

□ Uncovering the Mysteries of the Universe



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GARY PUNIWAI sits at the controls of the Keck 1 telescope, the world's most powerful telescope on the summit of the highest peak in the Pacific. The telescope focuses on objects in space more than 10 billion years old.

Since people started looking at stars we have achieved a lot. The ancient Egyptians believed that the stars were very near—almost close enough to touch. Just a few hundred years ago, in the 16th and 17th centuries, most Europeans thought that the earth was the center of the universe and that the sun revolved

around the earth. But modern science has expanded our understanding, and we know the earth is a small planet that goes around an ordinary star in the Milky Way galaxy. We also know that there are more than 100 billion galaxies in the universe. We live on a small planet in a very large universe.

But there are many questions we haven't answered yet. For example, are we the only intelligent life in the universe? Scientists have discovered that there are other planets in the universe. However, all the planets that they have found are much bigger than the earth—about the size of Jupiter—and they probably don't have life on them. But who knows?

Also we have discovered that the universe contains something called Dark Matter. We know it is there, but we can't see it and there is a lot of it. Some scientists say that as much as 70 percent of the universe is made from this Dark Matter. They have looked high and low for the missing matter, but they have not found it.

Science has achieved a lot, but there are still some very big questions we need to answer. Or will science reach some limit like the Pillars of Hercules, the classical symbol for what lies at the edge of what we know? On these pillars, according to legend, was written in Latin: "*Ne plus ultra*"—No further. Are there are some things we will never understand?