

David Christian's Big History

Speaker:

- ◆ Dr. David Christian, Professor at Macquarie University in Sydney

During his lecture, titled "David Christian's Big History," the Macquarie University professor David Christian set out to tell the story of the universe from the Big Bang to the present day.

"We are going to cover 13.8 billion years in about 15 minutes. So please forgive me if some details are missing," he said. He believes that the story of Big History can be closely tied to the theme of the 2015 World Knowledge Forum, Mapping the Zeitgeist. "My talk is about mapping the cosmos."

Professor Christian compares the story of big history to origin stories, which he says are at the heart of all civilizations and explain how societies came to be.

"Today in modern science there is an origin story," he said. This Big History origin story is taught in over 800 classrooms around the world, and has a website funded by billionaire Bill Gates.

Dr. Christian's origin story started from the emergence of essential elements like hydrogen and oxygen after the Big Bang, to the creation of stars and the Earth. "Over 13.8 billion years, one by one, more complex things appeared," Dr. Christian explained.

All of this leads up to the most important disruptive force in Big History. "The appearance of humans is a turning point in the history of our planet," he said.

What sets humans apart from all other beings on Earth, according to Dr. Christian, is that they are able to produce energy flows at a much higher rate than any other species. This energy comes from the consumption of materials, such as food. Additionally, the massive increase in energy consumption after the development of agriculture 10,000 years ago lead to a massive increase in the human population.

Dr. Christian explained how the consumption of energy by a species allows it to collect information. But the difference between humans and other species was the development of language and what Dr. Christian calls 'collective learning.' This is the retention and passing down of the collected information through the generations of the species.

"We are the first species to do this in 4 billion years. That's what makes us unique," he said.

The passing down of this collected information through language has allowed humans to make further breakthroughs in energy consumption. One of the major breakthroughs was the discovery of fossil fuels. As Dr. Christian put it, "Without fossil fuels, there would be no modern industrial society."

So how does this deep dive into history relate to our modern world?

Dr. Christian warns that our mass consumption of energy can have dire results. "There are great dangers because of the scale of the energy we control."

This is especially true of the use of fossil fuels. Carbon emissions, he fears, will have a tremendous effect on the future of the world and the fate of the Earth if they are not reduced.

“On average we use about 100 times the energy we need to survive,” he said.

Dr. Christian warned, “The fate of the biosphere depends on what we do next.” He believes politicians around the world know this, even in China, and he expressed hope that in the coming months and years they will take more aggressive actions to reduce carbon emissions.

“Growth is wonderful, it’s created a wonderful life for billions of people, but there really are limits.”