

Deep Space: The Philosophy of the Overview Effect

By Frank White

A philosophy of space is presented that is based on the author's research into the Overview Effect, or experience of seeing the Earth from space and in space. The essay suggests that this philosophy should view the evolution of both humanity and the universe as the underlying, or "deep" purpose of space exploration.

When the shuttle *Challenger* exploded in 1986, the nation entered a period of intense soul-searching. We had become accustomed to these spacecraft routinely lifting off from Cape Canaveral and going into orbit for a week or more, then safely returning to Earth. The process seemed so routine that Christa McAuliffe, a schoolteacher, was on board, as the first "teacher in space." This mission was intended to herald a new era of ordinary citizens going into orbit and beyond.

The accident killed all the astronauts and also destroyed "the old space program" that had been born in the 1960s and had just entered a new phase with the shuttle. During the many conversations that took place on television at the time, one stood out. On "This Week with David Brinkley," the discussion turned to the *Challenger* and columnist George Will said to Tom Wolfe, author of *The Right Stuff*, "It seems we have justified space exploration in a very banal way; we have sold it on the basis that it produced nonstick frying pans and so on."

"Yes," Wolfe replied, "*we have never had a philosophy of space exploration.*"[1]

In the introduction to *The Overview Effect: Space Exploration and Human Evolution*, I recounted this conversation and stated my intention to enunciate a philosophy of space exploration in the book. I wanted to discover a plausible "why" of the enterprise, placing far less emphasis on the "how." I also intended to articulate the larger purpose of space exploration beyond its utilitarian benefits to humanity.[2]

Did *The Overview Effect* fulfill its promise? I hope that it did, but it is ultimately not for me to determine if that is the case. In this paper, I would like to review the question and also go beyond it. To do so, we should start with first principles, and ask ourselves exactly what "philosophy" means, and what a philosophy of space exploration would therefore be.

I found the following definition(s) of philosophy in an online version of the Oxford Dictionary:

- 1 *[mass noun]* the study of the fundamental nature of knowledge, reality, and existence, especially when considered as an academic discipline. See also [natural philosophy](#).
[count noun] a particular system of philosophical thought: *the philosophies of Plato and Aristotle*;
the study of the theoretical basis of a particular branch of knowledge or experience: *the philosophy of science*.
- 2a a theory or attitude that acts as a guiding principle for behavior: *don't expect anything and you won't be disappointed, that's my philosophy*.^[3]

To some extent, I believe we are right to consider all of the above definitions of philosophy in this journal. At the same time, “the study of the theoretical basis for a particular branch of knowledge or experience” seems highly relevant. After all, aren't we talking about “a philosophy of space” or “a philosophy of space exploration?”

At the same time, it seems that (2a) above might be even closer to what we are considering in this journal. In other words, aren't we looking for a guiding principle for behavior as we explore the universe? And isn't that what the panel on television meant as they discussed the *Challenger* accident?

It seems to me that this is also the focus of Bob Krone's original essay on space philosophy. There, he considers a long-neglected aspect of space studies, i.e., the underlying ethical premise of the enterprise.

Insofar as the Overview Effect experience relates to space philosophy, let us look first at the experience itself.

When people leave the surface of the Earth and travel into Low Earth Orbit, to a space station, or the moon, they see the planet differently. My colleague at the Overview Institute, David Beaver, likes to emphasize that they not only see the Earth *from* space but also *in* space. He has also been a strong proponent that we describe what then happens as a change in world view.^[4]

I agree with David, having written about this change in perspective in *The Overview Effect*:

Mental processes and views of life cannot be separated from physical location. Our “world view” as a conceptual framework depends quite literally on our view of the world from a physical place in the universe.^[5]

Clearly, our philosophical outlook depends on where we are, as individuals, and as a species, in the universe. Even more important is *where we think we are*. For thousands of years, humans believed that they lived on a flat surface that did not move, while the sun, moon, planets, and stars revolved around us. To our ancestors, the Earth seemed limitless. They could travel for thousands of miles and never come to the end of it, nor return back to where they began. And those journeys took weeks, months, or years.

Their philosophy of life assumed an endless, flat Earth that was the center of the universe. It guided their behavior about everything, including their use of natural resources.

Eventually, humans came to realize, intellectually, that we lived on a planet revolving around the sun, and that we were not the center of everything. Our observational instruments and our minds have told us this and only a few holdouts believe the Earth to be flat or think that the sun revolves around it. Still, some 500 years after Copernicus, Kepler, and Galileo, the *direct experience* of most human beings in the 21st century is essentially unchanged from the first, third, or eleventh centuries.

Only some 500 people have left the surface of the Earth, traveled into orbit or to the moon, and experienced the reality of our situation. The Earth is not flat, it is not stationary, and the heavenly bodies do not revolve around it. The Earth is round and it is moving through the universe at a high rate of speed, all the while revolving around the sun with the other planets of the solar system.

Philosophically, we ought to be thinking like the crew of a natural spaceship, a team that is working together to survive and evolve into the universe, of which we are a small, but critical, part.

How would everything change if we began to think of ourselves as a seven billion-member team, a crew on a spacecraft? What if we expanded our thinking to include other sentient life as part of that team, and perhaps even beyond, to consider everything on the Earth as team members?

Would it reduce all conflict on the Earth? No, there are conflicts on teams and crews, disagreements about the best way to proceed in winning a game, a battle, or a trophy. However, the balance between cooperation and conflict might well be restored to something more appropriate to a species seeking to evolve and prosper.

As I have written in my latest book, *The New Camelot*, when we experience the Overview Effect by seeing the Earth *from* space, we see that the Earth is a whole system in which everything is interconnected and interdependent. When we experience the Overview Effect by seeing the Earth *in* space, we see that the Earth is itself part of another whole system, the solar system. From orbit, we see the unity of the Earth, while from the surface, we see its diversity. From orbit, we also see a new diversity lying beyond the unity of our home planet. Neither unity nor diversity is the complete picture.[6]

This unity/diversity paradigm is applicable to all levels of reality. As a number of other authors have pointed out, we can perceive everything as a holon, an entity that is a part and a whole simultaneously. This is the key spatial perspective. In addition, every holon is in a state of evolution. This is the critical temporal perspective, and we need an Overview perspective on time as well as space.[7]

Balance and evolution are at the heart of this conceptual framework. If there is too much diversity, or differentiation, the system may fall apart and cease to evolve. If there is too much unity, or homogenization, it may become stultified and, again, stop evolving.

If we are to understand the philosophy of the Overview Effect, then, we must understand the principle that our awareness of ourselves, the Earth, the solar system, and the universe changes with our physical perspective. This awareness then affects our knowledge of who we are and our behavior in relationship to our environment.

Returning to the definition of philosophy as “a theory or attitude that acts as a guiding principle for behavior,” we can say that the Overview Effect points to the principle that one of the primary rationales for space exploration is that it transforms how we think, how we see ourselves—our world view. A second principle is that we, and our world view, will constantly evolve, and that this is both necessary and inevitable.

Another way to describe “space exploration” is to call it “evolution into the universe.” As humanity begins to explore the larger environment beyond the Earth, we will evolve, and as we do so, the universe itself will also evolve because we are a part of it.

As I completed *The Overview Effect*, I felt that the philosophy I was seeking still eluded me, until a final thought occurred to me: if we seek that philosophy only from the self-centered perspective of how space exploration will benefit humanity, it is incomplete. We will always be sliding back into some version of the “nonstick frying pans” paradigm. However, if we see ourselves as a holon, a part of a larger system (i.e., the Earth, the solar system, the galaxy, or the universe), then a more comprehensive philosophy

emerges. We can ask ourselves not only how exploration benefits us but also how it might benefit those larger “overview systems” of which we are a part.

One of the most immediate results of the Overview Effect to date is that it has given impetus to the environmental movement. This has already produced a new “philosophy of Earth” that guides our behavior relative to the planet. We no longer see it as limitless, to be exploited continuously for our own needs. Increasingly, we see it as a limited whole system that must be treated with great care, for our own survival and for the planet’s benefit.

Yet, there is more to it than that. We are also realizing that the various systems of which we are a part, through us, may be said to become aware of themselves. As James Lovelock, originator of the “Gaia hypothesis,” said:

[Gaia] is now through us awake and aware of herself. She has seen the reflection of her fair face through the eyes of astronauts and the television cameras of orbiting spacecraft.[8]

Building on the work I have done concerning the Overview Effect and on Lovelock’s suggestion that the Earth is a living system, I have posited the “*Cosma Hypothesis*.” By this, I mean that the universe is also a living system with a degree of self-awareness. By definition, this must be so, since we are alive and conscious, and part of the universe. The question is whether, as we evolve, might our purpose be to help the universe become increasingly self-aware? Might our philosophy of space exploration, our guiding principle, be to transform not only our own world view but also that of the universe itself?[9]

Notes

[1] Frank White, *The Overview Effect: Space Exploration and Human Evolution*, (Boston: Houghton-Mifflin, 1987), xviii.

[2] Ibid.

[3] Oxford Dictionaries. April 2010, Oxford University Press, <http://oxforddictionaries.com/definition/english/philosophy>.

[4] David has written about this distinction in “The Overview Effect Will Change the World,” which is available on the Overview Institute website, www.overviewinstitute.org.

[5] White, op cit., 3.

[6] Frank White, *The New Camelot* (Kindle Books, 2012), http://www.amazon.com/The-New-Camelot-Volume-ebook/dp/B008WQ22Rl/ref=sr_1_3?s=digital-text&ie=UTF8&qid=1347877707&sr=1-3&keywords=The+New+Camelot

[7] For more on holons, see Jeffrey S. Stamps, *Holonomy: A Human Systems Theory*, (Seaside, CA: Intersystems Publications, 1980); Arthur Koestler, *The Ghost in the Machine* (London: Hutchinson, 1967). My colleagues at the Overview Institute, Kevin Kelley and Alex Howerton, have both written about the “Overview Effect of time.” Their bios and links to their work can be found at the Institute’s website, www.overviewinstitute.org

[8] White, *The Overview Effect*, 116.

[9] This idea is not original with me, though the term “Cosma Hypothesis” may be. I recently had a discussion about this very subject with Overview Institute colleagues David Beaver and Alex Howerton, who made the point that since we are part of the universe, and we are alive and aware, it must also be, to some extent, alive and aware.

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About the Author: Frank White is the author of *The Overview Effect: Space Exploration and Human Evolution*, first published in 1987 and re-issued in 1998. A member of the Harvard College Class of 1966, Frank graduated magna cum laude and was elected to Phi Beta Kappa. He attended Oxford University on a Rhodes Scholarship, earning an MPhil in 1969. He is the author or co-author of nine additional books, including *The SETI Factor*, *Decision: Earth*, *Think about Space* and *March of the Millennia* (both with Isaac Asimov), *The Ice Chronicles* (with Paul Mayewski), *Space Stories* (with Kenneth J. Cox and Robbie Davis-Floyd), and *The New Camelot*. He also contributed chapters on the Overview Effect to four recently published books on space exploration, *Return to the Moon*, *Beyond Earth*, *Living in Space*, and *Space Commerce*.



Editor's Notes: Frank White is one of America's pioneer Space philosophers. Launching *The Journal of Space Philosophy* with his wisdom was one of our prime criteria. Frank is a cofounder of the Overview Institute and the Kepler Space Institute is collaborating with TOI in a number of ways. We are proud to have him as a Member of the Board of Editors for this new Journal. *Bob Krone, PhD.*
