

This microwave radiation or energy exists in the form of *photons* (particles of light). The present temperature of this residual cosmic radiation around the Earth measures three Kelvin degrees which approximates the temperature predicted by physicists for the residual radiation of a universal explosion of long ago. Scientists are now convinced they are witnessing the fading warmth from the ashes left by the primordial furnace of creation.

The presence of this universal background of microwave radiation indicates not only that the Universe had a beginning but that the beginning was, as physicists had predicted, a gigantic explosion. This initial explosion of unimaginable light and heat is termed the *Big Bang*.

Most, but not all, scientists were now convinced the Universe had a beginning. In 1974 another piece of confirming evidence arrived.

***The Universe Is Expanding at a Decreasing Rate.*** If the Universe had a beginning in a Big Bang, then one would predict that the galaxies would be slowing down in their speed of movement away from one another. The gentle tug of gravity by one galaxy on another would cause them to slow down in speed.

For fifteen years Alan Sandage of Palomar Mountain Observatory in California made detailed observations and measurements. In 1974 he reported the results: *the galaxies are moving away from each other at decreasing rates of speeds.*

This deceleration of the galaxies indicates that the Universe is like a clock that was once wound up. It is now slowly running down as the galaxies slow down in their movement away from one another. The Universe had a beginning! And this beginning was a gigantic explosion of light and energy.

## THE BIG BANG THEORY

Most scientists now believe that our Universe was created quite suddenly and abruptly more than 15 billion years ago in a cataclysmic explosion termed the *Big Bang*. In the initial cosmic fireball, energy was converted into matter and the results flung far out into the void to construct, in effect, atoms, molecules, gases, stars, planets and space itself. All the matter and energy in the Universe, including the physical elements of which you and I are composed, had their beginnings in the cosmic fireball of creation. According to this