khedkar, 2018)

Karnabedhan, meaning the act where the earlobe is pierced. It has major importance in the sixteen samskaras. It is performed between the first and the third year after the birth of the child. The earlobes are pierced until the sun's rays can be seen through them. In Indian culture, the practice of wearing jewellery by both female and male was prevalent, but over time it has become a symbol of adornment only. Karnabedhan is generally done along with chudakaran. The science behind karnabedhan is equated with acupuncture and acupressure treatment. There are many acupuncture and acupressure points in the outer part of our ear which is important for the treatment of asthma. Wearing gold earrings by women helps in regulating menstrual periods and relief in problems like hysteria. *Vidyarambha*, *Upanayana*, *Vedarambha*, *Kesanta* or *Godana*, *Samavartana* are other samskaras which have importance in human life.

All the rites related to marriage are important in *Vivaha Samskara*. It is an important samskara where a person enters the second stage of life. The marriage ceremony has many elaborate practices ranging from applying Mehandi, vermilion to wearing a toe ring. All these are not only symbols of the girl's entry into marital life but also have scientific reasoning behind it.

5. Importance of applying Henna/ Mehandi

At the time of marriage, the bride applies Mehandi or Henna on her hands and feet not just for decoration but the science behind all these practices is hidden. At the time of marriage, henna is applied to the bride's hands and feet. This practice has been going on in our country for years. It is not just a means of dressing, which gives a beautiful colour to the hands and feet, but it also has many medicinal properties. During the marriage, the bride is very much stressed and undergoes exhaustion. Because of its cooling effects, it helps in keeping and relaxing the nerve endings. It also helps prevent headaches and stress and protects the hands and nails from viral and fungal infections and growth of the nails.

6. Importance of Tilak/Kumkum /Sindhur on the forehead

As part of Indian tradition, both men and woman put a *Tilak* or *Bindiya* on his or her forehead. It's applied on the centre of the forehead, a spot in brow centre between the two eyebrows which is the control point of the whole body a major nerve point in the human body. Traditionally sandalwood, red kumkum /Tilak, clay or ash from Yagya are used. Kumkum is prepared by blending turmeric, lime and the metal mercury where Mercury is known for removing stress and strain, lime gives cooling effect and turmeric an antibiotic. This particular spot between the eyebrows are believed to retain energy in the human body and control the various levels of absorption of heat by making it cool, it also helps to overcome headache and balance hormones. On the application of the tilak, the Aghnya-chakra is automatically pressed to facilitate the face muscles blood supply. A mixture of kumkum and turmeric are good germicidal and keeps the skin healthy while helping the sinews and ligaments to function naturally. (Bhalla, 2018)

There is a tradition in India to apply vermilion a (mixture of turmeric, lime and mercury) by the bridegroom on the bride's hair partition which is termed as '*Sindhur*' during the wedding. A woman's vermilion a sign of fortune and a sign of her married life, indicative of the woman's entry into the housewife's life from her life as a daughter. The vermilion is applied between the hairs on the forehead. Its importance has been mentioned in the Vedas, which is related to our health. In fact, the vermilion is applied straight up to the pituitary gland because this part is more delicate in women than men. The vermilion applied serves as a medicine. Due to excess of mercury, the face does not wrinkle. Also, the electrical stimulation located in the woman's body is controlled. It cools the body and makes the body feel relaxed. This also creates a sexual desire in them. It also prevents the spread of lice. In the soft spot, the mercury reaches the surface of the Sushmana pulse through the pores. When the germs that damage the genitals, pollute the blood and body then the mercury helps in destroying it. The red colour also wards off evil.

7. Importance of Jewels/ Ornaments

Indian women wear ornaments not solely to adorn themselves (Sinha, 2014), but are a symbol of wedding for married women. In the Vedic tradition, a woman is seen adorning every kind of ornament.

7.1. Natni (the nose ring)

According to Indian traditions and culture, '*natni*' is considered as a sign of marriage, and is an integral part of traditional bridal jewellery. It is usually worn on the left side of the nose in India. According to Ayurveda, piercing of the nose is associated with female reproductive organs. It is believed that a woman who is pierced on the left side experiences less pain during childbirth and less pain during menstruation. It also regulates the breath and also protects nasal problems and relief from cough and cold.

7.2. Mangalasutra

'*Mangalasutra*' is the identity of a married woman, which is worn as a symbol of keeping the woman happy for life, but the science behind it is that the mangalsutra is worn above the heart with the hollow side facing the body so that the positive energies are attracted towards the void of the cups and this helps to regulate the blood circulation in the woman's body. The gold wire of the Mangalsutra destroys the distressing vibrations present within the Universe through its energy. The black colour of the beads is claimed to soak up all negative vibrations. ([www.speaking tree](http://www.speakingtree.com))

7.3. Bangle

'*Bangle*' is a circular form of ornament that is worn in hands by the woman. The bangle is one of the most important ornaments that an Indian woman wears. It is a symbol of luck and prosperity for married women who undergo many mental and physical changes in her life. Most of the disease are diagnosed by the pulse beat of the wrist. When women wear bangles, the friction of bangles increases the blood circulation level. Besides, the energy that passes through the outer skin is sent back to the body through a circular bangle. As there is a nerve in our wrist that tells us the heartbeat rate, these bangles increase the blood circulation within the body and

it doesn't let the charges of the body to go out (www.walkthroughindia.com). The sound generated by the glass bangles keeps negative energies at bay (www.speakingtree.in).

7.4. Anklet

The *anklet* is a piece of favourite jewellery worn by Indian women which are made of silver. Worn for the adornment of the feet is not just the form of sixteen adornments. This ornament while walking produces sound, has many qualities. It Prevents swelling of the soles of the feet, protects against swelling and curing inflammation of the heel regulating blood circulation. It also helps in regulating the menstrual problems, infertility, hormonal imbalance and abnormal conditions of obstetrics, helps maintain sexual desire. Silver being a conductor of energy, work as a mediator between the earth and the human body and makes a woman more energetic while sending the negative energy to earth through the foot.

7.5. 'Bichiya' (Toe ring)

In the Ramayana itself, there is mention of Sita throwing her jewellery in the forest at the time of Sita Haran which also has a '*bichiya*' (*toe ring*). It has social significance. It is worn in the second toe of both the foot. The Vedas and Ayurveda texts give details of what health properties it has by wearing it. There is mention about the treatment of gynecological problems while wearing the toe ring which helps in toe massage. The second toe of the leg connects to the woman's uterus and it keeps the uterus strong and connects with the heart and thus keeps the blood flow regular and regulates the menstrual cycle. Acupressure is the best medium. The metal silver which is a good conductor helps absorb the polar energy from the earth and leaving the negative energy out of the body.

8.The significance behind Indian Food etiquette

Food is one of the basic needs of every living organism. Besides being a physiological necessity it also has an importance on an emotional level. Food is an integral part of Indian culture. The specialty of Indian food and drink is different from any other country. Different types of dishes are prepared in every state and the method of serving them is also different. But each food etiquette uses the same flavour, which makes Indian food unique. Our forefathers emphasized on the point we start with spicy food and end with a sweet. The significance behind this is that starting with spicy food activates our digestive juices and ensures that the digestion process goes on smoothly and in the end sweet is to be taken because sweets reduce digestive power. All the spices used in Indian food play a key role in good health. Not only do they add aroma to the food but they act as antibiotics and antiseptics. Regular use of Turmeric helps to control cholesterol, blood pressure and reduces the risk of heart diseases. Pepper is a detoxing agent which helps the body to have a good immune system. Cardamom, cloves act as mouth freshener's and help in digestion of the food. Curry leaves help maintain sugar levels and proper functioning of the liver. Use of ghee in our food helps in balancing the excess acid found in the stomach and is a rich source of vitamin A and E and a good antioxidant. This is the reason why the whole world praised Indian food and understood the healthy benefits of having it during the corona pandemic.

From olden days, till present day food is served in *banana leaves* sitting on the floor. It is not just a symbol of our culture. It also has a benefits for health, which have natural antioxidants to protect us from many diseases. They have the property of killing germs. There is a type of waxy coating which melts when served hot food and gives a different taste to the food. There are many benefits of eating food while sitting on the ground in *sukhasana*. When we sit in this asana on the ground, it promotes our digestive power along with the peace of mind and at the same time relieves the problem of the spinal cord.

In Indian culture, '*Paan*' (*betel leaves*) which is also called as Tambool or Paarna in the Sanskrit language has a very significant role to play. It is used for all traditional rituals in all auspicious occasions. It is believed that the betel leaf is inhabited by various deities. It has been an inseparable part of Indian cuisine. The practice of eating betel leaves after food is prevalent in India. One reason for this is that it has a mixture of six juices hence after food when you have paan and swallowing its juice, the food is digested quickly. It has many medicinal properties, so it is used in large quantities by ayurvedic physicians. It has great cooling effects hence helps in cooling the mouth. Also, betel leaf is used for curbing cough, increasing sexual power, reducing diabetes, stop the weakness of the veins, constipation etc;

IV. FINDINGS

Every ritual, custom, traditions known as Samskara are not just beliefs but it is performed with an objective of imparting positive potentials in a person. These religious beliefs are analyzed scientifically which will help in bringing tradition and science closer. The real purpose of the customs followed in our day to day lives, carry the possible scientific reason which we got convinced with. Our ancient customs or traditions have magnificence of living. It is our duty to pass on this heritage of traditions to our future generations for a peaceful life. Today, there is a need to approve it again and there is a call to assimilate it. While culture and science separately give rise to a kind of fundamentalism in society, together they create a kind of positivity, where culture strengthens our roots while science gives us the sky to fly. Religious beliefs when analyzed scientifically help in bringing tradition and science closer.

V. CONCLUSION

We are living in an era of the scientific revolution. Science is involved in raising money, power and material comfort for man. Tensions and disputes are feared in rapidly changing societies, so there should be harmony between scientific progress and culture i.e.; the beauty and morality. With this, our life can be filled with real joy. Indian culture has an amazing ability to teach the ideal to all human beings of the world. To overcome today's nuclear storm, we have to adopt the cultural strength of our past, which has been preferred for ages. In conclusion, we can say "Sa Prathma sanskriti: Vishwavara" – Yajurveda (7/14) which means that this is the first culture that should be imbibed by every civilization.

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