

# Understanding is half the fun

By Barry M. Olson

Some ask, what's the big deal about astronomy and observing the night sky? What's the point? Some may even question the sanity of those who spend hours doing astronomy for fun. And they may have a point. It's dark, often cold, stinging insects, and fumbling around with observing equipment. Amateur astronomy can be a lonely hobby.

Someone not familiar with the night sky, or astronomy in general, may not appreciate the wonders of the universe. In fact, when they have an opportunity to look through a telescope, they are often not impressed. All they see is a fuzzy little patch of light through the eyepiece. The spectacular and colourful astronomical images available in books and from the Internet are a far cry from what can be seen through a small telescope or binoculars or with the unaided eye. However, a few of us would argue that a starry night sky is one of nature's most awe inspiring sights. What makes it so awe inspiring is not just the visual impact, but having a true understanding of what you are seeing as well.

Humans have been observing the night sky for a long time. Though our ancestors of long ago lacked an understanding of the cosmos, they were acute observers and recognized the changing patterns of the sky. The seasonal cycles of the sky, including cycles of the Sun and Moon, were important to ancient cultures. Many cultures incorporated their concepts of the night sky into superstitions and religious beliefs. The appearance of a comet, for example, was often considered either a bad or a good sign. Fortunately, some of the greatest thinkers throughout recorded history have pulled back our curtain of ignorance and revealed the true nature of the universe and our place within the vast cosmos. Individuals such as Aristotle, Ptolemy, Nicolaus Copernicus, Tycho Brahe, Johannes Kepler, Galileo Galilei, Isaac Newton, Albert Einstein, Edwin Hubble, and Steven Hawkins, just to name a few, paved the way of unraveling the mysteries of the universe. Some were persecuted by religious authorities because their ideas challenged current doctrines. But the new ideas persevered and evolved, and our understanding of the universe unfolded as new information became available through the scientific process. The use of new technologies, such as telescopes, computers, and spacecraft have accelerated our progress.

Our concepts of the cosmos are no longer stifled by superstitions and religious beliefs. We know we live on a round planet (Earth), which orbits a star (Sun), which is one star of 100 billion stars in one galaxy (Milky Way), which is one of an enormous number of galaxies in the known universe. We know the universe is about 13 billion years old, where comets come from, how planets move the way they do, and what causes the seasons and the phases of the Moon. We know the universe changes and evolves with time, and we know there is no reason why life is not bountiful throughout the universe. This understanding of the universe is liberating and progressive – no doubt, one of humankind's greatest achievements.

We return to our fuzzy little patch of light viewed through a small telescope. To transform this distant patch of light into something wonderful and meaningful, you need to educate yourself. Go to a library, read a book or magazine, search the Internet, take a class, or join an astronomy club. There is a tremendous amount of information available to help you appreciate and understand your celestial encounters. Because a true understanding is half the fun when you are under the stars.



*Image caption*

Artist's concept of the Deep Impact spacecraft encounter with Comet Tempel 1. Once misunderstood, and often feared, comets are now known as a particular group of solar system objects with particular properties. Image credit: National Aeronautics and Space Administration (NASA).

Barry M. Olson is a member of the Lethbridge astronomy society, which holds public observing sessions on the last Saturday of the month at 7:30 PM from September to April at the Oldman River Observatory in Popson Park. See <http://www.lethbridgeastronomysociety.ca/> for more information.