

ARCHAEOLOGICAL, GEOGRAPHICAL, CLIMATIC AND SCIENTIFIC REASONS FOR DATES OF INDIAN FESTIVALS

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Abstract

Annual festivals and celebrations are part of many cultures as they are necessary for human happiness and relations. Festivals are of two types mainly personal and cultural. Personal festivals don't need a scientific background. But festivals based upon tradition are deeply rooted in the need of society. However, in olden times, due to lack of advance scientific knowledge, many of the festivals were given support of stories or anecdotes. But over the period stories have become so powerful that the original meaning of the festival and the reason behind it has lost its value. This article is an attempt to understand the need of such festival so that modern generation can be made aware of it, For Example, Holi was celebrated because it was pretty cold in winter and taking bath in cold river water was not possible. So most people may have used flower petal based perfume or color to work with the freshness. Nagpanchami was celebrated as snakes comes out of their holes in rainy season and may have been spotted by farmers. They may have tried to kill them, but realizing their importance in rat control, they started the festival to stop killing the snakes.

Keywords: *Festival, scientific reasoning, Holi, Nagpanchami, Pitrapaksh*

Introduction

Annual festivals and celebrations are part of many cultures in both the modern world as well as the ancient civilisations nearly 7000 years ago (Brandt & Iddeng, 2012; Falassi, 1987; Quinn, 2005). Festivals or celebration were used to bring the community together, increase the morale of people, and in general to make people enthusiastic. Festivals are important part of any culture or tradition, but they are more than just a date or celebrations. Any festivals can generally be classified in two types: Person based or tradition based. A person based festival like Krishna Janmashtami or Ram Navami are associated with a person who has performed some great work or elevated to level of god due to his good deeds. Such festivals do not have direct scientific reason assigned to them. But traditional festival like Holi, Gudi Padwa, Shradh Paksh (Pitra Paksh), etc. should always have a scientific reason assigned to them.

In any civilization, festivals are assigned to some specific dates which are usually connected to climatic change or cycle of season (Bunson, 2002; Jeong & Santos, 2004; Roy, 2005). However, the need to celebrate a specific festival cannot be just limited to climatic change. There has to be more scientific meaning to it, otherwise all seasonal changes needed to be celebrated. This paper dwells into such changes in more scientific manner, then just attributing it to climatic or seasonal changes. However, it will not be possible to list the reasons

of all festivals of all civilizations in one paper. Hence, this paper will focus on some specific festivals of India or Bharat.

Almost all of the festivals celebrated in India are commonly based on natural conditions and are often in accordance with crop harvests, lunar cycles, seasonal/temperature changes, and other natural phenomena (Roy, 2005; Vivekjiandas, 2010; Walters, 2016). These festivals did not follow the Gregorian calendar adopted by the world today, but rather the original calendar followed in India, being the lunar year lasting 354 days rather than the 365 we are accustomed to, due to the 12 cycles of the moon being comparatively shorter (Chapront et al., 2002; Goldstein, 2003).

The following study not only compares the astronomical events, happenings and change in seasons around the time of the festivals mentioned, but also dwell into mind and behaviour of ancient India around the same time. Through this, one can evaluate the correlation between scientific reason for these celebrations and the need of this festival. The reasons which may be overlooked due to the stories, on which the festivals are based and hence also prove the significance of the festivals and the need of it.

Celebrations are a part of humanity and have continued to be so for thousands of years as they connect all sections of society (Frey, 1994; Quinn, 2005; Waterman, 1998). They are a part of the truly human experience we share as they transcend the title of niche practices and become something truly

connective and representative of a nation's identity. However, we seem to simply think of festivals from a one-dimensional view only based on folklore and stories passed down over generations, when they represent a lot more than just this. Rather than the ideas of the stories being the marking of the cultural icons, it is in some ways a form of need and determines the wellness of the future generations with time.

Even in the widely disconnected world hundreds of years ago, a linking pin that overcame all differences was the festivals that bear a striking resemblance to one another even with the cultural differences. For example, Gudi Padwa is celebrated in India to mark the start of the New Year according to the Indian lunar calendar in spite of switching to the Gregorian calendar many years ago. A similar situation arises with the Chinese New Year, better known as the lunar New Year. Along with this, the two festivals also share the fact that they are indirectly connected by the start of the agricultural year and harvests. In fact, most ancient time calendars began with the start of the agricultural year and continued to be today as well. Wepet-Renpet, Mayan New Year, Inti Raymi, Songkran and the others mentioned above also begin at times related to either the start of the agricultural season or other important days such as solstices.

Not only new years, but other festivals such as Diwali from Hindu culture can closely be compared and contrasted with the lantern festival originating in around 206 B.C. in Chinese mainland created by Buddhist monks inhabiting the area (Ciyuan, 1988; McDowell & Brown, 2009; Stepanchuk, 1991; Wei, 2011). Diwali is known as the festival of lights and is in a way also connected to the lantern festival in that facet. Lighting Diyas and lanterns may also be connected to lighting up areas in the dark winter, especially on Diwali as it is the darkest night in all of the year. The heat produced by the lighting of the lamps also might produce heat hence keeping them warm and perhaps is only helped by the stories from the past.

Hypothesis:

The study focuses on the theory that all non-personal festivals across different cultures are performed for certain scientific reasons which have been overshadowed by the stories and folklore that have been believed for thousands of years. It consists of speculation about what the festivals actually stood for many years ago. Many festivals of utmost importance have remained in our cultures for many centuries and have many different similarities possibly due to their hypothesised scientific roots.

There still remains a gap in the current knowledge as certain festivals seem to appear at similar times or according to astronomical events like equinoxes or solstice, but need a bigger reason than just this. This is exemplified in the following case studies:

Holi:

Holi is one of the most important festivals in Indian culture as is seen in the fact that it is celebrated over 1700 years ago at the very least and has continued to be extremely important till date (Greenberg, 2008; Schwartz, 2004). Holi is often associated with the last full moon day of the Indian luni-solar calendar and the oncoming of spring. Holi is referenced in various old scriptures like Ratnavali, Narada Purana, Bhavishya Purana etc. Holi also consists of a separate practice which is the burning of wood and other fallen items from the trees. This practice has been performed to symbolise the death of Holika, a demon, according to the legend of Prahlad (Glucklich, 2008; Lorenzen, 1996; Mukherjee, S. N., 2013). Historically holi is associated with Radha Krishna also.

Scientific Reasoning:

Apart from the history, there is a bigger scientific reason for celebrating holi. In ancient times, most of the people lived in northern India, particularly along the coast of river Ganga, Yamuna, etc. This river used to bring water from Himalaya which was mainly from the melting of glacier and would have been very cold. Also, temperature at that time, would have been much lower given the low population and high amount of trees. Hence, during frigid times, it may be difficult for most people to take bath in rivers on daily basis or even perform cleaning ritual. Hence, playing with natural colour made from flowers or gulaal would help them to get back into routine after frigid time.

Holi also consists of a separate practice which is the burning of wood and other fallen items from the trees. However, this may have served another purpose during that time. It was to increase carbon dioxide levels as the pollution was very less and there may not be enough amount of carbon dioxide to create faster warming rate. This practice may not be necessary in modern times as there is already enough pollution in atmosphere.

Similar Festival Around The World:

Holi also has its counterparts such as La Tomatina which is celebrated in Spain during the summer months (Galván, 2014). Fiesta de Cascamorras which also originated in Spain and Songkran, which is celebrated in Thailand. Songkran is particularly celebrated during the equinox, which is a similarity as Holi too is celebrated on an equinox.

In Thailand, the hottest month of the year is April which coincides with Songkran and thus can be correlated with the usage of water to cool down, a practice which is common in recent times. The ancient Aztec civilisation also had a festival called Tlaxochimaco which celebrated the coming of spring and had flower arrangements as well as gratitude and devotion as key points in the festival (Hurt & Plew, 1998).

New Years or Gudi Padwa:

Gudi Padwa is a festival celebrated in certain parts of India such as Maharashtra and is commonly known as the Indian New Year (Dalal, 2010).

Scientific Reasoning:

In ancient times, these festivals stood for a restart in civilisation, where they attempt to discard the used and old, and advance to the new and better tools they had made. Most of these festivals happened at the start of the agricultural year, which was why they had such a large variation in Gregorian calendars when seen at first. It is celebrated during the start of spring in March, when the Indian subcontinent has harvest season.

But the idea to have "GUDI" on top of house to welcome sun, suggest their understanding about sun's role in agriculture and food preparation. The ancient world primarily functioned on agriculture, and most households functioned off of the same. This made agriculture one of the most important parts of the ancient world in its essence, and hence harvests were celebrated as a new beginning for every section of society. For many, it was seen as a new beginning and therefore became the ground for a 'new year' in their eyes.

Similar Festival Around The World:

Many other cultures such as China and many other Asian countries with the Lunar New Year, Songkran from Thailand, Inti Raymi from the Incan Empire, Mayan New Year from the Mayan civilisation and Wepet-Renpet from ancient Egypt celebrate new year like this (McFarland, 1995; *Thai Culture, Songkran Festival*, 1989; Zaki, 2008). Most of these festivals happened during the summer or spring in their respective regions.

Nag Panchami:

Nag Panchami is celebrated on the fifth day of the bright half of lunar month of Shrawana (July-August). The original story starts in the time of Pandavas when they were granted half of their kingdom Hastinapur and named it Indraprastha (Mukherjee, S. N., 2013; Pattanaik, 2010). A part of their Kingdom was forest which they had to burn down to make place for the people of Hastinapur. During the fire initiated by Arjuna, the wife of the

snake Chieftain died. The revenge was completed when Parikshit, the grandson of Arjuna died of snake bite. His son King Janamejaya wanted to get revenge on all the snakes for his father's death and ordered for a Sarpa Satra which would kill all living snakes. However, he stopped his Yagna on the 5th day thus celebrating Nag Panchami.

Scientific Reasoning:

Snakes were resented and still are because of their nature to bite humans and their cattle. In ancient times there were close to no antidotes because a person would die before any Ayurveda practitioner would even get to examine the snake and the type of poison. They may have tried to exterminate the snakes but failed. This festival came into existence because of the increased confrontation with the snakes during Shrawan month as their underground burrows were flooded with rain water.

This story serves as an important notice to us humans that one cannot exterminate anyone and everyone to their will. The snakes harm human beings only if they feel threatened. Human beings on the other hand try to get every pest, rodent and reptiles exterminated without realizing its full impact. Human cruelty can also be seen on the day of Nag Panchami during modern day. The commonly displayed snakes by snake charmers on Nag Panchami are common Indian cobra and Indian rat snake.

The snakes are caught from the wild in a perfectly healthy condition 30-45 days before Nag Panchami. They are then put through a lot of cruelty. Their fangs are removed using cutting pliers and at times their mouth is stitched so that they don't bite. Later they are enclosed in a round wooden basket for more than a month without any food or water which makes them weak, dehydrated and they are left with cramped muscles which kills their speedy movement. Because of cramped muscles, a cobra takes 20 min to 25 min to move across one foot!

The story suggests us that one should not kill everything which may harm us as one does not know about its uses in other aspects of life.

Similar Festival Around The World:

There are many references to worship of snakes in many other cultures worldwide. Some include Native American – Hopi Snake Dance which usually comes in August and the dance allegedly invoke snake spirits which bring rain. The Dan Worship in West Africa also worships snakes for protection. This tells us that snakes are important in many parts of the world.

Pitra/Shradha Paksha:

Pitra Paksha is celebrated during 2nd or 3rd week of September in remembrance of all our deceased

ancestors. The festival has remained quite important in Hindu culture and has been celebrated since the Vedic times.

The festival is started by the rituals by waking up early and taking a bath. After cleansing, the house is cleaned, and Satvik food is prepared to invite a Brahmin to the home. The male member of the family performs the Pitru Tarpan, and food, clothing, and Dakshina are offered to the Brahmin or priest. It is customary to receive his blessings by touching his feet. Additionally, feeding cows, dogs, and crows is considered highly auspicious. People offer food and their prayers are considered accepted when a crow eats a part of the offered food. Performing Pitru Tarpan at Ganga Ghat is believed to be especially meritorious, which is why many people visit the Ganga Ghats for these sacred rituals. Celebratory events of life or buying new things are generally avoided during this time.

Scientific Reasoning:

It is celebrated especially after autumn equinox because the Sun migrates to the southern hemisphere, which in Hindu culture is considered as a place of ancestors. It is considered auspicious that the sun is migrating towards them and is celebrated as the day of the ancestors.

However, the main reason of the festival is the beginning of bigger nights and reducing temperatures. So agriculture activities may be reduced and illness may be on rise. Because of this saving may be advised and hence, buying or splurging on festivals may be stopped.

Lord Vishnu is also worshipped in the form of a Shaligram. This gives us some idea that people were aware of archaeology and made stories to worship it to preserve them.

At the end of Pitra Paksha many people wash and dry all their clothes. The scientific reason behind this may be that over the course of monsoon the stored clothes get damped and as a result smell and there may be fungus growth. The food offerings during Pitra Paksha, often vegetarian and devoid of onions and garlic, promote a sattvic (pure) diet. This type of diet is believed to detoxify the body and improve digestion. This can help in reducing illness in the winter season. Honouring ancestors fosters a sense of gratitude and emotional well-being. It helps individuals connect with their roots, providing a sense of identity and continuity. This can reduce the effect of the death of one's parents and also help in connecting with inner peace.

Conclusion

Festivals in India are more about scientific nature of the era and time, then about stories and seasonal change. However, over the period, one may have

forgotten the reason of the festival resulting in losing the importance of the festival. This paper dwells beyond the normally accepted reason of the festival and try to understand the mindset of ancient people and the era they lived in. It is must to explain the scientific reason of our festival so that younger generation may be engaged with the festival and also learn about their history.

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