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Eclipse reminds us of interconnectedness of life

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As my wife and I watched last week's solar eclipse, we wondered how many people were marveling at how it clarified our place in the universe. Awareness of how we are connected to the systems that allow life on Earth is essential in understanding how we can damage — and repair — those systems.

Albert Einstein said, "A human being is a part of the whole called by us the 'universe,' a part limited in time and space. He experiences himself, his thoughts and feeling as something separated from the rest, a kind of optical delusion of his consciousness." Today, the delusion Einstein described causes many people to harm many of our planet's most vital systems.

The Earth's climate is one of the essential systems humans are damaging due to our fantasy of separateness. One of the climate's many components is the atmosphere, which contains the air we breathe and protects us from too much or too little heat from the sun. Our planet is the only one in the solar system with an atmosphere that can sustain life.

Our climate system also includes the oceans and other bodies of water (called the hydrosphere), ice and snow (the cryosphere), plants and animals (the biosphere), soils (the pedosphere) and rocks (the lithosphere). These elements continually interact and influence each other.

The climate system is driven by the energy the Earth receives from the sun, and by how that energy is redistributed by its components. The atmosphere is the first component to capture solar energy, and it also reflects some back into space.

About 70 percent of the solar energy that reaches the Earth is absorbed by land surfaces and the upper 30 feet or so of the oceans. The other 30 percent is reflected by land and water surfaces. Some of that reflected energy is captured by a mixture of greenhouse gases that surround the Earth and act like the glass of a greenhouse.

Since the start of the Industrial Revolution, and especially since the end of World War II, the fiction that humans exist independently from nature has led people to burn more and more fossil fuels and degrade forests and other systems that sequester carbon, causing additional greenhouse gases to be added to the natural blanket that surrounds the Earth.

The increased global heating that has resulted, along with the additional carbon dioxide that helps capture it, is warming and acidifying the hydrosphere. The added warmth is melting the cryosphere and triggering major shifts in the biosphere and lithosphere. Without rapid and significant change, the combination of these impacts will be horrific for humans.

Hurricane Harvey is an example. Scientists have already determined that sea-surface water temperatures in the Gulf of Mexico near Texas are between 2.7 and 7.2 degrees above average. This caused what was a tropical depression to progress to a Category 4 hurricane in about 48 hours.

The human myth of separateness is harming the biosphere in other ways as well. The exponential growth of the human population, the ever-increasing extraction of raw materials and energy, and the massive amounts of waste we produce are shrinking many species' habitats and degrading much of what remains. The pretense of disconnectedness has also contributed to the ideology of extreme individualism that today undermines the social systems that are our actual source of joy. Lacking intimate connections, many people today feel bored and dissatisfied unless they are surrounded by loud music, consume more stuff, shoot guns, or find other temporary corporal pleasures.

The human body is yet another system our delusion of disconnectedness is harming. We are composed of 11 interacting organ systems that work together to maintain a healthy functioning body. Our bodies can tolerate a certain amount of toxins. However, the amounts and types being put in our food and environment now often depletes our immune system, increases the chances of cancer, and causes many other health problems.

Nothing exists by itself on our planet. Everything — including you and me — is created and sustained by complex webs of interlocking systems. It is a fundamental truth that to maintain life as we know it, the health of these systems must be maintained.

The eclipse lasted only a short time. Hopefully in that brief time some people realized how the delusion Einstein described often prevents them from seeing the celestial, ecological, social, and bodily systems they are part of. This awareness might spur them to help restore the indispensable systems that make life possible.

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