

2022 London International Mime Festival

in partnership with the Barbican

Supported by the Institut français du Royaume-Uni, towards the promotion of French artists in London International Mime Festival.

STEREOPTIK *Stellaire*

English text provided for D/deaf audiences

The Pit, Barbican

Tue 1 – Sat 5 February 2022

LECTURE 1

Female voice

So to begin, what I could say is... our perception and understanding of the elements that surround us have evolved over the course of history, and will continue to evolve in the centuries to come.

Since the dawn of time our fascination with the sky and the stars has led us to develop a number of theories or belief systems.

First, we thought that the earth was round, and then some believed it was flat. Finally, it was agreed to be round. We also believed that the earth was at the centre of the universe.

But Copernicus in the 16th century, and then Galileo in the 17th century, both showed that in fact, the sun is at the centre. The earth and the seven other planets in our solar system orbit around it, in addition to rotating on their axes. So that makes eight planets...

From the closest to the furthest from the sun, we have: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, and finally Neptune.

And now we know that the sun is actually not the centre of the universe. So the sun – what is it? The sun is a star, a type of star that we call a yellow dwarf, of relatively average size amongst the 100 to 400 billion stars that make up our galaxy.

Our galaxy is called the Milky Way. Here's what it looks like.

Our solar system is not at the centre of our galaxy. It's actually on the margins. We are approximately in this area – we're in the suburbs, so to speak.

All of the dots that you see here are stars surrounded by billions of planets.

And our galaxy is also not the centre of the universe.

It's a galaxy amongst many thousands of billions of other galaxies, each one composed of many hundreds of billions of stars and just as many planets.

Well, all these numbers can make you dizzy - it's practically impossible to imagine the immensity of the universe that surrounds us. And none of these galaxies are fixed in space, they are in motion. The universe is expanding. But how far will it go? That, no one knows.

But let's come back to Earth and our nearest star: the sun. The sun is the first star we can observe with the naked eye. It is 149.6 kilometers away, and what we see is the light emitted by the sun.

Let me explain... the speed of light is approximately 300,000 kilometers per second. This means that in one second, light travels 300,000 kilometers.

The light from the sun takes eight minutes to come to us. So when we look at the sun, we see it as it was eight minutes ago.

When you look at the stars on a clear night, you're traveling back in time. You're actually looking at the past. And when we look at stars or distant galaxies, the further away we look, especially with telescopes, the further back in time we go.

The scientific community is composed of researchers, men and women, from around the world, of all cultures, origins, and beliefs. Just as in the early days of scientific inquiry, we are connected by a shared fascination with heavenly bodies and the conquest of space. Anyone can observe the heavens, just as we have all done since the dawn of time.

LECTURE 2

Male voice

Thank you Liana for your presentation, thank you very much. We are now going to discuss what happened about 13.7 or 13.8 billion years ago.

Once again, there are several different theories out there. The famous Big Bang theory was developed in the late 1920s....

This theory states that all the matter contained in the universe comes from the expansion of a mass not bigger than the head of a pin, an infinitely dense, infinitely hot singularity that is simply impossible to imagine.

Other hypotheses have been proposed: for example, in the 1970s, some researchers believed that before our universe came into existence, there was already a universe that was contracting, and because of its contraction, it heated up and attained a maximum temperature that would have made it bounce back on itself to become the expanding universe that we know today.

Oh yes, I'm sorry, um – Liana has to leave us – you have another conference and a trip to prepare. I know that you're very rushed – we won't keep you any longer. Thank you again and see you soon.

So, back to the history of the universe. What happened 13.7 billion years ago? Actually, we don't know much. Whatever the case, what is certain is that the energy created in that instant was absolutely colossal. The universe started developing in that instant. However, different calculations or equations allow us to imagine the possibility that perhaps...

LECTURE 3

Female voice

Everything began with immense, dark, cold clouds of gas and dust. We call these immense clouds 'nebulae'. And it is in these nebulae that stars are born.

Millions of years can go by until a triggering event puts pressure on this gas. Under the force of its own gravity, the cloud collapses and spins on itself, and the particles of gas and dust are forced into the centre of the cloud. A star is forming. After several hundreds of thousands of years, the centre of this star becomes very dense and hot – when it reaches a temperature of approximately 15 million degrees Celsius, the hydrogen atoms fuse to become helium, which liberates a tremendous quantity of energy.

The gases and the dust at the edges of the nebula in which the star was formed come together in a disc formation around it. After millions of years, the grains of dust agglomerate into increasingly large rocks, and that's how planets are formed. That's what happened about 4.5 billion years ago in our solar system.

In 5 billion years, our sun will die. It will become 200 times bigger than it is today, and thousands of times more luminous: it will become a red giant. It will absorb the planets closest to it, including the earth. Our only chance of survival at that point will be to go looking for another planet where we might be able to live.

For the time being, this scenario is still in the realm of science fiction.

Our future and that of future generations is still our planet Earth. And we know that we need to completely change our way of life to preserve and maintain it.

But let's come back to the stars... Those which are much bigger than our sun will explode and enrich the interstellar gas with elements that are essential for life: carbon, oxygen, calcium, phosphorus, and many others.

Billions and billions of atoms and particles will seed the universe, creating new nebulae that will give birth to new stars. We are made of these same atoms, these same particles, and we owe our existence to the innumerable stars that existed before us.

Some stars, even larger ones, will collapse on themselves, creating what we call black holes. We currently don't understand these well, only that they swallow the planets, stars, and all the matter that surrounds them; they absorb light and warp the fabric of space-time.

Some think they may be portals into parallel universes.