

WHY STUDY ASTRONOMY?



I had moved to a new town, small enough that this local piece of interstate was almost in the country, and if you got off, there were no landmarks. I got off anyway, late one evening, because I was lost; I had no idea even what direction I was going, and I had to figure out how to get home.

There were no signs. Surely the interstate signs must have had cardinal directions; if so, I could not see them.

But my good friend Orion was out that night, and in the dark, he tramped the high southern sky fields with his head and left hand held high in the north. I got back in the car and turned home beneath his watch.

Travel. Astronomy was for thousands of years the absolute source of information for long-distance navigation. For the birds (and sometimes for me) it still is. But even if you navigate with a compass or GPS, the stars are still there and friendly. It is a wonderful thing to look up and see the same sky as in your childhood – and the childhood of Christopher Columbus and St. Brendan the Navigator. It is a link through time.

A taste for infinity. Astronomy is the one science that confronts us with the apparent infinite. This is because the distance to the stars is so great that we never feel ourselves closing in on them. No hill, no mountain seems closer to them than any other place. Getting out of the city makes them brighter, but then the sky, too, looms broader and their twinkling presence recedes into a deeper vastness.

They have no parallax: you feel infinity when you look at the stars, and the desire for infinity is part of human nature: to try to touch the unbounded edge of reality. It is food for the immortal soul.

Imagery. The Hubble images of whirling nebulae, exploded supernovae, and dancing galaxies provide a whole new supply of artistic imagery. Not only are these objects beautiful, but each one challenges the physicist to answer how it came to be just so, for everything moves by cause and reason, and the supply of conundrums never ends. In astronomy, its clothing is incredibly beautiful.

The Quadrivium. Astronomy is part of the quadrivium, the four disciplines considered to complete a classical education. The celestial elements have always been thought to participate in a dance embodying the sum and summit of mathematics. It is still so, and it is interesting to see how the wise have wrestled with them over the years. Studying astronomy, you will understand the achievements of Copernicus, Kepler, Brahe, and Galileo, building upon their Greek counterparts and opening the vista of their modern successors. We take our skies for granted, but they are a gift, and astronomy slightly unpacks the revelation that the Sun, Moon, Earth, stars, and universe really are.

Curiosity. The stars are always there. They are sparse to view, alas, for the casual city-dweller who never sees the Milky Way, but they are still the perpetual backdrop of the night sky in each season. It is a landscape worth learning, and even such an exercise as learning the real and apparent motions of the Moon will give you an appreciation for the possible complexity of interacting bodies. Indeed, if it is so difficult to understand the interplay of inanimate spheres, why should it not be the more so for interacting persons? A dose of humility comes at the end of curiosity's adventures.

Cosmology. Speaking of curiosity, where did the universe come from? Every new reach of astronomy gives us another clue to the proximate causes of the nearest systems – the earth-moon system, the solar system, the Orion arm of the Milky Way, and then also the dwarf galaxies weaving through our own, and on out to the local galactic clusters and the vast spaces born of the first years of creation.

It's awesome, and as such, it's another view of our creator.