

# The Expansion of the Universe



Science "discovered" in the 20th century what the Qur'an had revealed 1400 years ago about the expanding universe.

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In 1929, in the California Mount Wilson observatory, an American astronomer by the name of Edwin Hubble made one of the greatest discoveries in the history of astronomy. While he observed the stars with a giant telescope, he found out that the light from them was shifted to the red end of the spectrum and that this shift was more pronounced the further a star was from the earth. This discovery had an electrifying effect in the world of science, because according to the recognised rules of physics, the spectra of light beams travelling towards the point of observation tend towards violet while the spectra of the light beams moving away from the point of observation tend towards red. During Hubble's observations, the light from stars was discovered to tend towards red. This meant that they were constantly moving away from us.

Before long, Hubble made another very important discovery: Stars and galaxies moved away not only from us, but also from one another. The only conclusion that could be derived from a universe where everything moves away from everything else is that the universe constantly 'expands'.

To better understand, the universe can be thought of as the surface of a balloon being blown up. Just as the points on the surface of a balloon move apart from each other as the balloon is inflated, so do the objects in space move apart from each other as the universe keeps expanding.

In fact, this had been theoretically discovered even earlier. Albert Einstein, who is considered the greatest scientist of the century, had concluded after the calculations he made in theoretical physics that the universe could not be static. However, he had laid his discovery to rest simply not to conflict with the widely recognised static universe model of his time. Later on, Einstein was to identify his act as 'the greatest mistake of his career'. Subsequently, it became definite by Hubble's observations that the universe expands.

**The expansion of the universe is one of the most important pieces of evidence that the universe was created out of nothing.**

What importance, then, did the fact that the universe expands have on the existence of the universe?

The expansion of the universe implied that if it could travel backwards in time, the universe would prove to have originated from a single point. The

calculations showed that this 'single point' that harboured all the matter of the universe should have 'zero volume' and 'infinite density'. The universe had come about by the explosion of this single point with zero volume. This great explosion that marked the beginning of the universe was named the 'Big Bang' and the theory started to be so called.

It has to be stated that 'zero volume' is a theoretical expression used for descriptive purposes. Science can define the concept of 'nothingness', which is beyond the limits of human comprehension, only by expressing it as 'a point with zero volume'. In truth, 'a point with no volume' means 'nothingness'. The universe has come into being from nothingness. In other words, it was created.

The Big Bang theory showed that in the beginning all the objects in the universe were of one piece and then were parted. This fact, which was revealed by the Big Bang theory was stated in the Qur'an 14 centuries ago, when people had a very limited knowledge about the universe:

"Do not the Unbelievers see that the heavens and the earth were joined together (as one unit of creation), before We clove them asunder? We made from water every living thing. Will they not then believe?" [Al-Anbiyaa 21:30]

As stated in the verse, everything, even the 'heavens and the earth' that were not yet created, were created with a Big Bang out of a single point, and shaped the present universe by being parted from each other.

When we compare the statements in the verse with the Big Bang theory, we see that they fully agree with each other. However, the Big Bang was introduced as a scientific theory only in the 20th century.

The expansion of the universe is one of the most important pieces of evidence that the universe was created out of nothing. Although this fact was not discovered by science until the 20th century, Allah has informed us of this reality in the Qur'an revealed 1,400 years ago:

"It is We who have built the universe with (Our creative) power, and, verily, it is We who are steadily expanding it." [Az-Zariyat 51:47]

[http://www.albalagh.net/general/expansion\\_universe.shtml](http://www.albalagh.net/general/expansion_universe.shtml)