Slide Show for ISKCON Foundation Meeting

by

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Slide 1.

THE TEMPLE OF THE VEDIC PLANETARIUM

Sridhama Mayapura

"Now our Ph.D.'s must collaborate and study the Fifth Canto to make a model for building the Vedic Planetarium."

Srila Prabhupada

Narration:

For many, the Fifth Canto of Srimad Bhagavatam is very difficult to understand of believe. But Srila Prabhupada wanted a cosmological exhibition based on the Fifth Canto to be the center of ISKCON's world headquarters in Mayapura.

Slide 2.

"So now all you Ph.D.'s must carefully study the details of the Fifth Canto and make a working model of the universe. If we can explain the passing seasons, eclipses, phases of the moon, passing of day and night, etc., then it will be very powerful propaganda." Srila Prabhupada

Narration:

Srila Prabhupada wanted us to show that the Fifth Canto contains real knowledge about the cosmos. If this can be shown scientifically, it will be very powerful propaganda, showing that the Bhagavatam is scientifically advanced.

Slide 3.

CHALLENGES WE FACE IN OUR PREACHING EFFORTS

People may accuse us of:

(1) Presenting unscientific mythology as truth.

(2) Presenting sectarian religious doctrines.

Narration:

Today, it is widely believed that religion is based on the poetic speculations of prescientific sages. When religious scriptures present descriptions of the universe that are totally contradicted by modern science, people tend to lose faith in their spiritual teachings. This is made worse by sectarian quarrels between the followers of various religions. People will want to know how our presentation differs from unscientific, sectarian religious teachings.

Slide 4.

Picture of the Jain Planetarium in Gujarat

Narration:

The problem we face in presenting the Fifth Canto is illustrated by a planetarium recently opened in the city of Palitana, Gujarat, that presents the cosmology of the Jains. Jain cosmology is somewhat similar to the cosmology of the Fifth Canto. Unfortunately, the Jain Planetarium was ridiculed in India Today.

Slide 5.

OUR ANSWERS TO THE CHALLENGES

(1) The Bhagavatam does present real scientific knowledge.

(2) The Bhagavatam is universal and will help bring people together.

Narration:

We do not have this problem. Careful study of the Bhagavatam shows that it contains important insights into the nature of life, the mind and consciousness, the origin of species, ancient history, and the structure of the universe. In addition to its deep spiritual teachings, it presents a realistic picture of the material world.

Slide 6.

PRESENTING VEDIC COSMOLOGY

Three broad topics:

(1) There is good astronomy in the Fifth Canto.

(2) The universe is a higher-dimensional, life-based system.

(3) The cosmology of the Fifth Canto can be found in the roots of human cultures all over the world.

Narration:

It is very important for us to show that the Fifth Canto contains realistic and sophisticated scientific knowledge. We can show this, and it involves many detailed points. In this slide show, we will show how some of these points can be introduced in a popular way for general audiences.

In this slide show, we will focus on topic (1). However, topics (2) and (3) are also important. Topic (3), in particular, will help relieve ethnic and sectarian conflicts by showing that human cultures around the world share a common ancient cosmology. It so happens that this cosmology is presented in the Fifth Canto of the Srimad Bhagavatam.

Slide 7.

METHODS OF PRESENTATION

Exhibits will include:

(1) Pictures, text, and dioramas that can stand alone if electricity fails.

(2) Electronic multimedia, computer animation, and mechanical models.

(3) EPCOT-style rides.

Narration:

In this slide show we will show how an EPCOT-style ride can be used to present some basic points about Fifth Canto astronomy in a popular way.

Slide 8.

THERE IS GOOD ASTRONOMY
IN ANCIENT INDIAN COSMOLOGY

Narration:

We will outline an introductory presentation showing that the Fifth Canto contains good astronomy in the modern sense of the term. This may seem surprising, but it is true, and it is important to present as part of our effort to show that the Bhagavatam contains genuine scientific knowledge.

Slide 9.

Scene of entrance to exhibit.

Narration:

In this exhibit, people ride in moving chair-cars through an arrangement of tunnels in which they see a series of audio-visual displays. This is a standard method of presentation used at EPCOT in Orlando.

Slide 10.

First interior view of exhibit.

Narration:

The audio-visual displays will include dioramas, illuminated pictures, and animations projected on screens. Each display is accompanied by a short narration played over a loud-speaker system. The chair-cars start and stop at intervals so that the people in each car can listen to the narration that goes with each display. EPCOT has arranged the acoustics of their exhibits so that the narrations for nearby displays don't interfere with each other.

Slide 11.

Picture of planets, showing relative sizes.

Narration:

This exhibit begins with a description of the familiar solar system.

Slide 12.

Diagram of heliocentric solar system, showing relative sizes of orbits.

Narration:

Most of the images here are familiar, and people are taught in school to accept them. We will show an animation of the familiar solar system at different scales of size.

Slide 13.

Interior shot of exhibit, showing display of dvipas on the wall.

Narration:

We now show an animation of Bhumandala, showing the structure of Bhumandala at different scales. This is based on distance information from the Fifth Canto.

Slide 14.

Enlarged picture of dvipas.

Narration:
Here we have zoomed in on the dvipas. The pattern formed by the dvipas of Bhumandala is similar to the pattern of the planetary orbits.

Slide 15.

Jambudvipa.

Narration: In the center of the circular dvipas lies Jambudvipa. Jambudvipa is difficult to understand from the modern point of view, but the dvipas themselves are easier to understand. We will focus on them first.

Slide 16.

Dvipa picture, showing orbit of the sun around Manasottara mtn. in Puskaradvipa.

Narration:
Consider the movement of the sun. Vedic cosmology is geocentric, and here we show the sun moving in a circular orbit. The earth, as we know it, lies in the center.

Slide 17.

Picture of the earth and the sun.

Narration:
We can look at the solar system as geocentric (earth centered) or heliocentric (sun centered). It is a matter of relative point of view. We show this by continuously shifting back and forth between the two viewpoints. (A mechanical model or an animation can be used here.)

Slide 18.

Picture of Copernicus and Ptolemy.

Narration:
Copernicus introduced the heliocentric model as an improvement over the geocentric model presented by the Greek astronomer, Ptolemy.

Slide 19.

Interior view of exhibit, with picture comparing Ptolemaic system and modern solar system.

Narration:

But geocentric astronomy can be of practical value, and it is still used today for navigation. Ptolemy's worst error was that he was wrong about the size of the planetary orbits.

Slide 20.

Picture comparing Ptolemaic system and modern solar system.

Narration:

Ptolemy made everything much too small. His entire solar system out to Saturn fits inside the orbit of the earth.

Slide 21.

Diagram of sun at right distance from earth, with range of values marked for Fifth Canto position of the sun, and Ptolemaic position of the sun. Everything is labeled.

Narration:

The Vedic yojana ranges from 5 to 8 miles. Allowing for this range of values, the Vedic distance of the sun is within 15 to 36 percent of its modern value. But Ptolemy's distance of the sun is 95 percent too small. The famous Greek astronomer Aristarchus gave a similar erroneous figure.

Slide 22.

Picture of mechanical device showing geocentric orbit of Mars. Show this as part of an interior view of the exhibit.

Narration:

This mechanical model demonstrates the orbit of Mars from the geocentric point of view. As the two arms move, the yellow light traces out the sun's orbit and the red light traces out the orbit of Mars.

Slide 23.

Picture of planetary orbits in geocentric form.

Narration:

This animation shows all of the planetary orbits from a geocentric point of view. All measurements and dimensions are modern. This is similar to Ptolemy's model, but the orbits are much bigger.

Slide 24.

2D picture of the dvipas.

Narration:

We will compare the modern geocentric solar system with the dvipas of Bhumandala. Here are the dvipas.

Slide 25.

Geocentric orbits superimposed on dvipas.

Narration:

Now we superimpose the geocentric orbits on the dvipas. We adjusted the yojana to 5.9 miles, so that the Fifth Canto distance to the sun exactly matches its modern value. The value of 5.9 miles is quite reasonable for the yojana.

Slide 26.

Orbits of Mars and the sun superimposed on the dvipas.

Narration:

In this picture, we now focus on the orbit of Mars and the orbit of the sun. Notice how closely the orbit of Mars lines up with the boundaries of dvipas.

Slide 27.

Orbits of Venus and the sun superimposed on the dvipas.

Narration:

Here is the corresponding picture for the orbits of Venus and the sun. Mechanical models with moving arms and lights representing planets can be used to show these orbital motions. We can also make a laser light show in which the orbital motions are quickly traced out by a moving laser beam.

Slide 28.

Orbits of Mercury and the sun superimposed on the dvipas.

Narration:

And here is the corresponding picture for the orbits of Mercury and the sun. Again, note the close line-up with dvipa boundaries.

Slide 29.

Picture of planetary orbits from Sri Tiruvenkata Ramanuja Jeeyar Swami.

Narration:

The 19th century sannyasi, Sri Tiruvenkata Ramanuja Jeeyar Swami, gave an analysus of the Fifth Canto similar to the one presented here. This is his drawing of the planetary orbits in relation to Bhumandala.

Slide 30.

The heliocentric orbits placed around the sun, which is shown orbiting in Puskaradvipa.

Narration:

Here is the Swami's diagram, shown in the format we have been using. He shows the heliocentric planetary orbits surrounding the sun, which is following its orbit in Puskaradvipa. If the planets are made to move in their orbits, they will trace out the geocentric orbital patterns shown in earlier pictures.

Slide 31.

Picture of 17th century European astronomers. This is on the wall of an interior view of the exhibit.

Narration:

The modern planetary distances match the dvipas of Bhumandala nicely. But accurate values of planetary distances were not known within Western science until the 17th century.

Slide 32.

Picture of flat earth on the backs of elephants standing on the back of a turtle.

Narration:

Textbooks tell us that Hindu cosmology says the earth is flat.

Slide 33.

Bhumandala, with the sun over Manasottara mtn. in Puskaradvipa.

Narration:

Bhumandala can be translated as the circle of the earth, and it is flat.

Slide 34.

Bhumandala, tilted in preparation for slide 35.

Narration:

But this "flat earth" is celestial.

Slide 35.

Preceeding slide, with local landscape interposed, showing the sun rising over the horizon. Frame this as part of a view of the interior of the exhibit.

Narration:

Actually, Bhumandala corresponds to the flat plane of the planetary system.

Slide 36.

Picture of churning the milk ocean from the book *Hamlet's Mill*. The book's title can be superimposed on the picture.

Narration:

The scholars Georgeo de Santillana of MIT and Hertha von Dechend of Frankfurt University have argued in their book *Hamlet's Mill* that the "flat earth" of all ancient cultures was originally celestial. This forms part of a cross-cultural presentation of Fifth Canto cosmology in another exhibit.

Slide 37.

Picture of exit area, where people step down from the moving chair-cars onto a rubber beltway moving at the same pace.

Narration:

These are just a few of the important points that can be made in a popular presentation of Fifth Canto cosmology. Additional points will be introduced step-by-step in further exhibits, until a comprehensive picture of the multidimensional Vedic universe is built up.