PŘEČTĚTE SI SÓLOKAPRY Z VESMÍRU

ZPRÁVY Z CELÉHO VESMÍRU

Are We Living in an Island Universe?
6. srpna 2014

Many of you will recognise the object in this space photograph as a galaxy: a collection of billions of bright, shining stars, and cosmic gas and dust.

In this day and age, almost everyone has seen a photograph of a galaxy, making it hard to believe that less than 100 years ago most of the world's top astronomers didn't believe they existed!

One of the most important events in astronomy was The Great Debate between Harlow Shapley and Heber Curtis in 1920. Before then, the existence of galaxies was uncertain. Most people believe that galaxies were simply 'spiral nebulae' within our Galaxy.

This was the argument that Shapley was supporting during The Great Debate. He also calculated that the Milky Way was 300,000 light years across, which is three times larger than its true size as we know it today. Yet he said the Milky Way was the whole Universe!

Opposing him was Curtis, who believed that the spiral nebulae were actually separate galaxies or "island universes" as they were sometimes known. And that the Universe is much, much bigger than everyone believed.

Today we know that Curtis was correct about the spiral nebulae being separate galaxies. The Milky Way is just one of hundreds of billions of galaxies in the known Universe! In today's picture you can see one of our closest neighbour galaxies, the Triangulum Galaxy.

But the Great Debate wasn't as black-and-white as it might sound, Curtis did get some things wrong, like the size of our Galaxy. Curtis guessed it was 30,000 light years across instead of 100,000 light years. Whereas Shapley got some things right. He correctly argued that the Sun lies near the edge of our Galaxy, whereas Curtis placed us right at the centre.

▴ COOL FACT!

The Triangulum Galaxy is the third-largest member of the 'Local Group', which is a group of galaxies bound together by gravity. As well as the Triangulum Galaxy, the Local Group also includes our Galaxy, the Andromeda Galaxy and about 50 other smaller galaxies!