

# ARCHITECTURAL WONDERS OF HISTORICAL INDIA

*Dr. Bharti Mohan,  
Associate Professor,  
Department of History,  
Aditi Mahavidyalaya, Delhi University.*

## ABSTRACT

*India is the land of cultural diversity and monuments and places of worship are a perfect example to show the rich heritage of India. Historical tourism contributes to a significant proportion to the tourism GDP of the country and people from around the world come to see these priceless possessions of the past. These structures have passed the test of time and are standing unblemished even after some many centuries past their construction. To add to this, the finesse, the architectural perfection and symmetry with which these were built intrigues us and forces us to ponder about the historical technology used at that time. In this paper, we will cite examples of some of these ancient marvels of the world which forces us to reject the hypothesis that ancient technology was less sophisticated than the modern day technology. In doing so, we have tried to include different architectural styles that we see throughout the history.*

**Keywords:** Ancient Engineering, Historical Architecture, Ancient Technology

India is the land of many famous monuments. Many of our historical tourist places are declared as World Heritage sites. India also features in the list of the Seven Wonders of the World. India as we know as a secular nation is home to people belonging to various creed, caste, religion and ethnic groups. The same flavour of culture and heritage is reflected in the architectural treasure of India. As we walk down the aisle of time, we are intrigued to see the finesse and skill used in making these marvels. A straight question comes to our mind, Are we more technologically advance today versus our ancestors? After all, the roots of the past are reaping fruits to the posterity and it is because of these architectural treasures that makes India one of the most favourite tourist spot.

It is impossible to imagine that even using primitive tools and skills, our ancestors have created

such marvels that will take years to complete even with the most advance modern science technology had their replicas were to be created today. In this paper, we will walk you through some of the ancient architectural marvels that had proven to be the architectural gems of the past giving examples of how finesse can be achieved even without using the most modern technology.

Below are some examples of the ancient architectures that had not just beaten the test of time but forces us to think that how our ancestors were able to build these structures without the availability of modern machineries.

## IRON PILLAR-MEHRAULI

Just next to Qutub Minar in Mehrauli , in the middle of the Qutb Complex ,stands 1600 years old Iron Pillar. Exposed to Delhi's heat, dust, humidity and

moisture, this pillar by now should have turned into a heap of rust. Generally when Iron reacts with moisture, it produces rust which eventually deteriorates and disintegrates the entire structure. But how this structure is standing strong as if it is recently built. What makes it such a strong structure?

In 2002, metallurgy expert at IIT Kanpur, R. Balasubramaniam, discovered that when iron pillar reacts with moisture, a protective layer of a substance called "Misawite" is formed. This "Misawite" is a compound of iron, oxygen and hydrogen.

It is said that the iron pillar is made up of 98% iron, 1% phosphorous and 1% by vajrasanghata, an ancient concoction. This ancient concoction is clearly detailed out in our ancient texts- "Brihat Samhita". This helps the formation of the Misawite on the surface of the Iron Pillar. This fact actually elucidates the sophistication of our ancestors.

## TAJ MAHAL-AGRA

Taj Mahal was built in the 17<sup>th</sup> Century, by Shah Jahan. Taj Mahal is one of the Seven Wonders of the World and is an amalgamation of grace and skill. Built in White marble, its beauty is ethereal. But what is more interesting is to see the architectural intellect with which this marvel was constructed.

Taj Mahal is built near the banks of the Yamuna River. For building a structure so close to the river, one needs to dig deep to get the solid earth to protect the mammoth structure. For this the builders made well like structure, filled it with stones and erected stone columns on it linked together by massive arches, which would provide the support to the structure and protect it from the currents of Yamuna. This was thinking much ahead of time.

Because of the dimness in the pathway, the view from the gate is framed in such a way that Taj appears larger as you step away. However, as we get closer, the Taj reduces in size. This is nothing but a

trick of the eye. Exactly the opposite of what one would expect offering an optical illusion. The 4 minarets of the Taj appear upright, but they are tilted slightly outwards, meaning that in an unfortunate event of an earthquake the minarets will fall in the opposite directions of the centre structure sparing the mammoth tomb.

Taj Mahal is said to be a combination of the tombs built earlier by Shah Jahan's ancestors. The tomb of his own father provides the model of the Minaret, his forefather's mausoleum had turrets supporting the central core, 4 mighty portals are inspired by his grand -father's tomb, great dome from the memorial of a famous ancestor. Different models united in perfect harmony.

Mughals associate symmetry with perfection and Taj Mahal can be said as the pinnacle of the perfection. It has two identical buildings on either side. There are 4 minarets on the 4 sides of the tomb of equal length. The gardens of the Taj Mahal and the way they are divided into 4 quadrants and their division by two channels running across are symbolic of the paradise description as per the Quran.

The paintings that adorn the walls of the Taj Mahal are set in semi-precious stone- A technique called *pietra dura* (an inlay with semi-precious stones), which is a tough craft to master as tiny pieces of semi-precious stones needs to be cut and then set to form shapes like flower, etc.

## KAILASH TEMPLE –ELLORA CAVES

Kailash Temple in Ellora is one of a kind and one only wonders how the ancient architects would have created this wonder without the use of modern technology. The temple was not built by stacking stone blocks, instead, the temple was carved out of an entire mountain following the "Top- Down Approach", i.e. starting from top of the mountain and gradually moving down. The arches and roofs emerged first, followed by the temple's body, and finally the foundation. There are huge pillars, intricate carvings, connected bridges, and so on, all

carved from a single mountain without any connecting rocks. Imagine the amount of architectural and mathematical knowledge with elaborate and sophisticated techniques is required to build such a temple.

Archaeologists estimate that close to 400,000 tonnes of rock had to be scooped out, a process that would have taken centuries of human labour. Historians believe that it was completed in less than 18 years.

Aurangzeb in 1682 ordered to demolish the temple. The temple structure was so strong that 1000 people worked for 3 years, yet they were able to do only a minimal damage to this mighty creation.

The intricate and precise carvings that adorn the walls of the temple leaves us spellbound as well as makes us more and more inquisitive about the mystery related to the origins this temple.

## RANI KI VAV

---

As opposed to the convention where we have seen many monuments been built by a king in the memory of his queen, this one of a kind monument was built by the Solanki empire's queen, Udayamati in the memory of his beloved king Bhimdev in 11<sup>th</sup> century. Rani ki Vav or queen's stepwell is located in Patan, Gujarat and is constructed like an inverted temple with its peak at the bottom. The stepwell has 7 level of stairs . Build in an area of 70mx23mx28m, this stepwell has close to 500 main carving and 1000 other carvings with major themes around Vishnu and his Avatar. The property was buried under layers of silt for nearly seven centuries, following the flooding and disappearance of the Saraswati river due to geotectonic changes .The Archeological Survey of India (ASI) excavated the vav in the late 1980s, and the carvings were discovered in perfect condition. Rani Ki Vav is one of India's most beautiful stepwells and one of the city's most well-known legacies. This 11<sup>th</sup> century wonder is in the list of UNESCO World heritage sites.

## LEPAKSHI TEMPLE

---

Located in Andhra Pradesh, the temple is believed to be the place where lord Jatayu fell while fighting against Ravan to protect goddess Sita. When Lord Ram came on the spot, he compassionately asked Jatayu "Le Pakshi" which means 'rise, bird' in Telugu.

This temple is known for a "hanging pillar" which challenges the rules of gravity. This solid pillar does not touch the ground, but supports the temple structure. Many tourists, visitors and guides pass clothes or newspaper through the bottom of the pillar and leave in amazement how this pillar is upright without fully touching the ground. This pillar is considered as a master piece and an engineering marvel of the ancient temple builders.

Another marvel for which this temple is known is that it houses the largest monolith Nandi in India. The entire structure of Nandi, the sacred bull and the vahana of the Hindu god Shiva, is built out of one rock and is 27ft in length and 15ft in height. Along with Nandi, the temple also has one of the largest monolithic structures of Nagalinga, Shivalingam with massive Naga with 7 heads. Veerabhadra, the fiery god created by Shiva in his wrath after the Daksha Yagna and the immolation of Parvathi, is the main deity of the temple.

## KUMBHALGARH FORT

---

We all know about the Great Wall of China. But how many us know about the second largest wall in the world. Yes, "The Great Wall of India" is located in the Rajsamand district of Rajasthan. The wall is known as the "Kumbhalgarh Wall" and the fort it surrounds is known as the "Kumbhalgarh Fort". Maharana Kumbha built the fort in the 15th century. This fort is encircled by a 36-kilometer-long perimeter wall that ranges in width from 15 to 25 feet. According to historical accounts, it was possible to ride eight horses side by side over it. The fort has 7 massive gates and inside the defensive walls are over 360 Jain and Hindu temples, as well as a magnificent palace appropriately called "Badal Mahal" or "Cloud

Palace." The fort was impregnable to direct attack and only fell once, when a traitor poisoned the fort's internal water supply, enabling the Mughal Emperor Akbar and forces from Delhi, Amer, Gujarat, and Marwar to breach its defences. The fort features in the list of UNESCO world heritage sites. The fort serves as an epitome of architectural perfection as it stands unblemished and has truly passed the test of time.

## RANAKPUR JAIN TEMPLE

The temple is dedicated to Lord Adinath, the first tirthankar of Jainism. Sheth Dharana Shah (a Jain businessman) is said to have constructed the temple with the help of Rana Kumbha, the ruler of Mewar in the 15<sup>th</sup> century. The temple was built in the shape of a Nalinigulm Vimaan (celestial floating palace).

This temple is famous for their carvings and what is more intriguing is the number of pillars in the temple is more than 1440. What's more astounding is that all the pillars have different carvings and designs and no two pillars are identical. Another amazing feature of these columns is that they are said to be changing colours throughout the day, from golden to light blue. The domes are carved in concentric bands, and the deities are depicted on the brackets that connect the base of the dome to the top. The engineering prowess used for building these pillars can be depicted from the fact that even though we see pillars throughout the temple, yet no pillar blocks the view of the devotee seeking the Darshana (glimpse) of the God. The temple is well ventilated with no restriction in the flow of the wind.

## CONCLUSION

There are many examples in the Indian History that forces us to ponder over how our ancestors were able to make these master pieces using simple and primitive tools. Perhaps, we might be underestimating the architectural sophistication and prowess of our ancestors. There ancient structures have passed the test of time and are standing unblemished enhancing the glory of India. Tourists

from around the world come to appreciate these marvels built by our forefathers. We might not be able to replicate the technique and the finesse with which these structures were made even using the modern and most advanced tools and technologies. This forces us to pose and ponder over the question that, "were our ancestors more technologically advanced than we are today"?

## REFERENCES

1. Zee News," Mystery of Delhi iron pillar resolved", published on Jul 18, 2002, retrieved from [https://zeenews.india.com/news/eco-news/mystery-of-delhi-iron-pillar-resolved\\_49825.html](https://zeenews.india.com/news/eco-news/mystery-of-delhi-iron-pillar-resolved_49825.html)
2. National Geographic, "Secrets of the Taj Mahal", documentary ,directed by Stephen Koester
3. Praveen Mohan," Kailasa Temple in Ellora Caves - Built with Alien Technology?" [Video]. YouTube. Uploaded on 19 Jun ,2014, retrieved from <https://www.youtube.com/watch?v=B2Jl4HNDixc>
4. UNESCO," Rani-ki-Vav (the Queen's Stepwell) at Patan, Gujarat", retrieved from <https://whc.unesco.org/en/list/922/>
5. Business Standard," Gujarat's stepwell 'Rani-Ki-Vav' gets UNESCO World Heritage tag" ,published on June 22, 2014 , retrieved from <https://www.business-standard.com/article/current-affairs/gujarat-s-stepwell-rani-ki-vav-gets->

- [unesco-world-heritage-tag-114062200452\\_1.html](https://www.unesco.org/whc/tags/114062200452_1.html)
6. Aruna Chandaraju, "The hanging pillar and other wonders of Lepakshi", The Hindu, published on January 27, 2012, retrieved from <https://www.thehindu.com/features/metro-plus/travel/The-hanging-pillar-and-other-wonders-of-Lepakshi/article13383179.ece>
  7. Kaushik Patowary, "The Great Wall of Kumbhalgarh Fort", Amusing Planet, published on MAR 21, 2015, retrieved from <https://www.amusingplanet.com/2015/03/the-great-wall-of-kumbhalgarh-fort.html>
  8. Kaushik Patowary, "The 1,444 Carved Pillars of Ranakpur Jain Temple No Two of Which Are Alike", Amusing Planet, published on AUG 15, 2015, retrieved from <https://www.amusingplanet.com/2015/08/the-1444-carved-pillars-of-ranakpur.html>

---

*Copyright © 2016, Dr. Bharti Mohan. This is an open access refereed article distributed under the creative common attribution license which permits unrestricted use, distribution and reproduction in any medium, provided the original work is properly cited.*