

Vimanas: The Modern Aircraft

Pushpendra^{1*}

^{1*}(Research Scholar), Dr RAHUL TRIPATHI² (Professor Amity University)

Abstract: Raavan (Demon king of Lanka) had an aircraft known as Pushpak Vimana, this information was repeated in Ramayan (Epic of Hindu mythology). Vimana is a Sanskrit word which means “measuring out, traversing” and it is also defined as “mythological chariot of the Hindu gods”. Other Indian texts such as Rig Veda, Vymanik Shastra, Arthashastra, Brihad Vimana Shastra, and Samarangna Sutradhara contain references to flying vehicles and flights. According to modern history in 1903, Americans Orville and Wilbur Wright completed the world's first successful controlled powered flight at Kill Devil Hills near Kitty Hawk, North Carolina but before them in 1895, Shivkar Talpade flew his aeroplane. He was an instructor at the Sir JJ School of Art, Mumbai. Bhardwaj's Yantra Sarvasva (All about machines) is a very rich source of information regarding vimanas.

Keywords: Marutasakha, Vimana, CFD analysis, Mercury Vortex Engine, Antigravity propulsion, Rukma Vimana, Propellers, UFO, Rajaloha.

Introduction

In the age of modern science, everything looks possible and the tasks are very easy to carry out. However, in the ancient period, various technologies were used to do the same activities. The only difference is that those techniques were much more advanced than modern techniques. The techniques of rust-free Iron, Ayurvedic Medicines, Architecture Techniques etc. are a few of them. In this paper, ancient aeronautical techniques will be discussed in this context. Vamaanik Shastra of Maharishi Bharadwaja is a treatise on this. In Indian mythology, we can find a lot of references to people (Gods) who came from space, and who came to earth and trained ancient people in many fields. In Sanskrit texts, vimanas are described as flying machines.

Sources of Vimana

According to the shastras, it is believed that vimanas are divided into 3 different classes, based on differences in the modes of their manufacture. The different modes of manufacture are also based on 3 yugas Treta, Dwapara and Kaliyuga. There is a traditional story which states that God Mahadev in the form of Dakshinamurthy, produced the Dharmashastras (Ethical Codes), Epics, Chronicles, treatises on arts and sciences etc. In these, there are six treatises (Vimanchandrika, Vyomyantantra, Yantrakalpa, Yanvindu, Khetyan and Vyomyanarkprakash) bearing on the manufacture of Vimanas. Maharishi Bhardwaj's Yantra Sarvasva is the most prominent. Tripura Vimana (an ancient airship) is mentioned in Shiv Purana which means three cities of Gold, Silver and copper flying in the sky. It is believed that Tripura had a special material used in the construction known as Trinetra Loha. Rig Veda verse- 3.14.2, mentioned about Vidyut-Ratha, a vehicle that operates on electromagnetic power. Yajur Veda, verse 10.19- It talks about skilled engineers, who can construct aircraft, boats etc., and verse 6.21- It mentions the students of science who construct steamers for seas and aeroplanes. Rahasyagnyodhikaaree is a text that contains sutras about the secret training of pilots. Sutra 2 of this text says that the pilot has to know 32 types of secrets of how a vimana works. These secrets are about the design of the Vimana, how to drive it, take-off and landing etc. These secrets consist of training in Tantra, Mantra, Kritika, antaraalaka etc. Arthashastra is a text written by Kautilya in the 3rd century BC. It mentioned details about technocrats as “Saubhikas” or Pilots conducting vehicles in the sky.

1. Saubha, was the name of the flying city of King Harischandra.
2. Saubhika, referred to those who knew the art of flying an aerial city.
3. Akasayodhinah, translates as persons trained to fight from the sky.

The Pushpak Vimana of Raavan, the central antagonist in the Hindu epic Ramayana, is a great example. It is described as resembling the Sun. This was made by Vishwakarma (the God of Architecture), and it was stolen by the demon king Raavan. Sarga 8(5-8-1) of Ramayana-

स तस्य मध्ये भवनस्य संस्थितम् |
महद्विमानम् मणिवज्रचित्रितम् |
प्रतप्तजाम्बूनदजालकृत्रिमम् |
ददर्श वीरः पवनात्मजः कपिः |

In this verse, how Hanuman was surprised after having a look at the beauty of Pushpak Vimana, in Lanka, is discussed. Brihad Vimanshastra is a rich source of information about Aeronautical Science. This text consists of forty chapters with more than five hundred verses about the various structures of vimanas, how to control them, materials of construction etc. **सूत्र पञ्चशतयुत्तं शताधिकररपस्तथा । घृष्टाध्यायसमायुक्तमतिगूढ मनाहरम् जगतामातसन्धानकार जुभद सूराम् । रनायासाद व्योमयानस्व रूपज्ञानसाधनम् । वैमानिकप्रकररां कथ्यतेडस्मिन् यथामति ।**

Samarangana Sutradhara, written in the eleventh century, is also one of the major texts. The credit for the composition of this book is given to Bhoj, the ruler of the Parmar dynasty. In the 31st chapter of this book – “Yantravidya”, there is mention of planes. In this chapter, a metal named “Yam” has been mentioned for manufacturing aircraft. In this text, an object called “Suta” is discussed which may have been used as fuel, it has been identified as Mercury.

Marutsakha: The First Flight

In 1895, an Indian Brahmin made the first flight in his aeroplane from a place called Chowpatty, Bombay. The name of this Indian Brahmin was- Shivkar Bapuji Talpade. According to him, this knowledge by which he was preparing his aircraft was based on the teachings of the ancient sage Bhardwaj, mentioned in his work Vymanik Shastra. Marutsakha flew in 1895 at a height of 1,500 feet from Chowpatty, Bombay. This aircraft was a bamboo cylinder, which was powered by a Mercury engine. Marutsakha is made up of two words - Marut, meaning 'wind', and Sakha, meaning 'friend', which means friends of wind. Talpade's aircraft was named after Goddess Saraswati, mentioned in the Rigveda. It is believed that Maharaja Sayyaji Rao Gaekwad, Indian Judge Mahadev Govind Ranade and freedom fighter Bal Gangadhar Tilak were the eyewitnesses of this flight. This successful flight flew in 1895 eight years before the Wright Brothers.

Conclusion

All these descriptions of aircraft from ancient Indian texts show that aerial mode of transportation was prevalent during the ancient period. Even such kinds of references can be traced from different civilisations of the world. The gold model of aircraft and the Saqqara bird model show that people of the ancient world were aware of and thought about various ways to model the prototype of an aircraft. As NASA also has experimented on mercury ion engines, so now we can believe the descriptions of Samarangana Sutradhara of Bhoja, which talks about Dharu Vimanas based on mercury engines.

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