

The Bridge between Myth and Molecule: A Scientific Appraisal of Amish Tripathi's Shiva Trilogy

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Abstract

Indian Mythology/Hindu Mythology has been represented through a different lense of interpretation by Amish Tripathi in the Shiva Trilogy, which includes The Immortals of Meluha (2010), The Secret of the Nagas (2011), and The Oath of the Vayuputras (2013). He tries to explain many of them through ideas that have a basis in modern science, instead of presenting the old stories entirely through supernatural events. Concepts related to cellular regeneration, oxidative stress mechanisms, radio wave propagation, and nuclear physics are woven into the story and become an important part of how the mythology is presented. In this way of representing mythology, the trilogy connects ancient Indian beliefs with the way a modern reader understands science and rationality. This also makes the stories easier for younger and more technologically oriented readers to relate to. At the same time, Tripathi uses the narrative to raise questions about issues that remain relevant today, such as environmental damage, inequality in society and the possible consequences of scientific progress. The trilogy can be understood as a combination of mythology and science, where the idea of progress is presented with both curiosity and caution.

Keywords: Mythology, Scientific Rationalism, Cellular Biology, Free Radicals, Radio Wave Propagation, Environmental Ethics, Ancient Indian Technology, Somras, Neelkanth.

Introduction

Mythology Reimagined Through a Scientific Lens

Amish Tripathi takes a different approach to these stories where Indian/Hindu mythology has traditionally been understood through faith, devotion and stories of miracles. In the Shiva Trilogy, he presents the ancient past as a period of advanced scientific and technological knowledge rather than a time when everything happened through divine intervention. The people who are traditionally seen as gods are shown as extraordinary human beings in the trilogy, while their so-called divine powers are explained through advanced technology and changes in the human body. He also tries to give a logical explanation for different elements of mythology, like, long distance communication, unusual physical abilities and long life. Through this style, he gives the reader a new way of looking at familiar stories and raises the question of how faith and scientific reasoning can be understood together. The trilogy presents mythology from a modern perspective to see mythology, where events that were once considered supernatural are given possible scientific explanations.

The Chemistry of Immortality: The Somras and Oxidative Stress

The Somras is one of the most important elements of Meluhan society. It is described as a special drink that allows people to live for a very long time and slows down the process of aging. Instead of presenting it simply as a magical drink, Tripathi gives it a scientific explanation based on ideas related to aging and human biology. The Somras is therefore presented as a fictional medical discovery rather than a supernatural substance.

A. Free Radical Theory of Aging

Tripathi's explanation of the Somras is closely related to the Free Radical Theory of Aging (Harman). In a conversation between the Meluhan scientist Brahmaspati and Shiva, the working of the Somras is explained in terms of oxidants in the human body. Brahmaspati explains that the Somras removes these oxidants from the body and helps prevent their harmful effects. It is defined: "After a lot of research, Lord Brahma invented the Somras, which when consumed, reacts with the oxidants, absorbs them and then expels them from the body as sweat or urine... there are no oxidants left in the body" (Tripathi, *Immortals of Meluha* 137).

In modern biology, oxidative stress occurs when the body produces more free radicals than it can remove or control. These free radicals can damage DNA, proteins and lipids in cells and are associated with the aging process (Finkel and Holbrook 239; Viña et al. 196). In the Shiva Trilogy, the Somras is presented as a substance that removes these harmful oxidants from the body. In this sense, Tripathi gives a scientific explanation for the long life associated with the Somras. What appears in mythology as a magical drink is therefore presented as the result of an advanced understanding of chemistry and human biology.

B. Environmental and Ethical Critique

Tripathi also shows that scientific progress can have serious environmental consequences. The production of Somras requires big amounts of water, which leads to the depletion of the Saraswati River. It connects the extinction of the Saraswati in the modern age. The process also produces toxic and poisonous waste that is released into the Tsangpo River. Tripathi connects the fictional world of Meluha with a problem that is familiar in modern India through this part of the story. Rivers like the Ganga and Yamuna have also suffered from pollution and excessive human use. The story suggests that increasing human life or achieving scientific progress cannot be considered a complete success if it comes at the cost of the natural environment. The Somras becomes more than a scientific idea in the novel. It also raises a question about the price that society is willing to pay for progress.

Genetics and Pathology: The Secret of the Nagas

Tripathi's explanation of the physical features of the Nagas is one of the interesting scientific ideas in the trilogy. In traditional Hindu mythology, figures like Lord Ganesha are described as having divine forms. Tripathi gives these features a different explanation. In his version, the unusual physical features of the Nagas are caused by a biological problem linked to the use of the Somras. This makes their condition a side effect of the Meluhans' attempt to control aging and extend human life.

The physical differences seen in characters like Ganesha, whose face resembles an elephant's trunk, and Kali, who has extra limbs, are treated as biological abnormalities rather than divine features. Tripathi connects these abnormalities with uncontrolled cell division, which is also an important characteristic of cancer. The novel replaces a supernatural explanation with one based on biology and genetics through this explanation. It says: "The cells keep dividing while remaining healthy. In most people, this continued

division is regulated. But in a few, some cells lose control over their division process and keep growing at an exponential pace" (Tripathi, *Oath of the Vayuputras* 16).

This explanation presents the unusual physical features of the Nagas as genetic problems rather than divine deformities. According to Tripathi's fictional explanation, the Somras helps in cell regeneration and increases lifespan, but it can also disturb the normal control of cell growth in future generations. These changes are then passed on through the germline and appear as different physical abnormalities. By giving a genetic explanation to these mythological features, He also raises questions about the risks of interfering with human biology. The story shows that an attempt to create an ideal society through science can have unexpected consequences. Meluha may appear to be a successful and advanced society, but the Nagas reveal the darker side of that scientific experiment.

The Physics of Perception and Telecommunications

Tripathi's use of science is not limited to biology and chemistry. He also brings ideas from physics into the story, especially when explaining how people see things and how communication works.

A. Optics and Color Theory

The trilogy also uses basic ideas from the physics of light and colour to explain ordinary things that we see around us. One example is the explanation of why leaves appear green. The text explains it through the basic principles of optics and colour theory that are commonly taught in school physics, instead of treating colour as something mysterious: "While sunlight falls on the leaf, the leaf's physical properties are such that it absorbs the colours violet, indigo, blue, yellow, orange and red. It doesn't absorb the colour green... Hence we see the leaf as green" (Tripathi, *Immortals of Meluha* 298).

This use of basic physics makes the world of the trilogy feel more connected to the real world. Instead of relying completely on mystical explanations, Tripathi often tries to explain unusual events through ideas that can be understood through science.

B. Radio Wave Propagation and Divine Whispers

One of the more interesting examples is the explanation of divine whispers and messages received over long distances. In *The Secret of the Nagas*, the *Pandit* explains that radio waves can be used for communication in much the same way that light helps us see. Radio waves are part of the electromagnetic spectrum and travel at the speed of light in a vacuum ("RF Safety FAQ"; "Do Cell Phones Cause Cancer?"). Tripathi uses this idea to give a scientific explanation for what might appear to be divine messages or prophecies. In this version, such communication is not necessarily supernatural. It could have been the result of advanced communication technology that existed in the ancient world. The people considered gods may have simply had access to technology that was far beyond the understanding of others around them.

Infrastructure, Warfare, and Applied Science

Tripathi also uses science to explain the buildings, cities and weapons in the trilogy. The ancient world described in the novels is shown as a society with advanced knowledge of construction, materials and warfare.

A. Urban Planning and Civil Engineering

The city of Devagiri is one example of this idea. The city is built on large platforms to reduce the danger of floods. This can be seen as a reference to the problems faced by settlements in the Indus Valley region. The buildings and public structures also show careful planning. Residential buildings are described as

having three floors, internal courtyards and separate private spaces. The use of polished copper plates as mirrors suggests knowledge of metalworking and the properties of different materials. Stone and baked brick are used in bridges that connect different parts of the city, showing an understanding of construction and load bearing. The description of Devagiri gives more importance to cleanliness, proper planning and public health than to unnecessary decoration. So, Tripathi presents Meluha as a society that values practical knowledge and scientific thinking.

B. Chemical Reaction and Mass Destruction

Tripathi also gives a scientific explanation for Shiva's famous blue throat, known as the Neelkanth. According to the novel, a medicine that Shiva had taken earlier in his life reacts with the Somras and causes permanent pigmentation around his throat. What appears to be a divine mark is therefore explained through a chemical reaction between two substances. This makes the character of Shiva more human by replacing a supernatural explanation with one based on chemistry.

The weapons used towards the end of the trilogy are also presented in a way that reminds the reader of modern weapons of mass destruction. The Pashupatiatra produces a powerful flash, causes widespread destruction and leaves behind harmful contamination. These features bring to mind the effects of the atomic bombs used against Hiroshima and Nagasaki in 1945 (Rizki; "History of the Impact of Radiation on the Environment"). Through this comparison, Tripathi shows the danger of scientific knowledge when it is used without restraint. The same knowledge that can help human beings progress can also give them the power to cause enormous destruction.

Medical Ethics and Public Health Systems

The medical system in Meluha, like the work of Ayurvati, shows that Tripathi also uses science to describe healthcare and public health. The system gives importance to prevention, cleanliness and proper treatment rather than depending only on traditional beliefs.

1. Quarantine and Disease Control

People entering Meluha are required to remain in isolation for seven days before they can freely mix with the rest of the population. The purpose is to make sure that they are not carrying diseases from outside the kingdom. This is similar to the idea of quarantine used in modern public health. It shows that the Meluhans understand that diseases can spread from one person to another and that controlling movement can help prevent an outbreak.

2. Integrated Medicine

Ayurvati uses different methods of treatment depending on the condition of the patient. Surgical treatment is used for serious injuries such as wounds and internal bleeding, while herbs and other natural methods are used for certain illnesses. This gives the medical system a combination of surgical and traditional forms of treatment. Rather than depending on one method alone, the system described in the trilogy focuses on choosing treatment according to the needs of the patient.

3. Physiology and Metabolism

The trilogy also explains basic functions of the human body in simple terms. Like, the process through which oxygen reacts with food to produce energy is used to explain how the body gets the energy needed for its activities. These types of explanations show that scientific knowledge is treated as an ordinary part of education in Meluha. Tripathi presents the Meluhan society as one where an understanding of the human body and basic science is considered necessary for everyday life.

Conclusion

Amish Tripathi does more than present an old Mythology in the Shiva Trilogy. He tries to connect ancient Indian stories with the questioning and scientific thinking of the modern reader. By using ideas from biology, electromagnetism, chemistry and nuclear physics, he gives familiar myths a more realistic explanation. His style and ideas also make the reader think about some ancient stories could have been based on knowledge that was not understood in later periods.

The trilogy also raises questions about the way scientific knowledge is used. The novels show that scientific progress without ethical responsibility can create serious problems for both people and nature. The *Somras* and its consequences are a good example of this idea. In the end, Shiva's role is not simply about having extraordinary powers. His real strength lies in using knowledge and power responsibly. The trilogy suggests that true heroism comes from understanding the consequences of our actions and using knowledge for the good of society.

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