268. Innovative SF and Mythology Mix to Communicate S&T to Indian Masses

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Abstract. With the help of improvised cultural tableaux by judiciously blending sf and mythology during festivals like Durga Puja and Dussehra we successfully tried to attract illiterate Indian masses in order to communicate S &T perspectives and developments. Some model tableaux were as follows:

A. Tableau showing concept of Cloning: With the help of a mythological story popularly knows as 'Raktbeej and Mahishasurmardini' (Demon vis a vis a Hindu goddess Durga) and sf extrapolations on cloning we explained the process and implications of the emerging technology to illiterate people .

B. Tableau of Biotechnology: The science fictional biotech tree akin to mythological 'wishing tree' (Kalpvriksh)

demonstrated the hidden potentials of biotechnology.

C. Tableau depicting water harvesting technology: Traditional techniques of rain water harvesting and its necessity as narrated in Hindu myths notably the efforts of sage Bhagirath to bring the river of gods i.e. river Ganges on earth.

D. Tsunami Tableau: Awareness and preservation of natural mangroves is the key to safety from killer waves was demonstrated with the help of many catastrophe models as described in sf stories and myth of Lord of death i.e. Yamraj. It was established that Sf stories with a judicious mix/blend of Indian myths could be effectively used through

attractive tableaux to communicate science and technology to illiterate masses that do not have access to modern means of communication. A similar approach could be replicated in other parts of the globe.

Keywords: Improvised tableau/tableaux, S&T communication, science fiction and mythology.

Introduction

India currently has the largest illiterate population of any nation on earth. Approximately 35% of world's illiterate population is Indian and based on historic patterns of literacy growth across the world, India may account for a majority of the world's illiterates by 2020.This is also the major group of people who do not have access to many modern means of knowledge communication .This poses a great challenge as how to communicate S&T effectively to these people.

Cultural tableaux are prominent crowd attractors during festivals like Durga Puja and Dussehra in India. Thousands and thousands of people throng to behold the glimpses of cultural India depicted through these tableaux. Our endeavor culminated in making beautiful and impressive tableaux which incorporated judicious blending of both cultural elements and science to easily attract lay people and then to spread the message of science spontaneously during these festivals .While science is purely an objective exercise, science communication entails the subjective / cultural perspectives also. So unless some cultural angle is not employed the mass communication of science in India shall remain largely less effective especially to illiterate people.

Impressed by imaginative and prophetic/visionary elements of Indian mythology with which even an ordinary uneducated Indian citizen is very familiar, we devised an experimental design combining mythology and sf in order to effectively communicate S&T among illiterate masses. By carefully amalgamating myth with certain breakthroughs and future possibilities in the field of biotechnology and other scientific disciplines as narrated in many sf stories we made attractive tableaux to lure the public and then inculcate amongst them the temper and wisdom of science.

Methodology

Improvised tableaux were made on themes like cloning, trans-genetic crops, water harvesting technologies, tsunami etc with the help of professional and skilled artisans and were exhibited in Puja Mandap(earmarked places for tableaux exhibition) during the festival seasons . A feedback response was obtained from the people who visited these tableaux in order to ascertain the utility and importance of this innovative endeavor for popularization of science in eastern belt of U.P. Feedback forms drafted with aim to an easy comprehension by target groups contained 10 objective type questions covering a broad range of issues related to science communication. The analyses of feed-back response were done.

Results and Discussion

Science fiction as we know today is all about strange new ideas and imagery, i.e. the same elements which also characterize mythological stories. It's for this reason that SF/F buffs are usually tempted to draw analogies between science fiction and mythology. Both science fiction and mythological imaginations at times, anticipate scientific and technological developments. It is in the very nature of sf that it usually deals with the non-existent social set ups, technology and gadgetry, etc. making the genre quite analogous to myths since the latter is also known for its depictions/descriptions of imaginary things and people.

Indian mythology as contained in Hindu scriptures abounds in imaginative ideas and human values. Carl Sagan was very impressed and inspired by these sources of ancient knowledge. He once appealed sf writers to delve deep into Indian mythology to get original sf theme ideas.

Quite interestingly there are extrapolations, imaginative themes, and descriptions of gadgets often in contemporary sf and in Indian mythology alike. For example, Puspak Viman--a special kind of aero plane which possesses a vacant seat for any last minute VIP entrant! (Remember Rendezvous With Rama by Clarke?) Sudarshan Chakra (a kind of revolving disc) and arrows used by Lord Krishna to kill enemies returned back to them just after hitting the target (the same concept as in guided missiles!). In Maya Yuddhaa (some kind of virtual war) as described in the epic Ramayan while no real damage is done all enemy soldiers get frightened and surrender owing to horrible virtual projections and imagery of all sorts! Trishanku--a celestial body which is said to have been projected into space by an ancient sage Vishwamitra. An imaginative leap of our ancestors which indicates that the sky could be conquered by man one day! This legend in Indian mythology that Trisanku is hanging in the sky between the heaven and the Earth, though regarded as incredible, has fascinated one and all since time immemorial. Now we all know about the Lagrangian points which are the five positions in an orbital configuration where a small object affected only by gravity can theoretically be stationary relative to two larger objects (such as a satellite with respect to the Earth and Moon). In 1945, Arthur Clarke also wrote in an article published in Wireless World that placing three geostationary satellites (Compare Trisanku!) above the equator would revolutionize global telecommunication. A mythological idea that objects can be made to appear stationary above the Earth found a place in science fiction. In 1964 the first Trisanku
(!), Syncom, with the generic scientific name geostationary satellite/geosynchronous satellite was placed above a fixed longitude on the equator, which explicitly justified the power of prophetic vision inherent in Indian mythology.

It was showed for the first time that science fiction can effectively teach science to lay people who do not have access to other forms of communicative broadcasts. Peggy Kolm has referred to this innovative approach in Biology in Science Fiction and also mentioned that in the U.S. there seem to be some teachers who are using science fiction books and movies - both with good science and with bad science - to teach basic scientific concepts.

In our study sample about 70% audiences were from villages and 20% were from slums of town/city surroundings and remaining 10% from small settlements who thronged to see the S & T tableaux erected/shown during the festivals. Tableau shows in question were significant in disseminating S & T knowledge intended for the target audience and were also useful in dispelling many orthodox beliefs as was evident by the replies recorded. Majority, i.e. over
90% viewers replied that they were having many misconceptions before observing these tableaux. 70% of the target viewers were of the opinion that the tableaux were most effective form of science communication for them. Only 20% had access to broadcast media i.e. Radio, T.V., cables etc. Majority opined that folk/cultural/traditional and public relation and interpersonal contacts were more effective for them to comprehend S&T related issues.

When audience were asked that whether they were convinced to help spread further the spirit of science, their responses were affirmative and they told that were fully convinced to spread the scientific knowledge in society after seeing these tableaux. When they were asked which scientific subject was more useful in their opinion 60% told it was biological/ medical Science, 15% were in favour of agricultural sciences and equivalent number of participants voted in favour of environmental sciences. Other remaining groups constituting 5% each opined that Earth/Physical Sciences and general sciences were more useful to them.

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