

When Science And Religion Are Talking To Each Other

There are many ways in attaining knowledge from: daily experience, scientific evidence or religious beliefs. Some people believe science and religion are different entities in explaining and understanding the world. However, some others do believe there is an open dialogue, a conversation between these two. I will introduce Ian G. Barbour's four views (conflict, independence, dialogue, and integration) that describe the relationship between science and religion through a powerpoint presentation. I will use these four views as reference to understand how religion meets science in the interpretation of the Big Bang (Cosmic history). Overall, my presentation will focus on the different perspectives in viewing our world and the value of the conversation between science and religion, and also its relationship to us.

Time Travel: Science Fiction to Science

Using Microsoft PowerPoint, I will present a brief history of the concept of time travel in fiction, and then move on to address its scientific validity today. Starting with Samuel Madden's "Memoirs of the Twentieth Century" through H.G. Wells's "The Time Machine" and "Bill and Ted's Excellent Adventure," I will sketch a brief outline of time travel's portrayal in popular culture (the different views of the motion of time and its relation to space, and the different methods of travel) and touch on the advent of the notion of a "time machine". I want to then address some of the common questions and theories of time travel, such as whether both forward and backward travel are possible, what physical motion would be necessary in order to travel through time, what approaches seem to hold the most potential, why we are not inundated with "time tourists" from the future, and the possibility of parallel universes with parallel timelines. Many of the concepts we learned in this course - such as some earlier models of the universe, the theory of space-time, black holes, wormholes, and cosmic strings - play a part in the historical and current ideas on the possibility of time travel.

On Particle Physics and Cosmology

For my Cosmology Conference I will use a PowerPoint presentation to show how the principles of quantum mechanics apply on a macroscopic level. I will summarize the "Schrodinger's Cat" thought experiment as a means of explaining the shortcomings of the most widely accepted interpretation of quantum mechanics, the Copenhagen interpretation, when applied to the world beyond subatomic particles. I may also discuss wave function collapse and the double slit experiment and other problems with the Copenhagen interpretation. From there I will explain the most widely accepted alternative, the Many Worlds interpretation, and the implications of its acceptance, such as quantum immortality. I will also discuss other alternatives to the Copenhagen model briefly as time permits. I will explain Schrodinger's Cat and the double slit experiment through the use of diagrams to help the class understand. My discussion will relate to the course content in that it will explain the Many Worlds interpretation, which applies to the entire cosmos.

More about distant worlds

Through this course we have been amazed at the amount of information astronomers and cosmologists have compiled about our Universe. As we thought about how this is all possible, we acknowledged that there was an obvious link between the progression in technology, specifically telescopes, and the breakthroughs that astronomers and cosmologists have made in discovering the ways of space. We will briefly examine past breakthroughs, such as Galileo and his telescope, as well as the direction that new telescopes will allow and how that may affect today's theories. One of the new studies we will look into is the US space agency's Spitzer space telescope which recently looked at groups of stars with masses similar to the Sun (suggesting Sun-like stars in the Milky Way having similar planetary systems). We will present the Spitzer telescope findings and highlight its connection to the upcoming plans for NASA's Kepler Mission. Historically, Kepler's laws challenged Aristotelean and Ptolemaic astronomy and physics. His assertion that the Earth moved, his use of epicycles, and his proof that the planets' speed varied, changed astronomy and physics. We will discuss NASA's Kepler Mission and its connection with Earth-sized planetary systems and reveal more about distant worlds relative to our past.