

We Are Stardust

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Now, in the midst of summer--with katydids and crickets clamouring--is a fine time to turn our gaze to the heavens and ponder Carl Sagan's words, "We are made of stardust"

When I first heard this, I wondered how it could be so. Astrophysicists, astronomers and cosmologists provide the explanation. To understand ourselves as stardust, we need to first consider how stars--in the past as well as at this very moment--are formed. Imagine trillions upon trillions of atoms, mostly hydrogen, stretching through millions of miles of space. Slowly the atoms begin to clump and form a common center. Gravitational attraction and pressure lead the hydrogen atoms to fuse into helium atoms. This provokes massive outbursts of energy and causes the core to ignite forming a star (a sun!). First, we have a cloud of hydrogen atoms; then, because of the immensity of the undertaking and the forces of attraction that come into play, we have a star. Eventually, when a star's life ends, it spills elements (e.g., carbon, iron, oxygen) out into the galaxy. Eons later, galactic clouds--enriched with the elements produced by these past stars--condense to form solar systems, such as ours. So it is that each and every element comprising our bodies, our cells, the air we breathe, are the work of the heavens--"gifts" of the stars.

As Cosmologist, Brian Swimme observes, "The star's own adventure captures the whole story. It gives utterly everything to its task and after its stupendous creativity, its life as a star is over in one vast explosion. But--through the bestowal of its gifts--elephants, rivers, eagles, ice jams, root beer floats, zebras, and the whole living Earth, become possible."

Our capacity to express awe for the wonder for this unfolding of life has been muted by a modern culture increasingly addicted to speed, efficiency, money, and self-centered pursuits. Few people, it seems, have time these days to sit under the stars at night to hear stories about and reflections on who we are and how we came to be. Such stories, however, are still told today in places where indigenous cultures remain in tact and they continue to offer meaning to the gathered listeners. Indeed, as historian, Thomas Berry points out:

"Indigenous peoples live in a universe, in a cosmological order, whereas we, the people of the industrial world, no longer live in a universe. We in North America live in a political world, a nation, a business world, an economic order, a cultural tradition, a Disney dreamland."

When we realize and hold in our consciousness the idea that we are here through the creativity of the stars, our lives and world look very different. And what truly stretches our cognitive powers beyond their limits is the idea that this stardust--embodied in our beings--has gained the capacity of consciousness/self-reflection. This remarkable story, now grounded in

modern science, is as miraculous and awe-inspiring as the creation stories of earlier human cultures. Thomas Berry, puts it this way:

"Now in our modern scientific age, in a manner never known before, we have created our own sacred story, the epic of evolution, telling us, from empirical observation and critical analysis, how the universe came to be, the sequence of its transformations down through some billions of years, how our solar system came into being, then how the Earth took shape and brought us into existence. This is our sacred story. It is our way of dealing with the ultimate mystery whence all things come into being. It is much more than an account of matter and its random emergence into the visible world around us. Rather it is a creative unfolding. . ."

Underlying the creative unfolding of the universe is a primary force that attracts everything to everything else. Scientists have come to call this force "gravity"; but Cosmologists, like Swimme, use the word "allurement" to refer to the force; and poets use the word "love" reminding us that "love ignites being."